AAOS
American Academy of Orthopaedic Surgeons

Supplement to the Clinical Practice Guideline for the Management of Anterior Cruciate Ligament Injuries

e-Appendix 2

- Quality Evaluation
- Data Tables
- Excluded Literature

This supplementary material has been provided by the authors to give readers additional information about their work

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Strength of Recommendations

Strength	Overall Strength of Evidence	Description of Evidence Quality
Strong	**Strong or Moderate**	Evidence from two or more "High" quality studies with consistent findings for recommending for or against the intervention. Or Rec is upgrade from Moderate using the EtD framework.
Moderate	**Strong, Moderate, or Limited**	Evidence from two or more "Moderate" quality studies with consistent findings, or evidence from a single "High" quality study for recommending for or against the intervention. Or Rec is upgraded or downgraded from Limited or Strong using the EtD framework.
Limited	**Limited or Moderate**	Evidence from two or more "Low" quality studies with consistent findings or evidence from a single "Moderate" quality study recommending for or against the intervention. Or Rec is downgraded from Moderate using the EtD Framework
Consensus	**No Reliable Evidence**	There is no supporting evidence, or higher quality evidence was downgraded due to major concerns addressed in the EtD framework. In the absence of reliable evidence, the guideline work group is making a recommendation based on their clinical opinion.

ACL Injuries CPG Quality Appraisal Tables

QE - Prognostic

Study	Prognostic Study Design	Representative Population	Reason for Follow Up Loss	Prognostic Factor Measured	Outcome Measurement	Confounders	Appropriate Statistical Analysis	Strength
Ahn, J. H., 2016	●	●	●	●	●	●	●	High Quality
Andernord, D., 2014	●	●	●	●	●	●	●	High Quality
Anderson, A. F., 2015	●	●	●	●	●	●	●	High Quality
Ardern, C. L., 2012	○	●	●	●	●	○	●	Very Low Quality
Dekker, T. J., 2017	●	●	●	●	●	●	●	High Quality
Faltstrom, A., 2016	●	●	●	●	●	●	●	High Quality
Filbay, S. R., 2017	●	●	●	●	●	●	●	High Quality
Laboute, E., 2018	●	●	●	●	●	●	●	High Quality
LaPrade, C. M., 2015	●	●	○	●	●	●	●	Moderate Quality
Maletis, G. B., 2017	●	●	●	●	●	●	●	High Quality
McCarthy, M., 2017	●	●	●	●	●	●	●	High Quality
Mok, Y. R., 2019	●	●	●	●	●	●	●	High Quality
Newman, J. T., 2015	●	●	●	●	●	●	●	High Quality
Nwachukwu, B. U., 2017	●	●	●	●	●	●	●	High Quality
Schilaty, N. D., 2017	○	●	●	●	●	●	●	Low Quality
Snaebjornsson, T., 2019	●	●	●	●	●	●	●	High Quality

QE – Intervention – Randomized

Study	Random Sequence Generation	Allocation Concealment	Blinding	Incomplete Outcome Data	Selective Reporting	Other Bias	Strength
Adachi, N., 2004	◑	◑	●	●	●	●	High Quality
Adravanti, P., 2017	◑	◑	◑	●	●	●	High Quality
Aga, C., 2018	◑	●	◑	●	●	◑	High Quality
Aglietti, P., 2004	●	◑	◑	●	●	●	High Quality
Aglietti, P., 2010	●	◑	●	●	●	●	High Quality
AhldÃ©n, M., 2009	◑	○	◑	●	●	○	Moderate Quality
Anderson, A. F., 2001	●	◑	○	●	●	●	High Quality
Aune, A. K., 2001	◑	◑	◑	●	●	●	High Quality
Barenius, B., 2010	◑	◑	○	●	●	●	Moderate Quality
Barenius, B., 2014	◑	◑	○	●	●	●	Moderate Quality
Barie, A., 2020	◑	◑	○	●	●	●	Moderate Quality
Beyaz, S., 2017	●	●	●	●	●	◑	High Quality
Beynnon, B. D., 2002	●	◑	◑	●	●	●	High Quality
Birmingham, T.B., 2008	●	●	◑	●	●	●	High Quality
Bonato, M., 2018	●	◑	●	●	●	●	High Quality
Bottoni, C. R., 2008	●	●	◑	●	●	●	High Quality
Brown, T. N., 2014	◑	◑	◑	●	●	●	High Quality
Castoldi, M., 2020	◑	◑	◑	○	●	◑	Moderate Quality
Comba, D., 1999	◑	◑	◑	●	●	●	High Quality
Culvenor, A. G., 2019	◑	◑	◑	●	○	●	Moderate Quality
Dai, C., 2016	●	◑	◑	●	●	●	High Quality
Demirag, B., 2012	○	○	○	●	●	●	Moderate Quality
Drogset, J. O., 2006	◑	●	◑	●	●	●	High Quality
Drogset, J. O., 2010	◑	●	●	●	●	●	High Quality
Edgar, C. M., 2008	●	●	●	●	●	●	High Quality
Ejerhed, L., 2003	●	●	◑	●	●	●	High Quality
Eriksson, K., 2001	◑	◑	◑	●	◑	●	Moderate Quality
Feller, J. A., 2003	●	○	●	●	●	●	High Quality
Flosadottir, V., 2018	●	●	○	●	●	●	High Quality
Frobell, R. B., 2010	●	●	◑	●	●	◑	High Quality
Frobell, R. B., 2011	◑	◑	◑	●	●	●	High Quality

Study	Random Sequence Generation	Allocation Concealment	Blinding	Incomplete Outcome Data	Selective Reporting	Other Bias	Strength
Frobell, R. B., 2015	◑	◑	●	●	●	●	High Quality
Funchal, L. F. Z., 2019	●	●	○	●	●	○	Moderate Quality
Getgood, A. M. J., 2020	●	●	●	●	●	◑	High Quality
Getgood, A., 2020	●	◑	●	●	◑	◑	High Quality
Gifstad, T., 2013	◑	●	◑	●	●	●	High Quality
Gilchrist, J., 2008	○	◑	◑	●	●	○	Moderate Quality
Gupta, R., 2017	◑	●	●	●	●	◑	High Quality
Gupta, R., 2019	●	●	●	●	●	●	High Quality
Halinen, J., 2009	●	●	◑	●	●	●	High Quality
Hamido, F., 2020	●	●	●	●	◑	●	High Quality
Harilainen, A., 2006	○	○	◑	●	●	●	Moderate Quality
Heidt, R. S., Jr., 2000	○	○	◑	●	●	●	Moderate Quality
Holm, I., 2010	◑	◑	◑	●	●	●	High Quality
Hoogeslag, R. A. G., 2019	●	●	○	●	●	●	High Quality
Horstmann, 2021	●	●	◑	●	●	○	High Quality
Ibrahim, S. A., 2005	○	◑	○	○	●	●	Moderate Quality
Ibrahim, S. A., 2009	●	●	●	●	●	●	High Quality
Ibrahim, S. A., 2017	○	●	◑	●	●	●	High Quality
Jarvela, S., 2017	●	●	●	●	●	●	High Quality
JÃ¤rvelÃ¤, T., 2008	◑	●	●	●	●	●	High Quality
Jia, Y. H., 2015	●	●	○	◑	●	●	High Quality
Johnson, J. L., 2020	●	◑	●	●	●	●	High Quality
Kang, H. J., 2015	●	◑	◑	●	●	◑	High Quality
Karikis, I., 2016	●	●	●	●	●	●	High Quality
Koga, H., 2015	○	○	●	◑	●	●	Moderate Quality
KomzÃ¡k, M., 2018	●	◑	○	●	●	◑	Moderate Quality
Kosters, C., 2020	●	●	●	●	●	◑	High Quality
Kouloumentas, P., 2019	●	●	●	●	●	●	High Quality
Kvist, J., 2020	○	○	○	○	●	●	Low Quality
LaBella, C. R., 2011	○	○	○	●	●	◑	Moderate Quality
Lawhorn, K. W., 2012	●	○	◑	●	●	●	High Quality
Li, J., 2015	◑	◑	◑	●	●	◑	Moderate Quality

Study	Random Sequence Generation	Allocation Concealment	Blinding	Incomplete Outcome Data	Selective Reporting	Other Bias	Strength
Lidén, M., 2007 (a)	●	●	◑	●	●	○	High Quality
Lidén, M., 2007 (b)	◑	●	◑	●	◑	◑	Moderate Quality
Lindstrom, M., 2015	●	●	◑	●	●	●	High Quality
Liu, Y., 2016	●	●	●	●	●	●	High Quality
Lund, B., 2014	◑	●	◑	●	●	●	High Quality
Marcacci, M., 1995	○	●	◑	●	●	●	High Quality
Matsumoto, A., 2006	○	◑	○	●	●	●	Moderate Quality
Mayr, H. O., 2014	◑	●	○	●	●	●	High Quality
Mayr, H. O., 2016	●	◑	○	●	●	●	High Quality
Mayr, H. O., 2018	●	◑	○	●	●	●	High Quality
McDevitt, E. R., 2004	●	●	◑	●	●	●	High Quality
Mei, X., 2016	○	◑	●	●	●	●	High Quality
Mohtadi, N. G., 2019	●	●	●	●	●	●	High Quality
Mohtadi, N., 2015	●	◑	●	●	●	●	High Quality
Mohtadi, N., 2016	●	◑	●	●	●	●	High Quality
Murray, M. M., 2020	●	●	●	●	●	◑	High Quality
NÃºÃ±ez, M., 2012	●	●	●	●	●	●	High Quality
O'Neill, D. B., 1996	○	◑	◑	●	●	◑	Moderate Quality
Ochiai, S., 2012	◑	◑	○	●	◑	◑	Moderate Quality
Olsen, O. E., 2005	○	○	◑	●	●	●	Moderate Quality
Raviraj, A., 2010	●	◑	◑	●	●	●	High Quality
Razi, M., 2014	●	◑	○	●	●	●	High Quality
Sajovic, M., 2006	○	◑	◑	●	●	●	Moderate Quality
Sajovic, M., 2011	○	○	○	●	●	●	Moderate Quality
Sajovic, M., 2018	○	○	○	●	●	●	Moderate Quality
Sasaki, S., 2016	●	●	●	●	●	●	High Quality
Sastre, S., 2010	●	◑	○	●	●	◑	Moderate Quality
Shaieb, M. D., 2002	○	◑	◑	●	●	●	Moderate Quality
Silvers-Granelli, H. J., 2017	○	○	●	●	●	◑	Moderate Quality
Sitler, M., 1990	◑	◑	◑	●	●	●	High Quality
Smith, P. A., 2020	●	●	●	●	◑	◑	High Quality
Snoeker, B. A., 2020	●	●	○	●	○	●	Moderate Quality

Study	Random Sequence Generation	Allocation Concealment	Blinding	Incomplete Outcome Data	Selective Reporting	Other Bias	Strength
Soderman, K., 2000	○	○	◑	●	●	●	Moderate Quality
Sporsheim, A. N., 2019	◑	●	◑	●	●	●	High Quality
Steffen, K., 2008	◑	◑	◑	●	●	●	High Quality
Sun, K., 2009	●	◑	○	●	●	●	High Quality
Sun, K., 2011 (a)	●	◑	◑	●	●	●	High Quality
Sun, K., 2011 (b)	●	◑	○	●	●	○	Moderate Quality
Sun, R., 2015	◑	●	◑	●	●	●	High Quality
Suomalainen, P., 2011	◑	●	●	●	●	●	High Quality
Suomalainen, P., 2012	◑	●	●	●	●	●	High Quality
Tsoukas, D., 2016	●	●	◑	●	●	◑	High Quality
VadalÃ, A. P., 2013	●	○	●	●	●	●	High Quality
von Essen, C., 2020	◑	●	○	●	●	●	High Quality
Walden, M., 2012	○	○	○	●	●	●	Moderate Quality
Wang, F., 2011	○	○	◑	●	●	●	Moderate Quality
Webster, K. E., 2001	●	◑	○	●	●	●	High Quality
Webster, K. E., 2016	◑	●	●	●	●	●	High Quality
Wipfler, B., 2011	●	◑	◑	●	●	●	High Quality
Yang, J., 2017	●	◑	○	●	●	●	High Quality
Yarsiasat, J., 2019	●	●	●	●	●	●	High Quality
Yoo, S. H., 2017	●	●	●	●	●	●	High Quality
Zaffagnini, S., 2006	◑	◑	○	●	●	●	Moderate Quality
Zhang, Z., 2014	●	●	◑	●	●	●	High Quality

QE – Diagnostic QUADAS 2

Study	Patient selection bias	Index test risk of bias	Reference standard bias	Flow and timing bias	Strength
Blanke, F., 2020	●	●	●	●	High Quality
Cooperman, J. M., 1990	●	●	●	●	High Quality
Fowler, P. J., 1989	●	●	○	●	Moderate Quality
Jarbo, K. A., 2017	●	●	●	●	High Quality
Juyal, A., 2013	●	●	●	●	High Quality
Pookarnjanamorakot, C., 2004	●	◑	◑	○	Low Quality
Rayan, F., 2009	●	◑	◑	●	Moderate Quality
Shelbourne, K. D., 2009	●	●	●	●	High Quality

QE – Intervention – Observational ROBINS 1

Study	Is this an observational study? (If no, exit form)	Participant Recruitment	Treatment recording	Confounding Variables	Outcome measurement bias	Incomplete Outcome Data	Adequate Reporting	Strength
Achtnich, A., 2016	○	●	●	○	●	●	●	Low Quality
Ageberg, E., 2008	○	●	●	●	●	●	●	Low Quality
Aglietti, P., 1994	○	●	●	○	●	●	●	Low Quality
Aglietti, P., 2007	○	●	●	◑	◑	●	●	Low Quality
Ahn, J. H., 2016	○	●	●	◑	◑	●	●	Low Quality
Antosh, I. J., 2018	○	●	●	○	●	●	●	Low Quality
Ardern, C. L., 2017	○	●	●	●	●	●	●	Low Quality
Baba, R., 2019	○	●	●	●	●	●	●	Low Quality
Balazs, G. C., 2020	○	●	●	○	●	●	●	Low Quality
Barber, F. A., 2014	○	●	●	○	●	●	●	Low Quality
Barrett, G. R., 1995	○	●	●	●	○	●	●	Low Quality
Beischer, S., 2020	○	●	●	●	●	●	●	Low Quality
Bianchi, N., 2019	○	●	●	●	●	●	●	Low Quality
Bieri, K. S., 2017	○	●	●	●	●	●	●	Low Quality
Biz, C., 2019	○	●	●	○	●	●	●	Low Quality
Brambilla, L., 2015	○	●	●	●	●	●	●	Low Quality
Brophy, R. H., 2015	○	●	●	●	●	●	●	Low Quality
Burrus, M. T., 2015	○	●	●	○	○	●		Low Quality
Caraffa, A., 1996	○	●	●	○	●	●	●	Low Quality
Chavez, A., 2020	○	●	●	●	●	●	●	Low Quality
Cheecharern, S., 2018	○	●	●	◑	●	●	●	Low Quality
Chen, K. H., 2019	○	●	●	○	●	●	●	Low Quality
Chua, K., 2020	○	●	●	●	●	●	●	Low Quality
Crawford, E. A., 2019	○	●	●	○	●	●	●	Low Quality
Cristiani, R., 2020	○	●	●	●	●	●	●	Low Quality
Daniel, D. M., 1994	○	●	●	●	●	●	●	Low Quality
Darnley, J. E., 2016	○	●	●	●	●	●	●	Low Quality
Dawson, A. G., 2016	○	●	●	◑	○	●	●	Low Quality
Deppen, R. J., 1994	○	●	●	●	●	●	●	Low Quality
Dunn, W. R., 2004	○	●	●	●	○	●	●	Low Quality
Edgar, C. M., 2008	○	●	●	●	●	●	●	Low Quality

Study	Is this an observational study? (If no, exit form)	Participant Recruitment	Treatment recording	Confounding Variables	Outcome measurement bias	Incomplete Outcome Data	Adequate Reporting	Strength
Ellis, H. B., 2020	○	●	●	●	●	●	●	Low Quality
Engelen-van Melick, N., 2017	○	●	●	◑	●	○	●	Low Quality
Engelman, G. H., 2014	○	●	●	●	○	●	●	Low Quality
Everhart, J. S., 2019	○	●	●	●	●	●	●	Low Quality
Fink, C., 2001	○	●	●	○	◑	○	●	Low Quality
Fithian, D. C., 2005	○	●	●	●	●	○		Low Quality
Gagliardi, A. G., 2019	○	●	●	◑	●	●	●	Low Quality
Gorschewsky, O., 2005	○	●	●	●	●	●	●	Low Quality
Grindem, H., 2016	○	●	●	●	●	●	●	Low Quality
Gudas, R., 2018	○	●	●	●	●	●	●	Low Quality
Gupta, R., 2016	○	●	●	◑	◑	●	●	Low Quality
Gupta, R., 2018	○	●	●	●	●	●	●	Low Quality
Gupta, R., 2018	○	●	●	◑	◑	●	●	Low Quality
Halinen, J., 2009	○	●	●	●	●	●	●	Low Quality
Hamrin Senorski, E., 2018	○	●	●	●	●	●	◑	Low Quality
Hamrin Senorski, E., 2019	○	●	●	●	◑	○	●	Low Quality
Hara, K., 2008	○	●	●	●	◑	●	●	Low Quality
Hatayama, K., 2020	○	●	●	○	●	●	●	Low Quality
Helito, C. P., 2018	○	●	●	◑	●	●	●	Low Quality
Helito, C. P., 2019	○	●	●	●	◑	●	●	Low Quality
Henle, P., 2018	○	●	●	●	●	●	●	Low Quality
Herbst, E., 2017	○	●	●	◑	●	●	●	Low Quality
Hewett, T. E., 1999	○	●	●	○	◑	●	●	Low Quality
Hur, C. I., 2017	○	●	●	◑	●	●	●	Low Quality
Hussein, M., 2012	○	●	●	◑	●	●	●	Low Quality
Issin, A., 2019	○	●	●	○	●	●	●	Low Quality
Jacobs, C. A., 2017	○	●	●	●	●	●	●	Low Quality
Jones, M. H., 2015	○	●	●	●	●	●	●	Low Quality
Jones, M. H., 2017	○	●	●	●	●	●	●	Low Quality
Kaeding, C. C., 2017	○	●	●	●	●	●	●	Low Quality

Study	Is this an observational study? (If no, exit form)	Participant Recruitment	Treatment recording	Confounding Variables	Outcome measurement bias	Incomplete Outcome Data	Adequate Reporting	Strength
Kane, P. W., 2016	○	●	●	●	◑	○	●	Low Quality
Karikis, I., 2018	○	●	●	○	●	○	●	Low Quality
Kawashima, I., 2020	○	●	●	○	●	●	●	Low Quality
Kessler, M. A., 2008	○	●	●	●	●	●	●	Low Quality
Keyhani, S., 2018	○	●	●	●	◑	●	●	Low Quality
Keyhani, S., 2018	○	●	●	○	●	●	●	Low Quality
Kiani, A., 2010	○	●	●	●	◑	●	●	Low Quality
Kim, S. H., 2020	○	●	●	●	●	●	●	Low Quality
King, E., 2020	○	●	●	●	●	●	●	Low Quality
Kovalak, E., 2018	○	●	●	○	●	●	●	Low Quality
Kraeutler, M. J., 2018	○	●	●	●	●	●	●	Low Quality
Krutsch, W., 2017	○	●	●	○	●	●	●	Low Quality
Krutsch, W., 2020	○	●	●	●	◑	◑	●	Low Quality
Kwak, Y. H., 2018	○	●	●	●	●	●	●	Low Quality
Leal-Blanquet, J., 2011	○	●	●	●	◑	●	●	Low Quality
Lecoq, F. A., 2018	○	●	●	●	○	●	●	Low Quality
Lenehan, E. A., 2015	○	●	●	●	○	●	●	Low Quality
Leo, B. M., 2016	○	●	●	◑	◑	●	●	Low Quality
Lim, B. O., 2009	○	●	●	●	●	●	●	Low Quality
Lin, S. H., 2017	○	●	●	●	●	●	●	Low Quality
Lindanger, L., 2019	○	●	●	●	●	●	●	Low Quality
Lord, L., 2020	○	●	●	●	●	●	●	Low Quality
Maletis, G. B., 2016	○	●	●	◑	◑	●	●	Low Quality
Maletis, G. B., 2017	○	●	●	●	●	●	●	Low Quality
Mandelbaum, B. R., 2005	○	●	●	●	●	●	●	Low Quality
Mardani-Kivi, M., 2016	○	●	●	◑	●	●	●	Low Quality
Mardani-Kivi, M., 2020	○	●	●	○	●	●	●	Low Quality
Melton, J. T., 2011	○	●	●	●	●	●	●	Low Quality
Meuffels, D. E., 2009	○	●	●	●	●	●	●	Low Quality
Mihelic, R., 2011	○	●	●	◑	○	●	●	Low Quality
Mirzayan, R., 2020	○	●	●	●	●	●	●	Low Quality

Study	Is this an observational study? (If no, exit form)	Participant Recruitment	Treatment recording	Confounding Variables	Outcome measurement bias	Incomplete Outcome Data	Adequate Reporting	Strength
Moon Knee Group, 2019	○	●	●	●	●	●	●	Low Quality
Murgier, J., 2020	○	●	●	◑	●	●	●	Low Quality
Murphy, M. V., 2016	○	●	●	●	●	●	●	Low Quality
Murray, J. J., 2017	○	●	●	◑	◑	●	●	Low Quality
Naraoka, T., 2017	○	●	●	●	●	●	●	Low Quality
Nawasreh, Z., 2018	○	●	●	●	●	●	●	Low Quality
Nelson, I. R., 2016	○	●	●	◑	◑	●	●	Low Quality
Noyes, F. R., 1990	○	●	●	○	◑	●	●	Low Quality
Ochiai, S., 2014	○	●	●	●	◑	●	●	Low Quality
Omi, Y., 2018	○	●	●	●	●	●	●	Low Quality
PÃ…?ocki, J., 2017	○	●	●	●	●	●	●	Low Quality
Pan, F., 2015	○	●	●	●	●	●	●	Low Quality
Park, S. J., 2010	○	●	●	●	◑	●	●	Low Quality
Paterno, M. V., 2018	○	●	●	◑	●	●	●	Low Quality
Pennock, A. T., 2017	○	●	●	●	◑	●	●	Low Quality
Pennock, A. T., 2019	○	●	●	●	●	●	●	Low Quality
Perkins, C. A., 2019	○	●	●	●	○	●	●	Low Quality
Petersen, W., 2005	○	●	●	●	●	●	●	Low Quality
Peterson, R. K., 2001	○	●	●	●	◑	●	●	Low Quality
Pfeiffer, R. P., 2006	○	●	●	●	●	●	●	Low Quality
Phillips, M., 2018	○	●	●	●	●	●	●	Low Quality
Pinczewski, L. A., 2002	○	●	●	○	●	●	●	Low Quality
Pinczewski, L. A., 2007	○	●	●	○	◑	●	●	Low Quality
Pollet, V., 2005	○	●	●	●	◑	●	●	Low Quality
Pullen, W. M., 2016	○	●	●	●	●	●	●	Low Quality
Rahardja, R., 2020	○	●	●	●	●	●	●	Low Quality
Rao, A. J., 2020	○	●	●	◑	○	●	●	Low Quality
Razi, M., 2019	○	●	●	○	●	●	●	Low Quality
Roe, J., 2005	○	●	●	●	◑	●	●	Low Quality
Rosso, F., 2018	○	●	●	●	●	●	●	Low Quality
Rousseau, R., 2019	○	●	●	●	●	●	●	Low Quality
Rowan, F. E., 2019	○	●	●	●	●	●	●	Low Quality

Study	Is this an observational study? (If no, exit form)	Participant Recruitment	Treatment recording	Confounding Variables	Outcome measurement bias	Incomplete Outcome Data	Adequate Reporting	Strength
Rudroff, T., 2003	○	●	●	●	●	●	●	Low Quality
Salem, H. S., 2019	○	●	●	●	◑	○	●	Low Quality
Sevimli, R., 2020	○	●	●	◑	◑	●	●	Low Quality
Shahnam Moosavi, S., 2020	○	●	●	●	●	●	●	Low Quality
Shelbourne, K. D., 2004	○	●	●	○	●	●	●	Low Quality
Shelbourne, K. D., 2009	○	●	●	○	●	●	●	Low Quality
Shelton, W. R., 1997	○	●	●	◑	●	●	●	Low Quality
Signorelli, C., 2016	○	●	●	◑	◑	●	●	Low Quality
Singh, A., 2018	○	●	●	○	●	●	●	Low Quality
Sitler, M., 1990	○	●	●	○	●	●	●	Low Quality
Sole, G., 2016	○	●	●	●	◑	●	●	Low Quality
Song, E. K., 2009	○	●	●	○	◑	●	●	Low Quality
Sonnery-Cottet, B., 2017	○	●	●	●	○	●	●	Low Quality
Sonnery-Cottet, B., 2018	○	●	●	●	◑	●	●	Low Quality
Sousa, P. L., 2017	○	●	●	◑	◑	●	●	Low Quality
Steadman, J. R., 2015	○	●	●	○	◑	●	●	Low Quality
Stone, J. A., 2019	○	●	●	●	●	●	●	Low Quality
Streich, N. A., 2010	○	●	●	●	○	●	●	Low Quality
Streich, N. A., 2011	○	●	●	●	●	●	●	Low Quality
Svantesson, E., 2019	○	●	●	●	●	●	●	Low Quality
Swirtun, L. R., 2008	○	●	●	○	●	●	●	Low Quality
Taketomi, S., 2018	○	●	●	◑	○	●	●	Low Quality
Thompson, S. M., 2016	○	●	●	●	●	◑	●	Low Quality
Todor, A., 2019	○	●	●	●	●	●	●	Low Quality
Toole, A. R., 2017	○	●	●	○	●	●	●	Low Quality
Tow, B. P., 2005	○	●	●	●	◑	●	●	Low Quality
van Meer, B. L., 2016	○	●	●	●	●	●	●	Low Quality
van Yperen, D. T., 2018	○	●	●	●	●	●	●	Low Quality
Victor, J., 1997	○	●	●	●	◑	●	●	Low Quality
Wang, H. D., 2018	○	●	●	◑	●	●	●	Low Quality

Study	Is this an observational study? (If no, exit form)	Participant Recruitment	Treatment recording	Confounding Variables	Outcome measurement bias	Incomplete Outcome Data	Adequate Reporting	Strength
Wang, J. H., 2016	○	●	●	◑	●	●	●	Low Quality
Wellsandt, E., 2018	○	●	●	◑	●	●	●	Low Quality
Wellsandt, E., 2020	○	●	●	●	◑	●	●	Low Quality
Westermann, R. W., 2019	○	●	●	○	●	●	●	Low Quality
Wirth, C. J., 2002	○	●	●	◑	●	●	●	Low Quality
Xu, H., 2017	○	●	●	○	●	●	●	Low Quality
Xu, H., 2018	○	●	●	◑	●	●	●	Low Quality
Yabroudi, M. A., 2016	○	●	●	●	●	●	●	Low Quality
Zhang, Q., 2017	○	●	●	●	●	●	●	Low Quality

Data Tables

Table 1: PICO 1 – Diagnostic: Lachman

Reference Title	Quality	Patient Characteristics	Index Test	Reference Standard	Sens|Spec	LR+|LR-	Rule In Test	Rule Out Test
Massey, 2017	High Quality	33% female; mean age 28	Lachman	MRI	89.00%|85.00%	5.93|0.13	**MODERATE**	**MODERATE**
Blanke, 2020	High Quality	19% female;	Lachman	MRI	74.00%|83.00%	4.35|0.31	WEAK	WEAK
Mulligan, 2017	High Quality	34% female; mean age 42	Lachman	MRI	83.00%|89.00%	7.55|0.19	**MODERATE**	**MODERATE**
Lichtenberg, 2018	High Quality	39% female; mean age 34	Lachman	ACL Surgery	87.00%|91.00%	9.67|0.14	**MODERATE**	**MODERATE**
Mulligan, 2017	High Quality	34% female; mean age 42	Lachman	MRI	67.00%|97.00%	22.33|0.34	**STRONG**	WEAK
Sobrado, 2021	High Quality	32% female; mean age 32.2	Lachman	MRI	94.80%|100.0%	94800|0.05	**STRONG**	**STRONG**
Jarbo, 2017	High Quality	43% female; mean age 23 (range 15-66);	Lachman	MRI	90.00%|96.00%	22.5|0.1	**STRONG**	**MODERATE**

Table 2: PICO 1 – Diagnostic: Pivot Shift

Reference Title	Quality	Patient Characteristics	Index Test	Reference Standard	Sens|Spec	LR+|LR-	Rule In Test	Rule Out Test
Jarbo, 2017	High Quality	43% female; mean age 23 (range 15-66);	Pivot Shift	MRI	59.00%|98.00%	29.5|0.42	**STRONG**	WEAK
Blanke, 2020	High Quality	19% female;	Pivot Shift	MRI	46.00%|96.00%	11.5|0.56	**STRONG**	POOR
Lichtenberg, 2018	High Quality	39% female; mean age 34	Pivot Shift	ACL Surgery	50.00%|98.00%	25|0.51	**STRONG**	POOR
Massey, 2017	High Quality	33% female; mean age 28	Pivot Shift	MRI	66.00%|94.00%	11|0.36	**STRONG**	WEAK

Table 3: PICO 1 – Diagnostic: Anterior Drawer

Reference Title	Quality	Patient Characteristics	Index Test	Reference Standard	Sens|Spec	LR+|LR-	Rule In Test	Rule Out Test
Sobrado, 2021	High Quality	32% female; mean age 32.2	Anterior Drawer	MRI	82.00%|84.85%	5.41|0.21	**MODERATE**	WEAK
Massey, 2017	High Quality	33% female; mean age 28	Anterior Drawer	MRI	82.00%|80.00%	4.1|0.23	WEAK	WEAK
Jarbo, 2017	High Quality	43% female; mean age 23 (range 15-66);	Anterior Drawer	MRI	88.00%|94.00%	14.67|0.13	**STRONG**	**MODERATE**
Lichtenberg, 2018	High Quality	39% female; mean age 34	Anterior Drawer	ACL Surgery	71.00%|94.00%	11.83|0.31	**STRONG**	WEAK

Table 4: PICO 1 – Diagnostic: Forced Active Buckling Sign

Reference Title	Quality	patient chars.	Index Test	Reference Standard	Sens|Spec	LR+|LR-	Rule In Test	Rule Out Test
Blanke, 2020	High Quality	19% female; mean age	Forced Active Buckling Sign	MRI	78.00%|95.00%	15.6|0.23	**STRONG**	WEAK

Table 5: PICO 1 – Diagnostic: Lever Sign

Reference Title	Quality	Patient Characteristics	Index Test	Reference Standard	Sens|Spec	LR+|LR-	Rule In Test	Rule Out Test
Mulligan, 2017	High Quality	34% female; mean age 42	Lever Sign	MRI	38.00%|72.00%	1.36|0.86	POOR	POOR
Lichtenberg, 2018	High Quality	39% female; mean age 34	Lever Sign	ACL Surgery	39.00%|99.00%	39|0.62	**STRONG**	POOR
Massey, 2017	High Quality	33% female; mean age 28	Lever Sign	MRI	83.00%|80.00%	4.15|0.21	WEAK	WEAK
Jarbo, 2017	High Quality	43% female; mean age 23 (range 15-66);	Lever Sign	MRI	63.00%|90.00%	6.3|0.41	**MODERATE**	WEAK
Sobrado, 2021	High Quality	32% female; mean age 32.2	Lever Sign	MRI	64.10%|100.0%	64100|0.36	**STRONG**	WEAK

Table 6: PICO 2 – Aspiration of the Knee – Adverse Events

Reference Title	Quality	Outcome Details	Duration	Treatment 1 (Details)	Treatment 2 (Details)	Effect Measure	Result (95% CI)	Favored Treatment
Wang, 2016	Low	Effusion (at Outpatient Dept.(baseline was sig. diff. between groups))	6 days	Aspiration	No Joint Aspiration	Mean Difference	-0.9 (-1.49, -0.31)	Aspiration

Table 7: PICO 2 – Aspiration of the Knee – Function

Reference Title	Quality	Outcome Details	Duration	Treatment 1 (Details)	Treatment 2 (Details)	Effect Measure	Result (95% CI)	Favored Treatment
Wang, 2016	Low	ROM (at Outpatient Dept. (baseline was sig. diff. between groups))	6 days	Aspiration	No Joint Aspiration	Mean Difference	7.5 (-9.38, 24.38)	NS
Wang, 2016	Low	Lachman Test Positivity Rate (at Outpatient Dept.)	6 days	Aspiration	No Joint Aspiration	RR	1.52(0.99,2.33)	NS
Wang, 2016	Low	Pivot Shift Test Positivity Rate (at Outpatient Dept.)	6 days	Aspiration	No Joint Aspiration	RR	2.33(1.37,3.98)	Aspiration

Table 8: PICO 2 – Aspiration of the Knee – Pain

Reference Title	Quality	Outcome Details	Duration	Treatment 1 (Details)	Treatment 2 (Details)	Effect Measure	Result (95% CI)	Favored Treatment
Wang, 2016	Low	VAS Pain (at Outpatient Dept.(baseline was sig. diff. between groups))	6 days	Aspiration	No Joint Aspiration	Mean Difference	-0.5 (-1.59, 0.59)	NS

Table 9: PICO 3 – ACLR vs. Control - Adverse Events

Reference Title	Quality	Outcome Details	Duration	Treatment 1 (Details)	Treatment 2 (Details)	Effect Measure	Result (95% CI)	Favored Treatment
Meuffels,2009	Low	Meniscectomy	10 yrs.	Surgical Reconstruction	Non operative: Conservative treatment	RR	0.85(0.61,1.19)	NS
Dunn, 2004	Low	Lateral Meniscal Injury	Postop .	Surgical Reconstruction	Non operative: No ACLR	Author Reported -Cox proportional hazards regression models	0.44(0.34,0.57)	ACLR
Dunn, 2004	Low	Medial Meniscal Injury	Postop .	Surgical Reconstruction	Non operative: No ACLR	Author Reported -Cox proportional hazards regression models	0.58(0.47,0.69)	ACLR
Dunn, 2004	Low	Cartilage Injury	Postop .	Surgical Reconstruction	Non operative: No ACLR	Author Reported -Cox proportional hazards regression models	0.65(0.53,0.80)	ACLR
Dunn, 2004	Low	Any re-operation	Postop .	Surgical Reconstruction	Non operative: No ACLR	Author Reported -Cox proportional hazards regression models	0.34(0.30,0.38)	ACLR
Kvist, 2020	Low	Total number of Surgeries to index knee: 1knee surgery	34.5 yrs.	Reconstruction(Early)	Non operative: “Never had ACL Surgery"	RR	0.80(0.43,1.50)	NS
Kvist, 2020	Low	Total number of Surgeries to index knee: 2knee surgery	34.5 yrs.	Reconstruction(Early)	Non operative: “Never had ACL Surgery"	RR	1.05(0.51,2.16)	NS
Kvist, 2020	Low	Total number of Surgeries to index knee:>2 knee surgery	34.5 yrs.	Reconstruction(Early)	Non operative: “Never had ACL Surgery"	RR	1.96(0.93,4.13)	NS
Kvist, 2020	Low	ACL Surgery on Index Knee	34.5 yrs.	Reconstruction(Early)	Non operative: “Never had ACL Surgery"	RR	1.96(0.42,9.08)	NS
Kvist, 2020	Low	Contralateral ACL tear	34.5 yrs.	Reconstruction(Early)	Non operative: “Never had ACL Surgery"	RR	1.96(0.70,5.51)	NS
Kvist, 2020	Low	Knee Symptoms	34.5 yrs.	Reconstruction(Early)	Non operative: “Never had ACL Surgery"	RR	1.01(0.71,1.45)	NS
Frobell, 2011	High	Bone Marrow Lesion in Lateral Aspect of Tibia	2 yrs.	Reconstruction(Early)	Rehab only	Mean Difference	1 (-0.44, 2.44)	NS
Frobell, 2011	High	Bone Marrow Lesion in Lateral Aspect of Femur	2 yrs.	Reconstruction(Early)	Rehab only	Mean Difference	0.1 (-1.29, 1.49)	NS
Yperen,2018	Low	Total Knee Arthroplasty	10 yrs.	Surgical Reconstruction	Non operative	RD	0.00(0.00,0.00)	NS
Yperen,2018	Low	Total Knee Arthroplasty	20 yrs.	Surgical Reconstruction	Non operative	RD	0.04(-0.04,0.12)	NS

Reference Title	Quality	Outcome Details	Duration	Treatment 1 (Details)	Treatment 2 (Details)	Effect Measure	Result (95% CI)	Favored Treatment
Yperen,2018	Low	Graft Rupture / Failure	Postop .	Surgical Reconstruction	Non operative	RD	0.16(0.02,0.30)	Non operative
Yperen,2018	Low	Generalized OA	20 yrs.	Surgical Reconstruction	Non operative	RR	1.00(0.15,6.55)	NS
Yperen,2018	Low	Meniscectomy	Postop .	Surgical Reconstruction	Non operative	RR	0.95(0.68,1.32)	NS
Streich, 2011	Low	Secondary partial Meniscectomy	65 mos.	Surgical Reconstruction	Non operative: Conservative treatment	RR	0.25(0.09,0.68)	Surgical Reconstruction

Table 10: PICO 3 – ACLR vs. Control – Function

Reference Title	Quality	Outcome Details	Duration	Treatment 1 (Details)	Treatment 2 (Details)	Effect Measure	Result (95% CI)	Favored Treatment
Flosadottir,2018	High	Single-leg hop LSI	5 yrs.	Exercise plus early reconstruction: “ACL-R"	Exercise only	Mean Difference	-2.3 (-8.64, 4.04)	NS
Tsoukas,2016	High	IKDC Subjective Score	10.1 yrs.	Surgical Reconstruction	Non operative	Mean Difference	9.2 (1.93, 16.47)	Surgical Reconstruction
Tsoukas,2016	High	Anteroposterior tibial translation (mm)(Laxity measurements using KT-1000arthrometer)	10.1 yrs.	Surgical Reconstruction	Non operative	Mean Difference	-3 (-3.27, -2.73)	Surgical Reconstruction
Tsoukas,2016	High	Tegner Activity Scale	10.1 yrs.	Surgical Reconstruction	Non operative	Mean Difference	2 (-0.00, 4.00)	NS
Kessler,2008	Low	IKDC- A/B (Normal - Nearly Normal)	11.1 yrs.	Surgical Reconstruction	Non operative	RR	1.30(0.96,1.75)	NS
Kessler,2008	Low	IKDC- C/D (Abnormal - severely Abnormal)	11.1 yrs.	Surgical Reconstruction	Non operative	RR	0.63(0.38,1.05)	NS
Kessler,2008	Low	KT1000 side to side difference (mm)	11.1 yrs.	Surgical Reconstruction	Non operative	Mean Difference	-1.8 (-14.90, 11.30)	NS
Kessler,2008	Low	Tegner Activity Scale	11.1 yrs.	Surgical Reconstruction	Non operative	Mean Difference	0.4 (-6.54, 7.34)	NS
Kessler,2008	Low	Tegner Activity Scale	11.1 yrs.	Surgical Reconstruction	Non operative	Mean Difference	-0.07 (-7.92, 7.78)	NS
Meuffels,2009	Low	KT-1000 arthrometer side to side difference >3mm	2 yrs.	Surgical Reconstruction	Non operative: Conservative treatment	RR	0.35(0.17,0.75)	Surgical Reconstruction
Meuffels,2009	Low	Pivot Shift Test: A/B	10 yrs.	Surgical Reconstruction	Non operative: Conservative treatment	RR	0.00(0.00,0.00)	NS
Meuffels,2009	Low	Lysholm Knee Score	10 yrs.	Surgical Reconstruction	Non operative: Conservative treatment	Mean Difference	3 (-14.00, 20.00)	NS
Meuffels,2009	Low	IKDC Subjective Score	10 yrs.	Surgical Reconstruction	Non operative: Conservative treatment	Mean Difference	0 (-30.74, 30.74)	NS
Meuffels,2009	Low	Tegner Activity Scale	10 yrs.	Surgical Reconstruction	Non operative: Conservative treatment	Mean Difference	1 (-4.00, 6.00)	NS

Reference Title	Quality	Outcome Details	Duration	Treatment 1 (Details)	Treatment 2 (Details)	Effect Measure	Result (95% CI)	Favored Treatment
Kvist, 2020	Low	KOOS (Symptoms)	34.5 yrs.	Reconstruction(Early)	Non operative: “Never had ACL Surgery"	Mean Difference	-1 (-12.19, 10.19)	NS
Kvist, 2020	Low	KOOS (Sports)	34.5 yrs.	Reconstruction(Early)	Non operative: “Never had ACL Surgery"	Mean Difference	-9 (-22.31, 4.31)	NS
Kvist, 2020	Low	SANE index (single assessment numerical evaluation;)	34.5 yrs.	Reconstruction(Early)	Non operative: “Never had ACL Surgery"	Mean Difference	0 (-11.28, 11.28)	NS
Pollet, 2005	Low	KT1000 side to side difference (Joint Laxity measurements)	33 mos.	ACLR +PT	Non operative: Conservative treatment	Mean Difference	1 (-2.47, 4.47)	NS
Pollet, 2005	Low	One leg hop test %	33 mos.	ACLR +PT	Non operative: Conservative treatment	Mean Difference	-12.6 (-142.31, 117.11)	NS
Pollet, 2005	Low	Cross over hop test %	33 mos.	ACLR +PT	Non operative: Conservative treatment	Mean Difference	-1.8 (-132.48, 128.88)	NS
Sole, 2016	Low	Temporal Variables: Speed (m/s) (?)	20 yrs.	ACLR +PT	PT Only	Mean Difference	-0.03 (-0.09, 0.03)	NS
Sole, 2016	Low	Temporal Variables: Total Stance Phase(ms) (?)	20 yrs.	ACLR +PT	PT Only	Mean Difference	-27 (-153.08, 99.08)	NS
Sole, 2016	Low	Temporal Variables: Weight acceptance(ms) (?)	20 yrs.	ACLR +PT	PT Only	Mean Difference	-4 (-49.53, 41.53)	NS
Sole, 2016	Low	Temporal Variables: Propulsion (?)	20 yrs.	ACLR +PT	PT Only	Mean Difference	-23 (-109.18, 63.18)	NS
Yperen,2018	Low	Lysholm Knee Score	10 yrs.	Surgical Reconstruction	Non operative	Mean Difference	3 (-2.83, 8.83)	NS
Yperen,2018	Low	IKDC Subjective Score	10 yrs.	Surgical Reconstruction	Non operative	Mean Difference	0 (-12.84, 12.84)	NS
Yperen,2018	Low	Tegner Activity Scale	10 yrs.	Surgical Reconstruction	Non operative	Mean Difference	1 (-1.24, 3.24)	NS
Yperen,2018	Low	KT-1000 arthrometer side to side difference >3mm	10 yrs.	Surgical Reconstruction	Non operative	RR	0.35(0.17,0.75)	Surgical Reconstruction
Yperen,2018	Low	Pivot Shift Test: A/B	10 yrs.	Surgical Reconstruction	Non operative	RR	0.00(0.00,0.00)	NS
Yperen,2018	Low	Lachman (-)	10 yrs.	Surgical Reconstruction	Non operative	RR	0.92(0.50,1.67)	NS
Yperen,2018	Low	Lachman (+)	10 yrs.	Surgical Reconstruction	Non operative	RR	1.08(0.65,1.80)	NS

Reference Title	Quality	Outcome Details	Duration	Treatment 1 (Details)	Treatment 2 (Details)	Effect Measure	Result (95% CI)	Favored Treatment
Yperen,2018	Low	1 legged hop test	10 yrs.	Surgical Reconstruction	Non operative	Mean Difference	-2.4 (-10.89, 6.09)	NS
Yperen,2018	Low	Lysholm Knee Score	20 yrs.	Surgical Reconstruction	Non operative	Mean Difference	-3 (-11.20, 5.20)	NS
Yperen,2018	Low	IKDC Subjective Score	20 yrs.	Surgical Reconstruction	Non operative	Mean Difference	3.4 (-12.31, 19.11)	NS
Yperen,2018	Low	Tegner Activity Scale	20 yrs.	Surgical Reconstruction	Non operative	Mean Difference	1 (-1.24, 3.24)	NS
Yperen,2018	Low	KOOS (Symptoms)	20 yrs.	Surgical Reconstruction	Non operative	Mean Difference	-7.2 (-20.04, 5.64)	NS
Yperen,2018	Low	KOOS (ADL)	20 yrs.	Surgical Reconstruction	Non operative	Mean Difference	-2.9 (-7.55, 1.75)	NS
Yperen,2018	Low	KOOS (Sports)	20 yrs.	Surgical Reconstruction	Non operative	Mean Difference	0 (-18.03, 18.03)	NS
Yperen,2018	Low	KT-1000 arthrometer side to side difference >3mm	20 yrs.	Surgical Reconstruction	Non operative	RR	0.53(0.31,0.89)	Surgical Reconstruction
Yperen,2018	Low	Pivot Shift Test: A/B	20 yrs.	Surgical Reconstruction	Non operative	RR	0.08(-0.03,0.19)	NS
Yperen,2018	Low	Lachman (-)	20 yrs.	Surgical Reconstruction	Non operative	RR	12.00(1.68,85.47)	Surgical Reconstruction
Yperen,2018	Low	Lachman (+)	20 yrs.	Surgical Reconstruction	Non operative	RR	0.57(0.38,0.84)	Surgical Reconstruction
Yperen,2018	Low	1 legged hop test	20 yrs.	Surgical Reconstruction	Non operative	Mean Difference	-9.2 (-27.86, 9.46)	NS
Yperen,2018	Low	IKDC- A/B (Normal - Nearly Normal)	Postop .	Surgical Reconstruction	Non operative	RR	4.20(1.88,9.37)	Surgical Reconstruction
Yperen,2018	Low	IKDC- C/D (Abnormal - severely Abnormal)	Postop .	Surgical Reconstruction	Non operative	RR	0.20(0.08,0.50)	Surgical Reconstruction
Kovalak,2018	Low	Lysholm Knee Score	5 yrs.	Surgical Reconstruction: “ACLR and CKC strength training”	Non-constructed: ”neuromuscular training”	Mean Difference	-3.69 (-8.57, 1.19)	NS
Kovalak,2018	Low	One-leg hop test	5 yrs.	Surgical Reconstruction: “ACLR and CKC strength training”	Non-constructed: ”neuromuscular training”	Mean Difference	2.74 (-10.20, 15.68)	NS
Kovalak,2018	Low	Assessment of muscle strength in peak torque- Extension PT (N-m) (?)	5 yrs.	Surgical Reconstruction: “ACLR and CKC strength training”	Non-constructed: ”neuromuscular training”	Mean Difference	7.19 (-2.75, 17.13)	NS
Kovalak,2018	Low	Assessment of muscle strength in peak torque - Flexion PT (N-m) (?)	5 yrs.	Surgical Reconstruction: “ACLR and CKC strength training”	Non-constructed: ”neuromuscular training”	Mean Difference	6.89 (0.97, 12.81)	Surgical Reconstruction

Reference Title	Quality	Outcome Details	Duration	Treatment 1 (Details)	Treatment 2 (Details)	Effect Measure	Result (95% CI)	Favored Treatment
Kovalak,2018	Low	SF-36# GH (General health perceptions)(SF-36 health profiles of the patients)	5 yrs.	Surgical Reconstruction: “ACLR and CKC strength training”	Non-constructed: ”neuromuscular training”	Mean Difference	9.2 (2.36, 16.04)	Surgical Reconstruction
Kovalak,2018	Low	SF-36# PF (Physical functioning)	5 yrs.	Surgical Reconstruction: “ACLR and CKC strength training”	Non-constructed: ”neuromuscular training”	Mean Difference	8.48 (2.26, 14.70)	Surgical Reconstruction
Kovalak,2018	Low	SF-36# RP (Role limitations due to physical functioning)	5 yrs.	Surgical Reconstruction: “ACLR and CKC strength training”	Non-constructed: ”neuromuscular training”	Mean Difference	15.42 (-0.75, 31.59)	NS
Kovalak,2018	Low	SF-36# RE (Emotional function)	5 yrs.	Surgical Reconstruction: “ACLR and CKC strength training”	Non-constructed: ”neuromuscular training”	Mean Difference	10.25 (-7.23, 27.73)	NS
Kovalak,2018	Low	SF-36# SF (social function)	5 yrs.	Surgical Reconstruction: “ACLR and CKC strength training”	Non-constructed: ”neuromuscular training”	Mean Difference	-7.02 (-16.13, 2.09)	NS
Kovalak,2018	Low	SF-36# VH (Vitality)	5 yrs.	Surgical Reconstruction: “ACLR and CKC strength training”	Non-constructed: ”neuromuscular training”	Mean Difference	6.76 (1.06, 12.46)	Surgical Reconstruction
Kovalak,2018	Low	SF-36# MH (Mental Health)	5 yrs.	Surgical Reconstruction: “ACLR and CKC strength training”	Non-constructed: ”neuromuscular training”	Mean Difference	6.23 (-1.28, 13.74)	NS
Ardern, 2017	Low	KOOS (Symptoms)	2 yrs.	Surgical Reconstruction	Non operative	Author Reported - independent samples t tests	1.60(-1.10,4.30)	NS
Ardern, 2017	Low	KOOS (ADL)	2 yrs.	Surgical Reconstruction	Non operative	Author Reported - independent samples t tests	1.70(0.30,3.80)	NS
Ardern, 2017	Low	KOOS (Sports)	2 yrs.	Surgical Reconstruction	Non operative	Author Reported - independent samples t tests	4.50(0.30,8.60)	ACLR
Ardern, 2017	Low	KOOS (Symptoms)	5 yrs.	Surgical Reconstruction	Non operative	Author Reported - independent samples t tests	5.30(0.80,9.80)	ACLR
Ardern, 2017	Low	KOOS (ADL)	5 yrs.	Surgical Reconstruction	Non operative	Author Reported - independent samples t tests	2.70(-0.50,5.80)	NS

Reference Title	Quality	Outcome Details	Duration	Treatment 1 (Details)	Treatment 2 (Details)	Effect Measure	Result (95% CI)	Favored Treatment
Ardern, 2017	Low	KOOS (Sports)	5 yrs.	Surgical Reconstruction	Non operative	Author Reported - independent samples t tests	3.80(-3.10,10.70)	NS
Ardern, 2017	Low	EQ-5D	2 yrs.	Surgical Reconstruction	Non operative	Author Reported - independent samples t tests	0.03(-0.00,0.10)	NS
Ardern, 2017	Low	EQ-5D	5 yrs.	Surgical Reconstruction	Non operative	Author Reported - independent samples t tests	0.09(0.04,0.10)	ACLR
Dawson,2016	Low	Tegner Activity Scale (Anterior Cruciate Ligament Quality of Life Questionnaire)	38 mos.	Surgical Reconstruction	Non operative: “Conservative treatment"	Mean Difference	-2 (-7.83, 3.83)	NS
Dawson,2016	Low	Lysholm Knee Score (Anterior Cruciate Ligament Quality of Life Questionnaire)	38 mos.	Surgical Reconstruction	Non operative: “Conservative treatment"	Mean Difference	0 (-7.07, 7.07)	NS
Dawson,2016	Low	SF-12 Physical component score (Shortform-12 survey)	38 mos.	Surgical Reconstruction	Non operative: “Conservative treatment"	Mean Difference	0 (-2.83, 2.83)	NS
Wellsandt,2018	Low	Quadriceps index	5 yrs.	Surgical Reconstruction	Non operative	Mean Difference	1.6 (-7.41, 10.61)	NS
Wellsandt,2018	Low	Single leg hop test; Single	5 yrs.	Surgical Reconstruction	Non operative	Mean Difference	-0.7 (-5.41, 4.01)	NS
Wellsandt,2018	Low	Single leg hop test; Crossover	5 yrs.	Surgical Reconstruction	Non operative	Mean Difference	4.4 (-0.41, 9.21)	NS
Wellsandt,2018	Low	Single leg hop test; Triple	5 yrs.	Surgical Reconstruction	Non operative	Mean Difference	0.3 (-3.74, 4.34)	NS
Wellsandt,2018	Low	Single-leg hop test; 6-m timed	5 yrs.	Surgical Reconstruction	Non operative	Mean Difference	0.7 (-2.81, 4.21)	NS
Wellsandt,2018	Low	KOS-ADLS, Knee Outcome Survey–Activities of Daily Living	5 yrs.	Surgical Reconstruction	Non operative	Mean Difference	1.2 (-1.30, 3.70)	NS
Wellsandt,2018	Low	Global Rating Scale of perceived function, GRS	5 yrs.	Surgical Reconstruction	Non operative	Mean Difference	7.3 (2.11, 12.49)	Surgical Reconstruction
Wellsandt,2018	Low	IKDC	5 yrs.	Surgical Reconstruction	Non operative	Mean Difference	4.3 (-1.10, 9.70)	NS
Wellsandt,2018	Low	KOOS (Symptoms)	5 yrs.	Surgical Reconstruction	Non operative	Mean Difference	-1.4 (-6.42, 3.62)	NS
Wellsandt,2018	Low	KOOS (ADL)	5 yrs.	Surgical Reconstruction	Non operative	Mean Difference	0.6 (-1.85, 3.05)	NS
Wellsandt,2018	Low	KOOS (Sports)	5 yrs.	Surgical Reconstruction	Non operative	Mean Difference	1.6 (-6.31, 9.51)	NS
Wellsandt,2018	Low	Marx Activity Level Scores	5 yrs.	Surgical Reconstruction	Non operative	Mean Difference	1.7 (-0.35, 3.75)	NS

Reference Title	Quality	Outcome Details	Duration	Treatment 1 (Details)	Treatment 2 (Details)	Effect Measure	Result (95% CI)	Favored Treatment
Wellsandt,2018	Low	TSK-11, Tampa Scale for Kinesiophobia	5 yrs.	Surgical Reconstruction	Non operative	Mean Difference	-3 (-5.41, -0.59)	Surgical Reconstruction
Wellsandt,2018	Low	Effusion	5 yrs.	Surgical Reconstruction	Non operative	Mean Difference	33.2 (13.96, 52.44)	Non operative
Wellsandt,2018	Low	Currently at preinjury activity level (yes)	5 yrs.	Surgical Reconstruction	Non operative	Mean Difference	11 (-14.50, 36.50)	NS
Streich, 2011	Low	KT-1000 arthrometer side to side difference >3mm (at 20 deg. flexion)(KT-1000)	15 yrs.	Surgical Reconstruction	Non operative: Conservative treatment	RR	0.98(0.65,1.45)	NS
Streich, 2011	Low	KT-1000 arthrometer side to side difference >3mm (at 60 deg. flexion)(KT-1000)	15 yrs.	Surgical Reconstruction	Non operative: Conservative treatment	RR	0.81(0.60,1.09)	NS
Streich, 2011	Low	Pivot Shift Test: A/B	15 yrs.	Surgical Reconstruction	Non operative: Conservative treatment	RR	0.00(0.00,0.00)	NS
Streich, 2011	Low	Pivot Shift Test: C/D	15 yrs.	Surgical Reconstruction	Non operative: Conservative treatment	RD	0.00(0.00,0.00)	NS
Streich, 2011	Low	Extension deficit between 3-5 degree	15 yrs.	Surgical Reconstruction	Non operative: Conservative treatment	RR	0.85(0.43,1.66)	NS
Streich, 2011	Low	Flexion deficit of more than 6 degree	15 yrs.	Surgical Reconstruction	Non operative: Conservative treatment	RD	-0.20(-0.32,-0.08)	Surgical Reconstruction
Streich, 2011	Low	IKDC Subjective Score	15 yrs.	Surgical Reconstruction	Non operative: Conservative treatment	Mean Difference	-6 (-12.65, 0.65)	NS
Streich, 2011	Low	Lysholm Knee Score	15 yrs.	Surgical Reconstruction	Non operative: Conservative treatment	Mean Difference	-6.7 (-14.57, 1.17)	NS
Streich, 2011	Low	Tegner Activity Scale	Postop .	Surgical Reconstruction	Non operative: Conservative treatment	Mean Difference	-0.4 (-1.21, 0.41)	NS
Ageberg,2008	Low	Vertical Jump (cm)	3 yrs.	Surgical Treatment: “training + surgical reconstruction"	Non-surgical treatment: “training only”	Mean Difference	0.1 (-0.32, 0.52)	NS

Reference Title	Quality	Outcome Details	Duration	Treatment 1 (Details)	Treatment 2 (Details)	Effect Measure	Result (95% CI)	Favored Treatment
Ageberg,2008	Low	One-leg hop test (cm)	3 yrs.	Surgical Treatment: “training + surgical reconstruction"	Non-surgical treatment: “training only”	Mean Difference	0.1 (-2.44, 2.64)	NS
Ageberg,2008	Low	Side hop (n)	3 yrs.	Surgical Treatment: “training + surgical reconstruction"	Non-surgical treatment: “training only”	Mean Difference	1.1 (-0.66, 2.86)	NS
Ageberg,2008	Low	Knee extension (W)	3 yrs.	Surgical Treatment: “training + surgical reconstruction"	Non-surgical treatment: “training only”	Mean Difference	5 (-2.27, 12.27)	NS
Ageberg,2008	Low	Knee flexion (W)	3 yrs.	Surgical Treatment: “training + surgical reconstruction"	Non-surgical treatment: “training only”	Mean Difference	3.9 (-1.33, 9.13)	NS
Ageberg,2008	Low	Leg Press (W)	3 yrs.	Surgical Treatment: “training + surgical reconstruction"	Non-surgical treatment: “training only”	Mean Difference	2 (-11.79, 15.79)	NS
Swirtun,2008	Low	KOOS (Symptoms)	5.6 yrs.	ACLR	Non operative	Author Reported - non-parametric statistics	N/A	NS
Swirtun,2008	Low	KOOS (ADL)	5.6 yrs.	ACLR	Non operative	Author Reported - non-parametric statistics	N/A	NS
Swirtun,2008	Low	KOOS (Sports)	5.6 yrs.	ACLR	Non operative	Author Reported - non-parametric statistics	N/A	NS
Swirtun,2008	Low	Tegner Activity Scale	5.6 yrs.	ACLR	Non operative	Author Reported - non-parametric statistics	N/A	NS
Wellsandt,2020	Low	Quadriceps index	5 yrs.	ACLR	Non operative	Mean Difference	0 (-10.57, 10.57)	NS
Wellsandt,2020	Low	KOOS (Symptoms)	5 yrs.	ACLR	Non operative	Mean Difference	-0.3 (-6.47, 5.87)	NS
Wellsandt,2020	Low	KOOS (ADL)	5 yrs.	ACLR	Non operative	Mean Difference	1.8 (-1.18, 4.78)	NS
Wellsandt,2020	Low	KOOS (Sports)	5 yrs.	ACLR	Non operative	Mean Difference	4.3 (-5.80, 14.40)	NS

Table 11: PICO 3 – ACLR vs. Control – OA Progression

Reference Title	Quality	Outcome Details	Duration	Treatment 1 (Details)	Treatment 2 (Details)	Effect Measure	Result (95% CI)	Favored Treatment
Tsoukas,2016	High	Radiological cartilage degeneration-Medial Joint Space	10.1 yrs.	Surgical Reconstruction	Non operative	RR	0.99(0.52,1.91)	NS
Tsoukas,2016	High	Radiological cartilage degeneration-Lateral Joint Space	10.1 yrs.	Surgical Reconstruction	Non operative	RR	0.88(0.21,3.73)	NS
Tsoukas,2016	High	Radiological cartilage degeneration-Patellofemoral Space	10.1 yrs.	Surgical Reconstruction	Non operative	RR	1.08(0.63,1.85)	NS
Tsoukas,2016	High	Radiological cartilage degeneration-Anterior Joint Space	10.1 yrs.	Surgical Reconstruction	Non operative	RR	0.15(0.02,1.09)	NS
Tsoukas,2016	High	Radiological cartilage degeneration-Posterior Joint Space	10.1 yrs.	Surgical Reconstruction	Non operative	RR	0.88(0.06,12.91)	NS
Kessler,2008	Low	Kellgren and Lawrence Score (Grade 0)(no osteoarthritis)	11.1 yrs.	Surgical Reconstruction	Non operative	RR	0.74(0.51,1.05)	NS
Kessler,2008	Low	Kellgren and Lawrence Score (Grade I)(doubtful osteoarthritis with debatable or slight involvement of the intercondylar eminence or the patella)	11.1 yrs.	Surgical Reconstruction	Non operative	RR	0.70(0.25,1.95)	NS
Kessler,2008	Low	Kellgren and Lawrence Score (Grade II)(Distinct involvement of the tibia and joint space narrowing)	11.1 yrs.	Surgical Reconstruction	Non operative	RR	2.04(1.09,3.83)	Non operative
Kessler,2008	Low	Kellgren and Lawrence Score (Grade III)(Moderate osteoarthritis)	11.1 yrs.	Surgical Reconstruction	Non operative	RR	0.82(0.12,5.59)	NS
Van Meer,2016	Low	OA - Tibiofemoral compartment (medial)(Progression of cartilage defects)	2 yrs.	Reconstruction(Early)	Non operative	Author Reported - Univariate logistic regression analysis	1.17(0.39,3.52)	NS
Van Meer,2016	Low	OA - Tibiofemoral compartment (lateral)(Progression of cartilage defects)	2 yrs.	Reconstruction(Early)	Non operative	Author Reported - Univariate logistic regression analysis	0.53(0.21,1.32)	NS
Van Meer,2016	Low	OA - Tibiofemoral compartment (medial and lateral combined) (Progression of cartilage defects)	2 yrs.	Reconstruction(Early)	Non operative	Author Reported - Univariate logistic regression analysis	0.64(0.28,1.47)	NS
Meuffels,2009	Low	Kellgren and Lawrence Score (Grade 0-I)	10 yrs.	Surgical Reconstruction	Non operative: Conservative treatment	RR	0.72(0.46,1.13)	NS

Reference Title	Quality	Outcome Details	Duration	Treatment 1 (Details)	Treatment 2 (Details)	Effect Measure	Result (95% CI)	Favored Treatment
Meuffels,2009	Low	Kellgren and Lawrence Score (Grade II-IV)	10 yrs.	Surgical Reconstruction	Non operative: Conservative treatment	RR	1.71(0.81,3.63)	NS
Kvist, 2020	Low	ROA TFJ, index knee (radiographic osteoarthritis)	34.5 yrs.	Reconstruction(Early)	Non operative: “Never had ACL Surgery"	RR	0.83(0.60,1.16)	NS
Kvist, 2020	Low	OA development	34.5 yrs.	Reconstruction(Early)	Non operative: “Never had ACL Surgery"	RR	0.98(0.63,1.53)	NS
Kvist, 2020	Low	ROA PFJ, index knee (radiographic osteoarthritis)	34.5 yrs.	Reconstruction(Early)	Non operative: “Never had ACL Surgery"	RR	0.74(0.33,1.66)	NS
Kvist, 2020	Low	Combined TFJ and PFJ ROA, index knee	34.5 yrs.	Reconstruction(Early)	Non operative: “Never had ACL Surgery"	RR	0.98(0.48,2.00)	NS
Yperen,2018	Low	Kellgren and Lawrence Score (Grade 0-I)	20 yrs.	Surgical Reconstruction	Non operative	RR	0.63(0.24,1.65)	NS
Yperen,2018	Low	Kellgren and Lawrence Score (Grade II-IV)	20 yrs.	Surgical Reconstruction	Non operative	RR	1.18(0.84,1.64)	NS
Yperen,2018	Low	Radiological Knee OA	Postop .	Surgical Reconstruction	Non operative	RR	1.18(0.84,1.64)	NS
Yperen,2018	Low	Contralateral Knee OA	Postop .	Surgical Reconstruction	Non operative	RR	2.00(0.40,9.95)	NS
Lin, 2017	Low	Cumulative incidence of OA Survival time(years) mean (95% CI)	18 yrs.	Surgical Reconstruction	without reconstruction	Mean Difference	3.78 (3.15, 4.41)	without reconstruction
Lin, 2017	Low	Cumulative incidence of OA Cumulative incidence OA events (%)	18 yrs.	Surgical Reconstruction	without reconstruction	RR	0.78(0.69,0.87)	Surgical Reconstruction
Lin, 2017	Low	Cumulative incidence of TKR Survival time(years) mean (95% CI)	18 yrs.	Surgical Reconstruction	without reconstruction	Mean Difference	4.33 (4.20, 4.46)	without reconstruction
Lin, 2017	Low	Cumulative incidence of TKR Cumulative incidence OA events (%)	18 yrs.	Surgical Reconstruction	without reconstruction	RR	0.17(0.07,0.43)	Surgical Reconstruction
Lin, 2017	Low	OA development	18 yrs.	Reconstruction (Early<1 month)	without reconstruction	Author Reported - Cox proportional hazards model.	0.63(0.53,0.75)	ACLR
Lin, 2017	Low	OA development	18 yrs.	Reconstruction (Early<1 month)	without reconstruction	Author Reported - Cox proportional hazards model.	0.83(0.69,0.99)	ACLR

Reference Title	Quality	Outcome Details	Duration	Treatment 1 (Details)	Treatment 2 (Details)	Effect Measure	Result (95% CI)	Favored Treatment
Lin, 2017	Low	OA development	18 yrs.	Reconstruction (1month- 1 year)	without reconstruction	Author Reported - Cox proportional hazards model.	0.90(0.73,1.12)	NS
Lin, 2017	Low	OA development	18 yrs.	Reconstruction (1month- 1 year)	without reconstruction	Author Reported - Cox proportional hazards model.	1.21(0.97,1.52)	NS
Lin, 2017	Low	OA development	18 yrs.	Reconstruction (1-3year)	without reconstruction	Author Reported - Cox proportional hazards model.	0.61(0.39,0.95)	NS
Lin, 2017	Low	OA development	18 yrs.	Reconstruction (1-3year)	without reconstruction	Author Reported - Cox proportional hazards model.	1.07(0.67,1.69)	NS
Lin, 2017	Low	OA development	18 yrs.	Reconstruction (>-3years)	without reconstruction	Author Reported - Cox proportional hazards model.	1.02(0.70,1.49)	NS
Lin, 2017	Low	OA development	18 yrs.	Reconstruction (>-3years)	without reconstruction	Author Reported - Cox proportional hazards model.	1.43(0.97,2.12)	NS
Wellsandt,2018	Low	Involved OA (yes)- Medial compartment	5 yrs.	Surgical Reconstruction	Non operative	Mean Difference	10.6 (-3.36, 24.56)	NS
Wellsandt,2018	Low	Involved OA (yes)- Lateral compartment	5 yrs.	Surgical Reconstruction	Non operative	Mean Difference	7.5 (-5.88, 20.88)	NS
Wellsandt,2018	Low	Involved OA (yes)- Medial or Lateral compartment	5 yrs.	Surgical Reconstruction	Non operative	Mean Difference	18.4 (3.41, 33.39)	Non operative
Wellsandt,2018	Low	Minimum JSW difference, mm- Medial compartment (Joint Space width)	5 yrs.	Surgical Reconstruction	Non operative	Mean Difference	0 (-0.50, 0.50)	NS
Wellsandt,2018	Low	Minimum JSW difference, mm- Lateral compartment (Joint Space width)	5 yrs.	Surgical Reconstruction	Non operative	Mean Difference	-0.2 (-20.91, 20.51)	NS
Streich, 2011	Low	IKDC guidelines (radiographic evaluation)	Postop .	Surgical Reconstruction	Non operative: Conservative treatment	RD	.(.,.)	NS
Wellsandt,2020	Low	Tibiofemoral Osteoarthritis (KL grade >-2)	5 yrs.	ACLR	Non operative	RR	2.55(0.33,19.60)	NS

Table 12: PICO 3 – ACLR vs. Control – Other

Reference Title	Quality	Outcome Details	Duration	Treatment 1 (Details)	Treatment 2 (Details)	Effect Measure	Result (95% CI)	Favored Treatment
Dawson,2016	Low	SF-12 Mental component score (Shortform-12 survey)	38 mos.	Surgical Reconstruction	Non operative: “Conservative treatment"	Mean Difference	6 (0.00, 12.00)	NS

Table 13: PICO 3 – ACLR vs. Control – Pain

Reference Title	Quality	Outcome Details	Duration	Treatment 1 (Details)	Treatment 2 (Details)	Effect Measure	Result (95% CI)	Favored Treatment
Kvist, 2020	Low	KOOS (Pain)	34.5 yrs.	Reconstruction(Early)	Non operative: "Never had ACL Surgery"	Mean Difference	-3 (-12.43, 6.43)	NS
Yperen,2018	Low	KOOS (Pain)	20 yrs.	Surgical Reconstruction	Non operative	Mean Difference	-5.5 (-14.26, 3.26)	NS
Kovalak,2018	Low	SF-36# BP (Bodily pain)	5 yrs.	Surgical Reconstruction: "ACLR and CKC strength training"	Non-constructed: "neuromuscular training"	Mean Difference	5.04 (-4.89, 14.97)	NS
Ardern, 2017	Low	KOOS (Pain)	2 yrs.	Surgical Reconstruction	Non operative	Author Reported - independent samples t tests	2.40(0.03,4.80)	ACLR
Ardern, 2017	Low	KOOS (Pain)	5 yrs.	Surgical Reconstruction	Non operative	Author Reported - independent samples t tests	3.30(-0.50,7.20)	NS
Ardern, 2017	Low	EQ-VAS	2 yrs.	Surgical Reconstruction	Non operative	Author Reported - independent samples t tests	6.70(3.30,10.10)	NS
Ardern, 2017	Low	EQ-VAS	5 yrs.	Surgical Reconstruction	Non operative	Author Reported - independent samples t tests	6.80(1.30,12.40)	ACLR
Wellsandt,2018	Low	KOOS (Pain)	5 yrs.	Surgical Reconstruction	Non operative	Mean Difference	1.6 (-2.55, 5.75)	NS
Wellsandt,2018	Low	VAS Pain - Current	5 yrs.	Surgical Reconstruction	Non operative	Mean Difference	-0.1 (-0.37, 0.17)	NS
Wellsandt,2018	Low	VAS Pain - Worst	5 yrs.	Surgical Reconstruction	Non operative	Mean Difference	-0.9 (-1.73, -0.07)	Surgical Reconstruction
Wellsandt,2018	Low	VAS Pain - Best	5 yrs.	Surgical Reconstruction	Non operative	Mean Difference	0.1 (-0.04, 0.24)	NS
Swirtun,2008	Low	KOOS (Pain)	5.6 yrs.	ACLR	Non operative	Author Reported -non-parametric statistics	N/A	NS
Wellsandt,2020	Low	KOOS (Pain)	5 yrs.	ACLR	Non operative	Mean Difference	3.4 (-1.68, 8.48)	NS

Table 14: PICO 3 – ACLR vs. Control – QOL

Reference Title	Quality	Outcome Details	Duration	Treatment 1 (Details)	Treatment 2 (Details)	Effect Measure	Result (95% CI)	Favored Treatment
Kvist, 2020	Low	KOOS (QoL)	34.5 yrs.	Reconstruction(Early)	Non operative: "Never had ACL Surgery"	Mean Difference	2 (-4.98, 8.98)	NS
Yperen,2018	Low	KOOS (QoL)	20 yrs.	Surgical Reconstruction	Non operative	Mean Difference	-6.1 (-27.16, 14.96)	NS
Ardern, 2017	Low	KOOS (QoL)	2 yrs.	Surgical Reconstruction	Non operative	Author Reported - independent samples t tests	6.90(3.20,10.50)	ACLR
Ardern, 2017	Low	KOOS (QoL)	5 yrs.	Surgical Reconstruction	Non operative	Author Reported - independent samples t tests	6.80(0.50,13.10)	ACLR
Dawson,2016	Low	Symptoms and physical complaints(Anterior Cruciate Ligament Quality of Life Questionnaire)	38 mos.	Surgical Reconstruction	Non operative: "Conservative treatment"	Mean Difference	-4 (-14.77, 6.77)	NS
Dawson,2016	Low	Work-related concerns (Anterior Cruciate Ligament Quality of Life Questionnaire)	38 mos.	Surgical Reconstruction	Non operative: "Conservative treatment"	Mean Difference	3 (-7.30, 13.30)	NS
Dawson,2016	Low	Recreational activities (Anterior Cruciate Ligament Quality of Life Questionnaire)	38 mos.	Surgical Reconstruction	Non operative: "Conservative treatment"	Mean Difference	-7 (-24.49, 10.49)	NS
Dawson,2016	Low	Lifestyle (Anterior Cruciate Ligament Quality of Life Questionnaire)	38 mos.	Surgical Reconstruction	Non operative: "Conservative treatment"	Mean Difference	-5 (-27.02, 17.02)	NS
Dawson,2016	Low	Social and Economical (Anterior Cruciate Ligament Quality of Life Questionnaire)	38 mos.	Surgical Reconstruction	Non operative: "Conservative treatment"	Mean Difference	-3 (-28.00, 22.00)	NS
Wellsandt,2018	Low	KOOS (QOL)	5 yrs.	Surgical Reconstruction	Non operative	Mean Difference	8.9 (-0.96, 18.76)	NS
Swirtun,2008	Low	KOOS (QoL)	5.6 yrs.	ACLR	Non operative	Author Reported - non-parametric statistics	N/A	NS
Wellsandt,2020	Low	KOOS (QoL)	5 yrs.	ACLR	Non operative	Mean Difference	9.1 (-0.79, 18.99)	NS

Table 15: PICO 3 – ACLR vs. Control – Return to Activity

Reference Title	Quality	Outcome Details	Duration	Treatment 1 (Details)	Treatment 2 (Details)	Effect Measure	Result (95% CI)	Favored Treatment
Kovalak,2018	Low	Return to pre-injury sport activity (months)	5 yrs.	Surgical Reconstruction: "ACLR and CKC strength training"	Non-constructed: "neuromuscular training"	Mean Difference	-1.4 (-6.78, 3.98)	NS
Wellsandt,2018	Low	Return to sports after injury (months)	5 yrs.	Surgical Reconstruction	Non operative	Mean Difference	1.3 (-0.11, 2.71)	NS
Wellsandt,2020	Low	Return to preinjury activity level	5 yrs.	ACLR	Non operative	RR	1.23(0.74,2.03)	NS

Table 16: PICO 4 – Meniscal Repair vs. No Repair – Adverse Events

Reference Title	Quality	Outcome Details	Duration	Treatment 1 (Details)	Treatment 2 (Details)	Effect Measure	Result (95% CI)	Favored Treatment
Pullen, 2016	Low	Revision ACL Surgery	Postop .	Meniscal Repair	No Repair	Author Reported- Logistic Regression	0.69(0.53,0.91)	Meniscal repair
Jones, 2015	Low	Regression coefficients for minimum joint space difference (mJSD)model	2.5 yrs.	Meniscal Repair: Medial	No Repair: Medial	Mean Difference	0.291 (-0.00, 0.58)	NS
Jones, 2015	Low	Regression coefficients for fixed location JSD 0.25model	2.5 yrs.	Meniscal Repair: Medial	No Repair: Medial	Mean Difference	0.239 (-0.03, 0.51)	NS

Table 17: PICO 4 – Meniscal Repair vs. No Repair – Function

Reference Title	Quality	Outcome Details	Duration	Treatment 1 (Details)	Treatment 2 (Details)	Effect Measure	Result (95% CI)	Favored Treatment
Hatayama,2020	Low	Anterior Tibial Translation (SSD, mm)	2 yrs.	Meniscal Repair: "repair group"	No repair: “nonrepaired group"	Mean Difference	-0.5 (-1.39, 0.39)	NS
Hatayama,2020	Low	Pivot Shift Test: A(Negative)	Postop .	Meniscal Repair: "repair group"	No repair: “nonrepaired group"	RR	1.00(0.79,1.27)	NS
Hatayama,2020	Low	Pivot Shift Test: B((+))	Postop .	Meniscal Repair: "repair group"	No repair: “nonrepaired group"	RR	0.75(0.19,3.01)	NS
Hatayama,2020	Low	Pivot Shift Test: A/B	Postop .	Meniscal Repair: "repair group"	No repair: “nonrepaired group"	RR	-0.04(-0.12,0.04)	NS
Hatayama,2020	Low	Pivot Shift Test: C((++))	Postop .	Meniscal Repair: "repair group"	No repair: “nonrepaired group"	RD	0.04(-0.04,0.12)	NS
Hatayama,2020	Low	Tegner Activity Scale	Postop .	Meniscal Repair: "repair group"	No repair: “nonrepaired group"	Mean Difference	0.8 (-8.27, 9.87)	NS
Hatayama,2020	Low	Lysholm Knee Score	Postop .	Meniscal Repair: "repair group"	No repair: “nonrepaired group"	Mean Difference	0.2 (-139.24, 139.64)	NS
Pan, 2015	Low	Lysholm Knee Score	24 mos.	Meniscal Repair: "posterior lateral meniscus root(PLMR) tears repair"	No Repair: “posterior lateral meniscus root(PLMR) tears untreated"	Mean Difference	4.57 (-0.20, 9.34)	NS
Pan, 2015	Low	IKDC Scores	24 mos.	Meniscal Repair: "posterior lateral meniscus root(PLMR) tears repair"	No Repair: “posterior lateral meniscus root(PLMR) tears untreated"	Mean Difference	3.2 (-1.84, 8.24)	NS
Keyhani,2018	Low	Lachman test 0/1	24 mos.	Meniscal Repair: “Posterolateral meniscal-PLM Root avulsion/PLM Para root tears repair"	No Repair: "PLM Root avulsion/PLM Para root tears untreated"	RR	1.01(0.90,1.13)	NS
Keyhani,2018	Low	Lachman test 2/3	24 mos.	Meniscal Repair: “Posterolateral meniscal-PLM Root avulsion/PLM Para root tears repair"	No Repair: "PLM Root avulsion/PLM Para root tears untreated"	RR	0.83(0.12,5.54)	NS
Keyhani,2018	Low	IKDC Subjective Score	24 mos.	Meniscal Repair: “Posterolateral meniscal-PLM Root avulsion/PLM Para root tears repair"	No Repair: "PLM Root avulsion/PLM Para root tears untreated"	Mean Difference	1.1 (-129.50, 131.70)	NS
Keyhani,2018	Low	Lysholm Knee Score	24 mos.	Meniscal Repair: “Posterolateral meniscal-PLM Root avulsion/PLM Para root tears repair"	No Repair: "PLM Root avulsion/PLM Para root tears untreated"	Mean Difference	0.8 (-131.43, 133.03)	NS

Table 18: PICO 4 – Meniscal Repair vs. No Repair – OA Progression

Reference Title	Quality	Outcome Details	Duration	Treatment 1 (Details)	Treatment 2 (Details)	Effect Measure	Result (95% CI)	Favored Treatment
Pan, 2015	Low	ICRS Radiographic Grading 0/1	24 mos.	Meniscal Repair: "posterior lateral meniscus root(PLMR) tears repair"	No Repair: “posterior lateral meniscus root(PLMR) tears untreated"	RR	1.43(1.11,1.84)	Meniscal Repair
Pan, 2015	Low	ICRS Radiographic Grading 2-4	24 mos.	Meniscal Repair: "posterior lateral meniscus root(PLMR) tears repair"	No Repair: “posterior lateral meniscus root(PLMR) tears untreated"	RR	0.10(0.01,0.73)	Meniscal Repair

Table 19: PICO 4 – Meniscal Repair vs. No Repair – Other

Reference Title	Quality	Outcome Details	Duration	Treatment 1 (Details)	Treatment 2 (Details)	Effect Measure	Result (95% CI)	Favored Treatment
Hatayama,2020	Low	Postoperative MRI Results- Complete Healing	Postop .	Meniscal Repair: "repair group"	No repair: “nonrepaired group"	RR	2.00(1.19,3.36)	Meniscal Repair
Hatayama,2020	Low	Postoperative MRI Results- Incomplete Healing	Postop .	Meniscal Repair: "repair group"	No repair: “nonrepaired group"	RR	1.00(0.33,3.03)	NS
Hatayama,2020	Low	Postoperative MRI Results- No Healing	Postop .	Meniscal Repair: "repair group"	No repair: “nonrepaired group"	RD	-0.40(-0.59,-0.21)	Meniscal Repair

Table 20: PICO 4 – Meniscal Repair vs. No Repair – Return to Activity

Reference Title	Quality	Outcome Details	Duration	Treatment 1 (Details)	Treatment 2 (Details)	Effect Measure	Result (95% CI)	Favored Treatment
Keyhani,2018	Low	Return to previous activity sports level	24 mos.	Meniscal Repair: “Posterolateral meniscal-PLM Root avulsion/PLM Para root tears repair"	No Repair: "PLM Root avulsion/PLM Para root tears untreated"	RR	1.25(1.02,1.54)	Meniscal Repair

Table 21: PICO 4 – Meniscal Repair vs. Resection – Adverse Events

Reference Title	Quality	Outcome Details	Duration	Treatment 1 (Details)	Treatment 2 (Details)	Effect Measure	Result (95% CI)	Favored Treatment
Lord, 2020	Low	Screw removal	2 yrs.	Meniscal Repair: Medial	Meniscal Resection: Medial	RR	1.11(0.62,1.98)	NS
Lord, 2020	Low	Meniscus procedures	2 yrs.	Meniscal Repair: Medial	Meniscal Resection: Medial	RR	4.76(3.04,7.44)	Meniscal Resection
Lord, 2020	Low	Cyclops removal/notchplasty	2 yrs.	Meniscal Repair: Medial	Meniscal Resection: Medial	RR	1.94(1.09,3.45)	Meniscal Resection
Lord, 2020	Low	Graft Rupture /Failure	2 yrs.	Meniscal Repair: Medial	Meniscal Resection: Medial	RR	0.91(0.36,2.30)	NS
Lord, 2020	Low	Cartilage procedures	2 yrs.	Meniscal Repair: Medial	Meniscal Resection: Medial	RR	0.45(0.13,1.55)	NS
Lord, 2020	Low	Septic arthritis	2 yrs.	Meniscal Repair: Medial	Meniscal Resection: Medial	RR	0.44(0.10,1.98)	NS
Lord, 2020	Low	Screw removal	2 yrs.	Meniscal Repair: Lateral	Meniscal Resection: Lateral	RR	0.69(0.33,1.44)	NS
Lord, 2020	Low	Meniscus procedures	2 yrs.	Meniscal Repair: Lateral	Meniscal Resection: Lateral	RR	1.92(1.22,3.03)	Meniscal Resection
Lord, 2020	Low	Cyclops removal/notchplasty	2 yrs.	Meniscal Repair: Lateral	Meniscal Resection: Lateral	RR	1.17(0.61,2.25)	NS
Lord, 2020	Low	Graft Rupture /Failure	2 yrs.	Meniscal Repair: Lateral	Meniscal Resection: Lateral	RR	1.44(0.68,3.03)	NS
Lord, 2020	Low	Cartilage procedures	2 yrs.	Meniscal Repair: Lateral	Meniscal Resection: Lateral	RR	0.57(0.17,1.88)	NS
Lord, 2020	Low	Septic arthritis	2 yrs.	Meniscal Repair: Lateral	Meniscal Resection: Lateral	RR	1.78(0.46,6.84)	NS
McCarthy,2017	High	Revision ACL Surgery	2 yrs.	Meniscal Repair: Medial	Meniscectomy: Medial	RR	1.48(0.45,4.91)	NS
McCarthy,2017	High	Subsequent Knee Procedure	2 yrs.	Meniscal Repair: Medial	Meniscectomy: Medial	RR	2.06(1.29,3.29)	Meniscectomy
McCarthy,2017	High	Revision ACL Surgery	2 yrs.	Meniscal Repair: Lateral	Meniscectomy: Lateral	RR	1.42(0.73,2.77)	NS
McCarthy,2017	High	Subsequent Knee Procedure	2 yrs.	Meniscal Repair: Lateral	Meniscectomy: Lateral	RR	1.77(1.08,2.92)	Meniscectomy

Reference Title	Quality	Outcome Details	Duration	Treatment 1 (Details)	Treatment 2 (Details)	Effect Measure	Result (95% CI)	Favored Treatment
Jones, 2015	Low	Regression coefficients for minimum joint space difference (mJSD)model	2.5 yrs.	Meniscal Repair: Medial	Meniscal Resection: Medial “Meniscectomy"	Mean Difference	-0.33 (-0.65, -0.01)	Meniscal Repair
Jones, 2015	Low	Meniscal Status(Paired comparison)	2.5 yrs.	Meniscal Repair: Medial	Meniscal Resection: Medial “Meniscectomy"	Author Reported-Multivariable generalized linear models	-1.17(-0.63,-0.05)	Meniscal repair
Jones, 2015	Low	Regression coefficients for fixed location JSD 0.25model	2.5 yrs.	Meniscal Repair: Medial	Meniscal Resection: Medial “Meniscectomy"	Mean Difference	-0.231 (-0.52, 0.06)	NS
Balazs, 2020	Low	Reoperation for ACL re-rupture	2 yrs.	Meniscal Repair: "Unstable Ramp Lesion"	Meniscal Resection: "Unstable Ramp lesion"	RR	0.52(0.08,3.26)	NS
Balazs, 2020	Low	Reoperation for medial meniscus tear	2 yrs.	Meniscal Repair: "Unstable Ramp Lesion"	Meniscal Resection: "Unstable Ramp lesion"	RR	2.61(0.34,19.87)	NS
Aglietti, 1994	Low	Swelling	2 yrs.	Meniscal Repair	Meniscal Resection: Partial	RR	0.53(0.05,5.33)	NS

Table 22: PICO 4 – Meniscal Repair vs. Resection – Function

Reference Title	Quality	Outcome Details	Duration	Treatment 1 (Details)	Treatment 2 (Details)	Effect Measure	Result (95% CI)	Favored Treatment
Cristiani,2020	Low	KOOS (Symptoms)	2 yrs.	Meniscal Repair: Medial	Meniscal Resection: Medial	Mean Difference	7 (3.35, 10.65)	Meniscal Repair
Cristiani,2020	Low	KOOS (ADL)	2 yrs.	Meniscal Repair: Medial	Meniscal Resection: Medial	Mean Difference	1.2 (-1.33, 3.73)	NS
Cristiani,2020	Low	KOOS (Sports)	2 yrs.	Meniscal Repair: Medial	Meniscal Resection: Medial	Mean Difference	7.8 (1.67, 13.93)	Meniscal Repair
Cristiani,2020	Low	KOOS (Symptoms)	2 yrs.	Meniscal Repair: Lateral	Meniscal Resection: Lateral	Mean Difference	3.2 (-1.97, 8.37)	NS
Cristiani,2020	Low	KOOS (ADL)	2 yrs.	Meniscal Repair: Lateral	Meniscal Resection: Lateral	Mean Difference	-86.4 (-88.41, -84.39)	Meniscal Resection
Cristiani,2020	Low	KOOS (Sports)	2 yrs.	Meniscal Repair: Lateral	Meniscal Resection: Lateral	Mean Difference	0.6 (-6.35, 7.55)	NS
Hatayama,2020	Low	Anterior Tibial Translation (SSD, mm)	2 yrs.	Meniscal Repair: "repaired group"	Meniscal Resection: "Partial Meniscectomy"	Mean Difference	-0.8 (-1.93, 0.33)	NS
Hatayama,2020	Low	Pivot Shift Test: A/B	Postop .	Meniscal Repair: "repaired group"	Meniscal Resection: "Partial Meniscectomy"	RR	1.02(0.91,1.15)	NS
Hatayama,2020	Low	Tegner Activity Scale	Postop .	Meniscal Repair: "repaired group"	Meniscal Resection: “Partial Meniscectomy”	Mean Difference	1.2 (-7.61, 10.01)	NS
Hatayama,2020	Low	Lysholm Knee Score	Postop .	Meniscal Repair: "repaired group"	Meniscal Resection: “Partial Meniscectomy”	Mean Difference	1.3 (-137.37, 139.97)	NS
Hatayama,2020	Low	Anterior Tibial Translation	2 yrs.	Meniscal Repair: Inside-out repair for meniscal tear	Meniscal Resection: “Partial Meniscectomy”	Mean Difference	-0.5 (-1.84, 0.84)	NS
Hatayama,2020	Low	Pivot Shift Test: A/B	Postop .	Meniscal Repair: Inside-out repair for meniscal tear	Meniscal Resection: “Partial Meniscectomy”	RR	0.98(0.84,1.14)	NS
Hatayama,2020	Low	Tegner Activity Scale	Postop .	Meniscal Repair: Inside-out repair for meniscal tear	Meniscal Resection: “Partial Meniscectomy”	Mean Difference	0.9 (-7.68, 9.48)	NS
Hatayama,2020	Low	Lysholm Knee Score	Postop .	Meniscal Repair: Inside-out repair for meniscal tear	Meniscal Resection: “Partial Meniscectomy”	Mean Difference	-2.3 (-138.43, 133.83)	NS
Phillips, 2018	Low	KOOS (Symptoms)	2 yrs.	Meniscal Repair: Medial	Meniscal Resection: Medial	Mean Difference	0 (-13.04, 13.04)	NS
Phillips, 2018	Low	KOOS (ADL)	2 yrs.	Meniscal Repair: Medial	Meniscal Resection: Medial	Mean Difference	0 (-4.24, 4.24)	NS
Phillips, 2018	Low	KOOS (Sports)	2 yrs.	Meniscal Repair: Medial	Meniscal Resection: Medial	Mean Difference	0 (-28.28, 28.28)	NS
Phillips, 2018	Low	EQ-5D Index	2 yrs.	Meniscal Repair: Medial	Meniscal Resection: Medial	Mean Difference	-0.01 (-0.03, 0.01)	NS

Reference Title	Quality	Outcome Details	Duration	Treatment 1 (Details)	Treatment 2 (Details)	Effect Measure	Result (95% CI)	Favored Treatment
Phillips, 2018	Low	KOOS (Symptoms)	2 yrs.	Meniscal Repair: Lateral	Meniscal Resection: Lateral	Mean Difference	0 (-15.56, 15.56)	NS
Phillips, 2018	Low	KOOS (ADL)	2 yrs.	Meniscal Repair: Lateral	Meniscal Resection: Lateral	Mean Difference	0 (-4.24, 4.24)	NS
Phillips, 2018	Low	KOOS (Sports)	2 yrs.	Meniscal Repair: Lateral	Meniscal Resection: Lateral	Mean Difference	0 (-25.00, 25.00)	NS
Phillips, 2018	Low	EQ-5D Index	2 yrs.	Meniscal Repair: Lateral	Meniscal Resection: Lateral	Mean Difference	0 (-0.02, 0.02)	NS
Singh, 2018	Low	Tegner Activity Scale	3.5 yrs.	Meniscal Repair	Meniscal Resection: “Meniscectomy"	Author Reported-two-sample t test	-0.27(-1.13,0.60)	NS
Singh, 2018	Low	Lysholm Knee Score	3.5 yrs.	Meniscal Repair	Meniscal Resection: “Meniscectomy"	Author Reported-two-sample	-1.52(-8.65,5.61)	NS
Singh, 2018	Low	Tegner Activity Scale	3.5 yrs.	Meniscal Repair: Medial	Meniscal Resection: “Meniscectomy"(Medial)	Mean Difference	0.4 (-0.75, 1.55)	NS
Singh, 2018	Low	Lysholm Knee Score	3.5 yrs.	Meniscal Repair: Medial	Meniscal Resection: “Meniscectomy"(Medial)	Mean Difference	0.1 (-9.26, 9.46)	NS
LaPrade,2015	Moderate	KOOS (Symptoms)	2 yrs.	Meniscal Repair: Medial	Meniscal Resection: Medial	Mean Difference	-7 (-24.80, 10.80)	NS
LaPrade,2015	Moderate	KOOS (ADL)	2 yrs.	Meniscal Repair: Medial	Meniscal Resection: Medial	Mean Difference	0 (-4.24, 4.24)	NS
LaPrade,2015	Moderate	KOOS (Sports)	2 yrs.	Meniscal Repair: Medial	Meniscal Resection: Medial	Mean Difference	0 (-25.00, 25.00)	NS
LaPrade,2015	Moderate	KOOS (Symptoms)	2 yrs.	Meniscal Repair: Lateral	Meniscal Resection: Lateral	Mean Difference	-3 (-17.87, 11.87)	NS
LaPrade,2015	Moderate	KOOS (ADL)	2 yrs.	Meniscal Repair: Lateral	Meniscal Resection: Lateral	Mean Difference	-2 (-5.16, 1.16)	NS
LaPrade,2015	Moderate	KOOS (Sports)	2 yrs.	Meniscal Repair: Lateral	Meniscal Resection: Lateral	Mean Difference	-6 (-27.93, 15.93)	NS
Melton, 2011	Low	IKDC Scores (mean)	10 yrs.	Meniscal Repair	Meniscal Resection: “Meniscectomy"	Mean Difference	13.7 (-96.12, 123.52)	NS
Balazs, 2020	Low	SF-12 Physical component score	2 yrs.	Meniscal Repair: “Unstable Ramp Lesion"	Meniscal Resection: “Unstable Ramp lesion"	Mean Difference	1.1 (-3.68, 5.88)	NS
Balazs, 2020	Low	SF-12 Mental component score	2 yrs.	Meniscal Repair: “Unstable Ramp Lesion"	Meniscal Resection: “Unstable Ramp lesion"	Mean Difference	-1.9 (-4.23, 0.43)	NS
Balazs, 2020	Low	IKDC	2 yrs.	Meniscal Repair: “Unstable Ramp Lesion"	Meniscal Resection: “Unstable Ramp lesion"	Mean Difference	-7.1 (-17.32, 3.12)	NS
Balazs, 2020	Low	Marx Activity Level Scores	2 yrs.	Meniscal Repair: “Unstable Ramp Lesion"	Meniscal Resection: “Unstable Ramp lesion"	Mean Difference	1 (-2.33, 4.33)	NS
Shelbourne,2004	Low	IKDC Subjective Score	9 yrs.	Meniscal Repair	Meniscal Resection	Mean Difference	3.8 (-2.35, 9.95)	NS
Aglietti, 1994	Low	Instability	2 yrs.	Meniscal Repair	Meniscal Resection: Partial	Author Reported-chi sq	N/A	NS

Reference Title	Quality	Outcome Details	Duration	Treatment 1 (Details)	Treatment 2 (Details)	Effect Measure	Result (95% CI)	Favored Treatment
Wirth, 2002	Low	Lysholm Knee Score	Postop .	Meniscal Repair	Meniscal Resection	Author Reported- t test	-3.00(-17.40,11.40)	NS
Eken, 2020	Low	Lachman test 0	3.6 yrs.	Meniscal Repair	Meniscal Resection	RR	1.67(0.48,5.76)	NS
Eken, 2020	Low	Lachman test 1+	3.6 yrs.	Meniscal Repair	Meniscal Resection	RR	1.11(0.64,1.92)	NS
Eken, 2020	Low	Lachman test 2+	3.6 yrs.	Meniscal Repair	Meniscal Resection	RD	-0.20(-0.40,0.00)	NS
Eken, 2020	Low	Pivot-Shift Test (+)	3.6 yrs.	Meniscal Repair	Meniscal Resection	RR	0.25(0.03,1.98)	NS
Eken, 2020	Low	IKDC Scores(85-100)	3.6 yrs.	Meniscal Repair	Meniscal Resection	RR	0.27(0.04,0.49)	Meniscal Repair
Eken, 2020	Low	IKDC Scores (75-84)	3.6 yrs.	Meniscal Repair	Meniscal Resection	RD	-0.13(-0.31,0.04)	NS
Eken, 2020	Low	IKDC Score (50-74)	3.6 yrs.	Meniscal Repair	Meniscal Resection	RD	-0.13(-0.31,0.04)	NS
Eken, 2020	Low	IKDC Scores (mean)	3.6 yrs.	Meniscal Repair	Meniscal Resection	Mean Difference	6 (-1.07, 13.07)	NS
Eken, 2020	Low	HSS Knee Scores(85-100)- Excellent	3.6 yrs.	Meniscal Repair	Meniscal Resection	RR	1.08(0.85,1.37)	NS
Eken, 2020	Low	HSS Knee Scores(70-84)- Good	3.6 yrs.	Meniscal Repair	Meniscal Resection	RR	0.50(0.05,4.94)	NS
Wang, 2021	Low	KOOS (Symptoms)	2 yrs.	Meniscal Repair	Meniscal Resection	Mean Difference	-1.4 (-4.35, 1.55)	NS
Wang, 2021	Low	KOOS (ADL)	2 yrs.	Meniscal Repair	Meniscal Resection	Mean Difference	0.6 (-1.46, 2.66)	NS
Wang, 2021	Low	KOOS (Sports)	2 yrs.	Meniscal Repair	Meniscal Resection	Mean Difference	-0.7 (-3.64, 2.24)	NS
Wang, 2021	Low	IKDC Subjective Score	2 yrs.	Meniscal Repair	Meniscal Resection	Mean Difference	1.3 (-1.99, 4.59)	NS
Hoshino,2021	Low	Lysholm Knee Score	2 yrs.	Meniscal Repair	Meniscal Resection	Mean Difference	-1 (-3.37, 1.37)	NS
Hoshino,2021	Low	IKDC Subjective Score	2 yrs.	Meniscal Repair	Meniscal Resection	Mean Difference	-5 (-9.46, -0.54)	Meniscal Resection
Hoshino,2021	Low	KOOS (Symptoms)	2 yrs.	Meniscal Repair	Meniscal Resection	Mean Difference	-4 (-6.93, -1.07)	Meniscal Resection
Hoshino,2021	Low	KOOS (ADL)	2 yrs.	Meniscal Repair	Meniscal Resection	Mean Difference	-2 (-3.22, -0.78)	Meniscal Resection
Hoshino,2021	Low	KOOS (Sports)	2 yrs.	Meniscal Repair	Meniscal Resection	Mean Difference	-5 (-9.27, -0.73)	Meniscal Resection
Hoshino,2021	Low	Lachman test 0/1	2 yrs.	Meniscal Repair	Meniscal Resection	RR	0.03(-0.03,0.10)	NS
Hoshino,2021	Low	Pivot Shift Test: A/B	2 yrs.	Meniscal Repair	Meniscal Resection	RR	-0.01(-0.02,0.01)	NS

Reference Title	Quality	Outcome Details	Duration	Treatment 1 (Details)	Treatment 2 (Details)	Effect Measure	Result (95% CI)	Favored Treatment
Hoshino,2021	Low	Anterior Tibial Translation (laxity)	2 yrs.	Meniscal Repair	Meniscal Resection	Mean Difference	-0.4 (-1.18, 0.38)	NS
Hoshino,2021	Low	Medial Joint Space Width	2 yrs.	Meniscal Repair	Meniscal Resection	Mean Difference	0.8 (0.56, 1.04)	Meniscal Repair
Hoshino,2021	Low	Lateral Joint Space Width	2 yrs.	Meniscal Repair	Meniscal Resection	Mean Difference	-0.5 (-1.06, 0.06)	NS

Table 23: PICO 4 – Meniscal Repair vs. Resection – OA Progression

Reference Title	Quality	Outcome Details	Duration	Treatment 1 (Details)	Treatment 2 (Details)	Effect Measure	Result (95% CI)	Favored Treatment
Aglietti, 1994	Low	Radiographic Score Normal/Near Normal	2 yrs.	Meniscal Repair	Meniscal Resection: Partial	RR	1.72(0.94,3.13)	NS
Wang, 2021	Low	IKDC OA Grade B or Higher	2 yrs.	Meniscal Repair	Meniscal Resection	RD	.(.,.)	NS

Table 24: PICO 4 – Meniscal Repair vs. Resection – Pain

Reference Title	Quality	Outcome Details	Duration	Treatment 1 (Details)	Treatment 2 (Details)	Effect Measure	Result (95% CI)	Favored Treatment
Cristiani,2020	Low	KOOS (Pain)	2 yrs.	Meniscal Repair: Medial	Meniscal Resection: Medial	Mean Difference	4.6 (1.40, 7.80)	Meniscal Repair
Cristiani,2020	Low	KOOS (Pain)	2 yrs.	Meniscal Repair: Lateral	Meniscal Resection: Lateral	Mean Difference	1.1 (-2.41, 4.61)	NS
Phillips, 2018	Low	KOOS (Pain)	2 yrs.	Meniscal Repair: Medial	Meniscal Resection: Medial	Mean Difference	0 (-9.43, 9.43)	NS
Phillips, 2018	Low	EQ-5D VAS	2 yrs.	Meniscal Repair: Medial	Meniscal Resection: Medial	Mean Difference	-1 (-2.79, 0.79)	NS
Phillips, 2018	Low	KOOS (Pain)	2 yrs.	Meniscal Repair: Lateral	Meniscal Resection: Lateral	Mean Difference	0 (-11.31, 11.31)	NS
Phillips, 2018	Low	EQ-5D VAS	2 yrs.	Meniscal Repair: Lateral	Meniscal Resection: Lateral	Mean Difference	1 (-1.14, 3.14)	NS
LaPrade,2015	Moderate	KOOS (Pain)	2 yrs.	Meniscal Repair: Medial	Meniscal Resection: Medial	Mean Difference	0 (-11.31, 11.31)	NS
LaPrade,2015	Moderate	KOOS (Pain)	2 yrs.	Meniscal Repair: Lateral	Meniscal Resection: Lateral	Mean Difference	-3 (-12.43, 6.43)	NS
Aglietti, 1994	Low	Pain	2 yrs.	Meniscal Repair	Meniscal Resection: Partial	RR	0.45(0.14,1.49)	NS
Wang, 2021	Low	KOOS (Pain)	2 yrs.	Meniscal Repair	Meniscal Resection	Mean Difference	-2 (-4.72, 0.72)	NS
Hoshino,2021	Low	KOOS (Pain)	2 yrs.	Meniscal Repair	Meniscal Resection	Mean Difference	-4 (-6.46, -1.54)	Meniscal Resection

Table 25: PICO 4 – Meniscal Repair vs. Resection – QOL

Reference Title	Quality	Outcome Details	Duration	Treatment 1 (Details)	Treatment 2 (Details)	Effect Measure	Result (95% CI)	Favored Treatment
Cristiani,2020	Low	KOOS (QoL)	2 yrs.	Meniscal Repair: Medial	Meniscal Resection: Medial	Mean Difference	7.5 (2.23, 12.77)	Meniscal Repair
Cristiani,2020	Low	KOOS (QoL)	2 yrs.	Meniscal Repair: Lateral	Meniscal Resection: Lateral	Mean Difference	0.4 (-5.75, 6.55)	NS
Phillips, 2018	Low	KOOS (QoL)	2 yrs.	Meniscal Repair: Medial	Meniscal Resection: Medial	Mean Difference	0 (-25.46, 25.46)	NS
Phillips, 2018	Low	KOOS (QoL)	2 yrs.	Meniscal Repair: Lateral	Meniscal Resection: Lateral	Mean Difference	0 (-16.97, 16.97)	NS
LaPrade,2015	Moderate	KOOS (QoL)	2 yrs.	Meniscal Repair: Medial	Meniscal Resection: Medial	Mean Difference	-7 (-33.87, 19.87)	NS
LaPrade,2015	Moderate	KOOS (QoL)	2 yrs.	Meniscal Repair: Lateral	Meniscal Resection: Lateral	Mean Difference	-6 (-23.69, 11.69)	NS
Wang, 2021	Low	KOOS (QoL)	2 yrs.	Meniscal Repair	Meniscal Resection	Mean Difference	-2.1 (-6.76, 2.56)	NS
Hoshino,2021	Low	KOOS (QoL)	2 yrs.	Meniscal Repair	Meniscal Resection	Mean Difference	-4 (-8.56, 0.56)	NS

Table 26: PICO 4 – Meniscal Repair vs. Resection – Return to Activity

Reference Title	Quality	Outcome Details	Duration	Treatment 1 (Details)	Treatment 2 (Details)	Effect Measure	Result (95% CI)	Favored Treatment
Eken, 2020	Low	Return to preinjury activity level	3.6 yrs.	Meniscal Repair	Meniscal Resection	RD	2.33 (4.40, 1.23)	Meniscal Repair

Table 27: PICO 4 – Meniscal Resection vs. No Resection – Adverse Events

Reference Title	Quality	Outcome Details	Duration	Treatment 1 (Details)	Treatment 2 (Details)	Effect Measure	Result (95% CI)	Favored Treatment
Jones, 2015	Low	Regression coefficients for minimum joint space difference (mJSD)model	2.5 yrs.	Meniscal Resection: Medial "Meniscectomy"	No Resection: Medial	Mean Difference	0.621 (0.27, 0.97)	No Repair
Jones, 2015	Low	Meniscal Status(Paired comparison)	2.5 yrs.	Meniscal Resection: Medial "Meniscectomy"	No Resection: Medial	Author Reported- Multivariable generalized linear models	-0.62(-0.95,-0.30)	Meniscectomy
Jones, 2015	Low	Regression coefficients for fixed location JSD 0.25model	2.5 yrs.	Meniscal Resection: Medial "Meniscectomy"	No Resection: Medial	Mean Difference	0.47 (0.16, 0.78)	No Repair

Table 28: PICO 5 – Combined ACL/MCL – Adverse Events

Reference Title	Quality	Outcome Details	Duration	Treatment 1 (Details)	Treatment 2 (Details)	Effect Measure	Result (95% CI)	Favored Treatment
Funchal,2019	Moderate	Graft Rupture /Failure (ACL)	2 yrs.	ACLR + MCL Reconstruction	ACLR +Non-operative MCL Tx: Same ACLR Rehab + 6 weeks MCL Brace	RD	-0.06(-0.12,0.01)	NS
Svantesson,2019	Low	Revision ACL Surgery	2 yrs.	ACLR +Operative MCL Tx: Repair	ACLR +Non-operative MCL Tx	RD	-0.03(-0.04,-0.02)	ACLR +Operative MCL Tx
Svantesson,2019	Low	Contralateral ACL Rupture / Failure	2 yrs.	ACLR +Operative MCL Tx: Repair	ACLR +Non-operative MCL Tx	RD	-0.01(-0.01,-0.00)	ACLR +Operative MCL Tx
Svantesson,2019	Low	Revision ACL Surgery	5 yrs.	ACLR +Operative MCL Tx: Repair	ACLR +Non-operative MCL Tx	RR	0.97(0.24,3.98)	NS
Svantesson,2019	Low	Contralateral ACL Rupture / Failure	5 yrs.	ACLR +Operative MCL Tx: Repair	ACLR +Non-operative MCL Tx	RD	-0.02(-0.03,-0.01)	ACLR +Operative MCL Tx
Svantesson,2019	Low	Revision ACL Surgery	2 yrs.	ACLR +Operative MCL Tx: Reconstruction	ACLR +Non-operative MCL Tx	RD	-0.03(-0.04,-0.02)	ACLR +Operative MCL Tx
Svantesson,2019	Low	Contralateral ACL Rupture / Failure	2 yrs.	ACLR +Operative MCL Tx: Reconstruction	ACLR +Non-operative MCL Tx	RD	-0.01(-0.01,-0.00)	ACLR +Operative MCL Tx
Svantesson,2019	Low	Revision ACL Surgery	5 yrs.	ACLR +Operative MCL Tx: Reconstruction	ACLR +Non-operative MCL Tx	RR	0.30(0.04,2.19)	NS
Svantesson,2019	Low	Contralateral ACL Rupture / Failure	5 yrs.	ACLR +Operative MCL Tx: Reconstruction	ACLR +Non-operative MCL Tx	RR	0.71(0.09,5.44)	NS

Table 29: PICO 5 – Combined ACL/MCL – Composite

Reference Title	Quality	Outcome Details	Duration	Treatment 1 (Details)	Treatment 2 (Details)	Effect Measure	Result (95% CI)	Favored Treatment
Funchal,2019	Moderate	Lysholm Knee Score	2 yrs.	ACLR + MCL Reconstruction	ACLR +Non-operative MCL Tx: Same ACLR Rehab + 6 weeks MCL Brace	Mean Difference	11.55 (8.96, 14.14)	ACLR + MCL Reconstruction

Table 30: PICO 5 – Combined ACL/MCL – Function

Reference Title	Quality	Outcome Details	Duration	Treatment 1 (Details)	Treatment 2 (Details)	Effect Measure	Result (95% CI)	Favored Treatment
Funchal,2019	Moderate	Residual MCL Laxity	2 yrs.	ACLR + MCL Reconstruction	ACLR +Non-operative MCL Tx: Same ACLR Rehab + 6 weeks MCL Brace	RD	-0.07(-0.14,-0.00)	ACLR + MCL Reconstruction
Funchal,2019	Moderate	Tegner Activity Scale	2 yrs.	ACLR + MCL Reconstruction	ACLR +Non-operative MCL Tx: Same ACLR Rehab + 6 weeks MCL Brace	Mean Difference	2.28 (1.84, 2.72)	ACLR + MCL Reconstruction
Westermann,2019	Low	KOOS (Symptoms)	2 yrs.	ACLR +Operative MCL Tx: Repair or Reconstruction	ACLR +Non-operative MCL Tx	Author Reported -student t test	N/A	NS
Westermann,2019	Low	KOOS (ADL)	2 yrs.	ACLR +Operative MCL Tx: Repair or Reconstruction	ACLR +Non-operative MCL Tx	Author Reported -student t test	N/A	NS
Westermann,2019	Low	KOOS (Sports)	2 yrs.	ACLR +Operative MCL Tx: Repair or Reconstruction	ACLR +Non-operative MCL Tx	Author Reported -student t test	N/A	NS
Westermann,2019	Low	MARX Activity Scale	2 yrs.	ACLR +Operative MCL Tx: Repair or Reconstruction	ACLR +Non-operative MCL Tx	Author Reported -student t test	N/A	ACLR +Surgical MCL Tx
Westermann,2019	Low	IKDC Subjective Score	2 yrs.	ACLR +Operative MCL Tx: Repair or Reconstruction	ACLR +Non-operative MCL Tx	Author Reported -student t test	N/A	NS
Svantesson,2019	Low	KOOS-4 (avg of Symptoms, Pain, Sports, and QoL)	2 yrs.	ACLR +Operative MCL Tx: Repair	ACLR +Non-operative MCL Tx	Mean Difference	-6.1 (-14.96, 2.76)	NS
Svantesson,2019	Low	KOOS (Symptoms)	2 yrs.	ACLR +Operative MCL Tx: Repair	ACLR +Non-operative MCL Tx	Mean Difference	-7.1 (-15.33, 1.13)	NS
Svantesson,2019	Low	KOOS (ADL)	2 yrs.	ACLR +Operative MCL Tx: Repair	ACLR +Non-operative MCL Tx	Mean Difference	0.5 (-5.86, 6.86)	NS
Svantesson,2019	Low	KOOS (Sports)	2 yrs.	ACLR +Operative MCL Tx: Repair	ACLR +Non-operative MCL Tx	Mean Difference	-7.7 (-20.01, 4.61)	NS
Svantesson,2019	Low	KOOS-4 (avg of Symptoms, Pain, Sports, and QoL)	2 yrs.	ACLR +Operative MCL Tx: Reconstruction	ACLR +Non-operative MCL Tx	Mean Difference	-4.2 (-11.63, 3.23)	NS

Reference Title	Quality	Outcome Details	Duration	Treatment 1 (Details)	Treatment 2 (Details)	Effect Measure	Result (95% CI)	Favored Treatment
Svantesson,2019	Low	KOOS (Symptoms)	2 yrs.	ACLR +Operative MCL Tx: Reconstruction	ACLR +Non-operative MCL Tx	Mean Difference	-4.9 (-11.89, 2.09)	NS
Svantesson,2019	Low	KOOS (ADL)	2 yrs.	ACLR +Operative MCL Tx: Reconstruction	ACLR +Non-operative MCL Tx	Mean Difference	-1.2 (-6.70, 4.30)	NS
Svantesson,2019	Low	KOOS (Sports)	2 yrs.	ACLR +Operative MCL Tx: Reconstruction	ACLR +Non-operative MCL Tx	Mean Difference	-8.6 (-19.01, 1.81)	NS
Halinen,2009	High	ROM: Extension Deficit (°)	2 yrs.	ACLR +Operative MCL Tx: Repair w/Suture Anchors	ACLR +Non-operative MCL Tx	Author Reported -MW U Test	N/A	NS
Halinen,2009	High	ROM: Flexion Deficit(°)	2 yrs.	ACLR +Operative MCL Tx: Repair w/Suture Anchors	ACLR +Non-operative MCL Tx	Author Reported -MW U Test	N/A	NS
Halinen,2009	High	Strength: Quadriceps(% of contralateral side)	2 yrs.	ACLR +Operative MCL Tx: Repair w/Suture Anchors	ACLR +Non-operative MCL Tx	Author Reported -MW U Test	N/A	NS
Halinen,2009	High	Single Leg Hop (% of non-op side)	2 yrs.	ACLR +Operative MCL Tx: Repair w/Suture Anchors	ACLR +Non-operative MCL Tx	Author Reported -MW U Test	N/A	NS

Table 31: PICO 5 – Combined ACL/MCL – Pain

Reference Title	Quality	Outcome Details	Duration	Treatment 1 (Details)	Treatment 2 (Details)	Effect Measure	Result (95% CI)	Favored Treatment
Westermann,2019	Low	KOOS (Pain)	2 yrs.	ACLR +Operative MCL Tx: Repair or Reconstruction	ACLR +Non-operative MCL Tx	Author Reported -student t test	N/A	NS
Svantesson,2019	Low	KOOS (Pain)	2 yrs.	ACLR +Operative MCL Tx: Repair	ACLR +Non-operative MCL Tx	Mean Difference	-3.1 (-10.50, 4.30)	NS
Svantesson,2019	Low	KOOS (Pain)	2 yrs.	ACLR +Operative MCL Tx: Reconstruction	ACLR +Non-operative MCL Tx	Mean Difference	-1.2 (-7.56, 5.16)	NS

Table 32: PICO 5 – Combined ACL/MCL – QOL

Reference Title	Quality	Outcome Details	Duration	Treatment 1 (Details)	Treatment 2 (Details)	Effect Measure	Result (95% CI)	Favored Treatment
Westermann,2019	Low	KOOs (QoL)	2 yrs.	ACLR +Operative MCL Tx: Repair or Reconstruction	ACLR +Non-operative MCL Tx	Author Reported -student t test	N/A	NS
Svantesson,2019	Low	KOOs (QoL)	2 yrs.	ACLR +Operative MCL Tx: Repair	ACLR +Non-operative MCL Tx	Mean Difference	-6.3 (-17.03, 4.43)	NS
Svantesson,2019	Low	KOOs (QoL)	2 yrs.	ACLR +Operative MCL Tx: Reconstruction	ACLR +Non-operative MCL Tx	Mean Difference	-2.1 (-11.11, 6.91)	NS

Table 33: PICO 6 – Surgery Timing: Continuous by 1 Day – Adverse Events

Reference Title	Quality	Outcome Details	Duration	Treatment 1 (Details)	Treatment 2 (Details)	Effect Measure	Result (95% CI)	Favored Treatment
Henle, 2018	Low	Any re-operation	2.2 yrs.	Earlier ACLR: Continuous, 1day	Later ACLR: Continuous, 1day	Author Reported - Multivariable analysis	0.96(0.87,1.07)	NS
Henle, 2018	Low	Revision ACL Surgery	2.2 yrs.	Earlier ACLR: Continuous, 1day	Later ACLR: Continuous, 1day	Author Reported - Multivariable analysis	2.25(0.85,1.18)	NS
Henle, 2018	Low	IKDC	2.2 yrs.	Earlier ACLR: Continuous, 1day	Later ACLR: Continuous, 1day	Author Reported - Multivariable analysis	0.36(-0.17,0.89)	NS
Henle, 2018	Low	Lysholm Knee Score	2.2 yrs.	Earlier ACLR: Continuous, 1day	Later ACLR: Continuous, 1day	Author Reported - Multivariable analysis	0.22(-0.24,0.67)	NS
Henle, 2018	Low	Any re-operation	2.2 yrs.	Earlier ACLR: Continuous, 1day	Later ACLR: Continuous, 1day	Author Reported - Univariable analysis	0.98(0.89,1.08)	NS
Henle, 2018	Low	Revision ACL Surgery	2.2 yrs.	Earlier ACLR: Continuous, 1day	Later ACLR: Continuous, 1day	Author Reported - Univariable analysis	0.97(0.84,1.11)	NS
Henle, 2018	Low	IKDC	2.2 yrs.	Earlier ACLR: Continuous, 1day	Later ACLR: Continuous, 1day	Author Reported - Univariable analysis	0.32(-0.24,0.89)	NS
Henle, 2018	Low	Lysholm Knee Score	2.2 yrs.	Earlier ACLR: Continuous, 1day	Later ACLR: Continuous, 1day	Author Reported - Univariable analysis	0.22(-0.25,0.69)	NS

Table 34: PICO 6 – Surgery Timing: Continuous by 1 Day – Function

Reference Title	Quality	Outcome Details	Duration	Treatment 1 (Details)	Treatment 2 (Details)	Effect Measure	Result (95% CI)	Favored Treatment
Flosadottir,2018	High	Single-leg hop LSI	5 yrs.	Exercise plus early reconstruction	Exercise plus late reconstruction	Mean Difference	0.4 (-6.04, 6.84)	NS

Table 35: PICO 6 – Surgery Timing: Continuous by 1 Month – Adverse Events

Reference Title	Quality	Outcome Details	Duration	Treatment 1 (Details)	Treatment 2 (Details)	Effect Measure	Result (95% CI)	Favored Treatment
Mok, 2019	High	Medial Meniscus Injury (at primary ACLR)	Intraop .	Earlier ACLR: Continuous, by1 month	Later ACLR: Continuous, by1 month	Author Reported - multivariable logistic regression	1.02(1.01,1.03)	Earlier ACLR
Mok, 2019	High	Lateral Meniscus Injury (at primary ACLR)	Intraop .	Earlier ACLR: Continuous, by1 month	Later ACLR: Continuous, by1 month	Author Reported - Univariate logistic regression	1.00(1.00,1.01)	NS
Mok, 2019	High	Cartilage Injury	Intraop .	Earlier ACLR: Continuous, by1 month	Later ACLR: Continuous, by1 month	Author Reported - Univariate logistic regression	1.01(1.00,1.01)	NS

Table 36: PICO 6 – Surgery Timing: Continuous by 1 Month – Function

Reference Title	Quality	Outcome Details	Duration	Treatment 1 (Details)	Treatment 2 (Details)	Effect Measure	Result (95% CI)	Favored Treatment
Signorelli, 2016	Low	Knee Laxity: Anterior-Posterior Displacement	Intraop .	Earlier ACLR: Continuous, by1 month	Later ACLR: Continuous, by1 month	Author Reported - Generalized Linear Model	N/A	Earlier ACLR
Signorelli, 2016	Low	Knee Laxity: Varus-Valgus Rotation	Intraop .	Earlier ACLR: Continuous, by1 month	Later ACLR: Continuous, by1 month	Author Reported - Generalized Linear Model	N/A	Earlier ACLR

Table 37: PICO 6 – Surgery Timing: 1 Day – Function

Reference Title	Quality	Outcome Details	Duration	Treatment 1 (Details)	Treatment 2 (Details)	Effect Measure	Result (95% CI)	Favored Treatment
Herbst, 2017	Low	Loss of flexion- A ; 0-5 degree (ROM as per IKDC)	24 mos.	1.1 days	53.9 days	RR	1.00(0.95,1.06)	NS
Herbst, 2017	Low	Loss of flexion- B; 6-15 degree (ROM as per IKDC)	24 mos.	1.1 days	53.9 days	RR	1.00(0.06,15.55)	NS
Herbst, 2017	Low	Loss of flexion- C; 16-25 degree (ROM as per IKDC)	24 mos.	1.1 days	53.9 days	RD	0.00(0.00,0.00)	NS
Herbst, 2017	Low	Loss of extension- A; 0-5 degree (ROM as per IKDC)	24 mos.	1.1 days	53.9 days	RR	1.04(0.94,1.15)	NS
Herbst, 2017	Low	Loss of extension- B; 6-15 degree (ROM as per IKDC)	24 mos.	1.1 days	53.9 days	RR	0.50(0.10,2.61)	NS
Herbst, 2017	Low	Loss of extension- C; 16-25 degree (ROM as per IKDC)	24 mos.	1.1 days	53.9 days	RD	0.00(0.00,0.00)	NS
Herbst, 2017	Low	Graft Rupture / Failure	24 mos.	1.1 days	53.9 days	RR	3.00(0.64,14.16)	NS
Herbst, 2017	Low	Contralateral ACL tear	24 mos.	1.1 days	53.9 days	RR	0.50(0.05,5.34)	NS

Table 38: PICO 6 – Surgery Timing: 1 Week – Adverse Events

Reference Title	Quality	Outcome Details	Duration	Treatment 1 (Details)	Treatment 2 (Details)	Effect Measure	Result (95% CI)	Favored Treatment
Essen, 2020	High	Additional Surgery within 24 months	24 mos.	within 8 days: “acute ACLR"	6-10 weeks: “chronic ACLR"	RR	0.48(0.20,1.11)	NS

Table 39: PICO 6 – Surgery Timing: 1 Week – Function

Reference Title	Quality	Outcome Details	Duration	Treatment 1 (Details)	Treatment 2 (Details)	Effect Measure	Result (95% CI)	Favored Treatment
Essen, 2020	High	Lysholm Knee Score	2 yrs.	within 8 days: “acute ACLR"	6-10 weeks: “chronic ACLR"	Mean Difference	1.59 (-121.81, 124.99)	NS
Essen, 2020	High	Tegner Activity Scale	2 yrs.	within 8 days: “acute ACLR"	6-10 weeks: “chronic ACLR"	Mean Difference	-1 (-13.04, 11.04)	NS
Essen, 2020	High	Instrumental Knee laxity- Rolimeter mean mm (?)	Postop .	within 8 days: “acute ACLR"	6-10 weeks: “chronic ACLR"	Mean Difference	-0.2 (-2.89, 2.49)	NS
Essen, 2020	High	Instrumental Knee laxity- Normal Pivot Shift test	Postop .	within 8 days: “acute ACLR"	6-10 weeks: “chronic ACLR"	RR	0.21(0.06,0.35)	within 8 days
Essen, 2020	High	Instrumental Knee Laxity-Normal Lachman test	Postop .	within 8 days: “acute ACLR"	6-10 weeks: “chronic ACLR"	RR	0.82(0.53,1.26)	NS
Essen, 2020	High	IKDC (Objective) A/B	24 mos.	within 8 days: “acute ACLR"	6-10 weeks: “chronic ACLR"	RR	0.89(0.75,1.05)	NS
Essen, 2020	High	IKDC (Objective) C/D	24 mos.	within 8 days: “acute ACLR"	6-10 weeks: “chronic ACLR"	RD	0.11(-0.01,0.22)	NS
Essen, 2020	High	One leg hop >90 (Functional Strength-Thigh deficit circumference. 10 cm above patella diff in cm)	.	within 8 days: “acute ACLR"	6-10 weeks: “chronic ACLR"	RR	1.20(0.86,1.66)	NS
Essen, 2020	High	One leg hop 76-89 (Functional Strength-Thigh deficit circumference. 10 cm above patella diff in cm)	Postop .	within 8 days: “acute ACLR"	6-10 weeks: “chronic ACLR"	RR	0.59(0.19,1.80)	NS
Essen, 2020	High	One leg hop 50-75 (Functional Strength-Thigh deficit circumference. 10 cm above patella diff in cm)	Postop .	within 8 days: “acute ACLR"	6-10 weeks: “chronic ACLR"	RD	-0.10(-0.21,0.01)	NS
Essen, 2020	High	One leg hop <50 (Functional Strength-Thigh deficit circumference. 10 cm above patella diff in cm)	Postop .	within 8 days: “acute ACLR"	6-10 weeks: “chronic ACLR"	RD	0.04(-0.03,0.10)	NS
Essen, 2020	High	Ext. Isokinetic 60 degree/s (Muscle Strength biodex)	Postop .	within 8 days: “acute ACLR"	6-10 weeks: “chronic ACLR"	Mean Difference	4.8 (-125.49, 135.09)	NS
Essen, 2020	High	Ext. Isokinetic 180 degree/s (Muscle Strength biodex)	Postop .	within 8 days: “acute ACLR"	6-10 weeks: “chronic ACLR"	Mean Difference	1.5 (-133.77, 136.77)	NS
Essen, 2020	High	Ext. Isokinetic 240 degree/s (Muscle Strength biodex)	Postop .	within 8 days: “acute ACLR"	6-10 weeks: “chronic ACLR"	Mean Difference	2.4 (-131.96, 136.76)	NS
Essen, 2020	High	Flex. Isokinetic 60 degree/s (Muscle Strength biodex)	Postop .	within 8 days: “acute ACLR"	6-10 weeks: “chronic ACLR"	Mean Difference	1.9 (-128.71, 132.51)	NS
Essen, 2020	High	Flex. Isokinetic 180 degree/s (Muscle Strength biodex)	Postop .	within 8 days: “acute ACLR"	6-10 weeks: “chronic ACLR"	Mean Difference	8.1 (-122.20, 138.40)	NS

Reference Title	Quality	Outcome Details	Duration	Treatment 1 (Details)	Treatment 2 (Details)	Effect Measure	Result (95% CI)	Favored Treatment
Essen, 2020	High	Flex. Isokinetic 240 degree/s (Muscle Strength biodex)	Postop .	within 8 days: “acute ACLR"	6-10 weeks: “chronic ACLR"	Mean Difference	9.4 (-123.84, 142.64)	NS
Essen, 2020	High	Ext. Isometric 60 degree (Muscle Strength biodex)	Postop .	within 8 days: “acute ACLR"	6-10 weeks: “chronic ACLR"	Mean Difference	1.3 (-134.54, 137.14)	NS
Essen, 2020	High	Ext. Isometric 180 degree (Muscle Strength biodex)	Postop .	within 8 days: “acute ACLR"	6-10 weeks: “chronic ACLR"	Mean Difference	0.9 (-134.09, 135.89)	NS
Essen, 2020	High	Flex. Isometric 60 degree (Muscle Strength biodex)	Postop .	within 8 days: “acute ACLR"	6-10 weeks: “chronic ACLR"	Mean Difference	0.9 (-133.38, 135.18)	NS
Essen, 2020	High	Flex. Isometric 180 degree (Muscle Strength biodex)	Postop .	within 8 days: “acute ACLR"	6-10 weeks: “chronic ACLR"	Mean Difference	2.4 (-140.16, 144.96)	NS
Essen, 2020	High	Extension defect (ROM primary endpoint)	24 mos.	within 8 days: “acute ACLR"	6-10 weeks: “chronic ACLR"	Mean Difference	0.3 (-1.76, 2.36)	NS
Essen, 2020	High	Flexion defect (ROM primary endpoint)	24 mos.	within 8 days: “acute ACLR"	6-10 weeks: “chronic ACLR"	Mean Difference	-1.05 (-4.35, 2.25)	NS
Essen, 2020	High	Ext. def> 5 degrees vs. CL (ROM primary endpoint)	24 mos.	within 8 days: “acute ACLR"	6-10 weeks: “chronic ACLR"	Mean Difference	-1 (-7.40, 5.40)	NS
Essen, 2020	High	Functional Recovery (Defined as Knee Osteoarthritis Outcome Score (KOOS) above: 90 for Pain, 84 for Symptoms, 91 for ADL, 80 for Sport/Rec and 81 for quality of life (QoL))	24 mos.	within 8 days: “acute ACLR"	6-10 weeks: “chronic ACLR"	RR	1.13(0.60,2.13)	NS

Table 40: PICO 6 – Surgery Timing: 1 Week – Pain

Reference Title	Quality	Outcome Details	Duration	Treatment 1 (Details)	Treatment 2 (Details)	Effect Measure	Result (95% CI)	Favored Treatment
Essen, 2020	High	VAS 1 (How does your knee function (0 (normal)-100))	24 mos.	within 8 days: “acute ACLR"	6-10 weeks: “chronic ACLR"	Mean Difference	-10 (-23.11, 3.11)	NS
Essen, 2020	High	VAS 2 (How does your knee affect your activity level(0 (not at all)-100)”)	24 mos.	within 8 days: “acute ACLR"	6-10 weeks: “chronic ACLR"	Mean Difference	-8 (-21.85, 5.85)	NS

Table 41: PICO 6 – Surgery Timing: 1 Week – QOL

Reference Title	Quality	Outcome Details	Duration	Treatment 1 (Details)	Treatment 2 (Details)	Effect Measure	Result (95% CI)	Favored Treatment
Essen, 2020	High	Treatment failure, QoL < 44 (Defined as KOOS, QoL <44)	24 mos.	within 8 days: “acute ACLR"	6-10 weeks: “chronic ACLR"	RR	0.74(0.27,2.06)	NS

Table 42: PICO 6 – Surgery Timing: 1 Week – Return to Activity

Reference Title	Quality	Outcome Details	Duration	Treatment 1 (Details)	Treatment 2 (Details)	Effect Measure	Result (95% CI)	Favored Treatment
Essen, 2020	High	Return to pre-injury activity level	Postop .	within 8 days: “acute ACLR"	6-10 weeks: “chronic ACLR"	RR	0.66(0.47,0.94)	6-10 weeks
Essen, 2020	High	Return to Tegner 6 activity level	Postop .	within 8 days: “acute ACLR"	6-10 weeks: “chronic ACLR"	RR	0.96(0.85,1.09)	NS

Table 43: PICO 6 – Surgery Timing: 3 Weeks – Adverse Events

Reference Title	Quality	Outcome Details	Duration	Treatment 1 (Details)	Treatment 2 (Details)	Effect Measure	Result (95% CI)	Favored Treatment
Hur, 2017	Low	Any Meniscus Injury	2 yrs.	Earlier ACLR: within 3 weeks	Later ACLR: after 3 weeks	RR	0.83(0.58,1.18)	NS
Hur, 2017	Low	Medial Meniscus Injury	2 yrs.	Earlier ACLR: within 3 weeks	Later ACLR: after 3 weeks	RR	0.52(0.31,0.87)	Earlier ACLR
Hur, 2017	Low	Lateral Meniscus Injury	2 yrs.	Earlier ACLR: within 3 weeks	Later ACLR: after 3 weeks	RR	1.49(0.73,3.06)	NS
Hur, 2017	Low	Medial + Lateral Meniscus Injury	2 yrs.	Earlier ACLR: within 3 weeks	Later ACLR: after 3 weeks	RR	0.60(0.18,1.98)	NS
Hur, 2017	Low	Medial Femoral Condyle - ICRS 1-2	2 yrs.	Earlier ACLR: within 3 weeks	Later ACLR: after 3 weeks	RR	0.72(0.21,2.50)	NS
Hur, 2017	Low	Lateral Femoral Condyle - ICRS 1-2	2 yrs.	Earlier ACLR: within 3 weeks	Later ACLR: after 3 weeks	RR	0.72(0.21,2.50)	NS
Hur, 2017	Low	Medial Tibial Condyle - ICRS 1-2	2 yrs.	Earlier ACLR: within 3 weeks	Later ACLR: after 3 weeks	RR	0.38(0.11,1.39)	NS
Hur, 2017	Low	Lateral Tibial Condyle - ICRS 1-2	2 yrs.	Earlier ACLR: within 3 weeks	Later ACLR: after 3 weeks	RD	0.00(0.00,0.00)	NS
Hur, 2017	Low	Any Cartilage Injury - ICRS 1-2	2 yrs.	Earlier ACLR: within 3 weeks	Later ACLR: after 3 weeks	RR	0.67(0.40,1.14)	NS

Table 44: PICO 6 – Surgery Timing: 3 Weeks – Composite

Reference Title	Quality	Outcome Details	Duration	Treatment 1 (Details)	Treatment 2 (Details)	Effect Measure	Result (95% CI)	Favored Treatment
Chua, 2020	Low	Lysholm Knee Score	2 yrs.	Earlier ACLR: within 3 weeks	Later ACLR: after 3 weeks	Author Reported - MW U Test	N/A	NS
Hur, 2017	Low	Lysholm Knee Score	2 yrs.	Earlier ACLR: within 3 weeks	Later ACLR: after 3 weeks	Mean Difference	-1.8 (-4.55, 0.95)	NS

Table 45: PICO 6 – Surgery Timing: 3 Weeks – Function

Reference Title	Quality	Outcome Details	Duration	Treatment 1 (Details)	Treatment 2 (Details)	Effect Measure	Result (95% CI)	Favored Treatment
Chua, 2020	Low	Knee Laxity (mm)	2 yrs.	Earlier ACLR: within 3 weeks	Later ACLR: after 3 weeks	Author Reported - MW U Test	N/A	NS
Chua, 2020	Low	Range of Motion	2 yrs.	Earlier ACLR: within 3 weeks	Later ACLR: after 3 weeks	Author Reported - MW U Test	N/A	NS
Chua, 2020	Low	Tegner Activity Scale	2 yrs.	Earlier ACLR: within 3 weeks	Later ACLR: after 3 weeks	Author Reported - MW U Test	N/A	NS
Hur, 2017	Low	Tegner Activity Scale	2 yrs.	Earlier ACLR: within 3 weeks	Later ACLR: after 3 weeks	Mean Difference	0.4 (-0.24, 1.04)	NS
Hur, 2017	Low	Range of Motion	2 yrs.	Earlier ACLR: within 3 weeks	Later ACLR: after 3 weeks	Mean Difference	-0.2 (-2.24, 1.84)	NS
Hur, 2017	Low	Lachman Test	2 yrs.	Earlier ACLR: within 3 weeks	Later ACLR: after 3 weeks	Author Reported - t-test	N/A	NS
Hur, 2017	Low	Pivot-Shift Test	2 yrs.	Earlier ACLR: within 3 weeks	Later ACLR: after 3 weeks	Author Reported - t-test	N/A	NS
Hur, 2017	Low	Strength: Extension (% of uninjured side)	2 yrs.	Earlier ACLR: within 3 weeks	Later ACLR: after 3 weeks	Mean Difference	2.6 (-0.18, 5.38)	NS
Hur, 2017	Low	Strength: Flexion (% of uninjured side)	2 yrs.	Earlier ACLR: within 3 weeks	Later ACLR: after 3 weeks	Mean Difference	2.8 (-0.14, 5.74)	NS
Hur, 2017	Low	Proprioception: Equilibrium Score (Smart Balance Master)	2 yrs.	Earlier ACLR: within 3 weeks	Later ACLR: after 3 weeks	Mean Difference	0.8 (-2.69, 4.29)	NS

Table 46: PICO 6 – Surgery Timing: 6 Weeks – Adverse Events

Reference Title	Quality	Outcome Details	Duration	Treatment 1 (Details)	Treatment 2 (Details)	Effect Measure	Result (95% CI)	Favored Treatment
Kim, 2020	Low	Graft Rupture / Failure	2 yrs.	Earlier ACLR: Trans-Tibial within 6 weeks	Later ACLR: Trans-Tibial after 6 weeks	Author Reported - cox proportional hazards models	6.81(2.76,16.82)	Early
Anderson,2015	High	Lateral Meniscal Injury	Postop .	<6weeks	6-12weeks	Author Reported - multivariable logistic regression	1.68(0.68,4.14)	NS
Anderson,2015	High	Lateral Meniscal Grade	Postop .	<6weeks	6-12weeks	Author Reported - proportional odds model	1.45(0.66,3.21)	NS
Anderson,2015	High	Medial Meniscal Injury	Postop .	<6weeks	6-12weeks	Author Reported - multivariable logistic regression	0.92(0.27,3.15)	NS
Anderson,2015	High	Medial Meniscal Grade	Postop .	<6weeks	6-12weeks	Author Reported - proportional odds model	0.73(0.23,2.35)	NS
Anderson,2015	High	Chondral injury	Postop .	<6weeks	6-12weeks	RR	1.03(0.23,4.62)	NS

Table 47: PICO 6 – Surgery Timing: 1 Month – Adverse Events

Reference Title	Quality	Outcome Details	Duration	Treatment 1 (Details)	Treatment 2 (Details)	Effect Measure	Result (95% CI)	Favored Treatment
Andernord,2014	High	Revision ACL Surgery	2 yrs.	< 1 mo. after injury: HS Autograft	1+ mo. after injury: HS Autograft	Author Reported - multivariate analysis	1.09(0.25,4.74)	NS
Andernord,2014	High	Revision ACL Surgery	2 yrs.	< 1 mo. after injury: PT Autograft	1+ mo. after injury: PT Autograft	Author Reported - multivariate analysis	1.39(0.19,10.49)	NS
Baba, 2019	Low	Medial Meniscus Injury (at primary ACLR)	Intraop .	Earlier ACLR: within 1 month	Later ACLR: between 1-3months	RR	2.30(0.67,7.91)	NS
Baba, 2019	Low	Lateral Meniscus Injury (at primary ACLR)	Intraop .	Earlier ACLR: within 1 month	Later ACLR: between 1-3months	RR	1.52(0.78,2.97)	NS
Baba, 2019	Low	Chondral Injury - Medial Compartment (at primary ACLR)	Intraop .	Earlier ACLR: within 1 month	Later ACLR: between 1-3months	RR	0.96(0.10,8.81)	NS
Baba, 2019	Low	Chondral Injury - Lateral Compartment (at primary ACLR)	Intraop .	Earlier ACLR: within 1 month	Later ACLR: between 1-3months	RR	0.96(0.10,8.81)	NS
Baba, 2019	Low	Medial Meniscus Injury (at primary ACLR)	Intraop .	Earlier ACLR: within 1 month	Later ACLR: after 3 months	RR	0.66(0.25,1.76)	NS
Baba, 2019	Low	Lateral Meniscus Injury (at primary ACLR)	Intraop .	Earlier ACLR: within 1 month	Later ACLR: after 3 months	RR	1.33(0.70,2.53)	NS
Baba, 2019	Low	Chondral Injury - Medial Compartment (at primary ACLR)	Intraop .	Earlier ACLR: within 1 month	Later ACLR: after 3 months	RR	0.30(0.04,2.20)	NS
Baba, 2019	Low	Chondral Injury - Lateral Compartment (at primary ACLR)	Intraop .	Earlier ACLR: within 1 month	Later ACLR: after 3 months	RR	1.48(0.14,15.63)	NS
Frobell, 2011	High	Bone Marrow Lesion in Lateral Aspect of Tibia	2 yrs.	within 44.5days: "Early ACL Reconstruction"	within 408days: "Delayed ACL Reconstruction"	Mean Difference	-0.3 (-1.30, 0.70)	NS
Frobell, 2011	High	Bone Marrow Lesion in Lateral Aspect of Femur	2 yrs.	within 44.5days: "Early ACL Reconstruction"	within 408days: "Delayed ACL Reconstruction"	Mean Difference	0.1 (-2.32, 2.52)	NS

Reference Title	Quality	Outcome Details	Duration	Treatment 1 (Details)	Treatment 2 (Details)	Effect Measure	Result (95% CI)	Favored Treatment
Frobell, 2011	High	Joint Fluid	2 yrs.	within 44.5days: "Early ACL Reconstruction"	within 408days: "Delayed ACL Reconstruction"	Mean Difference	-0.3 (-5.55, 4.95)	NS
Snaebjornsson,2019	High	Revision ACL Surgery (Incidence)	2 yrs.	<1month	>1month	Author Reported - Generalized linear models with a binomial distribution and log-link function adjusted by multivariable analysis	1.58(0.83,3.02)	NS

Table 48: PICO 6 – Surgery Timing: 1 Month – Composite

Reference Title	Quality	Outcome Details	Duration	Treatment 1 (Details)	Treatment 2 (Details)	Effect Measure	Result (95% CI)	Favored Treatment
Baba, 2019	Low	Lysholm Knee Score	2 yrs.	Earlier ACLR: within 1 month	Later ACLR: between 1-3months	Mean Difference	1 (-0.99, 2.99)	NS
Baba, 2019	Low	Lysholm Knee Score	2 yrs.	Earlier ACLR: within 1 month	Later ACLR: after 3 months	Mean Difference	0.1 (-1.75, 1.95)	NS

Table 49: PICO 6 – Surgery Timing: 1 Month – Function

Reference Title	Quality	Outcome Details	Duration	Treatment 1 (Details)	Treatment 2 (Details)	Effect Measure	Result (95% CI)	Favored Treatment
Baba, 2019	Low	Side to Side Difference (mm) (KT-1000)	2 yrs.	Earlier ACLR: within 1 month	Later ACLR: between 1-3months	Mean Difference	-0.6 (-1.28, 0.08)	NS
Baba, 2019	Low	Pivot Shift Test Grade 0/1	2 yrs.	Earlier ACLR: within 1 month	Later ACLR: between 1-3months	RR	0.03(-0.01,0.07)	NS
Baba, 2019	Low	Pivot-Shift Test Grade 2/3	2 yrs.	Earlier ACLR: within 1 month	Later ACLR: between 1-3months	RD	-0.03(-0.07,0.01)	NS
Baba, 2019	Low	Loss of Extension > 5 deg	2 yrs.	Earlier ACLR: within 1 month	Later ACLR: between 1-3months	RR	1.44(0.28,7.39)	NS
Baba, 2019	Low	Loss of Flexion > 15 deg	2 yrs.	Earlier ACLR: within 1 month	Later ACLR: between 1-3months	RD	0.04(-0.04,0.12)	NS
Baba, 2019	Low	IKDC (Objective) A/B	2 yrs.	Earlier ACLR: within 1 month	Later ACLR: between 1-3months	RR	0.03(-0.01,0.07)	NS
Baba, 2019	Low	IKDC (Objective) C/D	2 yrs.	Earlier ACLR: within 1 month	Later ACLR: between 1-3months	RD	-0.03(-0.07,0.01)	NS
Baba, 2019	Low	Strength: Hamstring (% of contralateral side)	2 yrs.	Earlier ACLR: within 1 month	Later ACLR: between 1-3months	Mean Difference	6.1 (-1.39, 13.59)	NS
Baba, 2019	Low	Strength: Quadriceps (% of contralateral side)	2 yrs.	Earlier ACLR: within 1 month	Later ACLR: between 1-3months	Mean Difference	0 (-6.65, 6.65)	NS
Baba, 2019	Low	Side to Side Difference (mm) (KT-1000)	2 yrs.	Earlier ACLR: within 1 month	Later ACLR: after 3 months	Mean Difference	-0.9 (-1.58, -0.22)	Earlier ACLR
Baba, 2019	Low	Pivot Shift Test Grade 0/1	2 yrs.	Earlier ACLR: within 1 month	Later ACLR: after 3 months	RR	0.05(0.00,0.11)	Earlier ACLR
Baba, 2019	Low	Pivot-Shift Test Grade 2/3	2 yrs.	Earlier ACLR: within 1 month	Later ACLR: after 3 months	RD	-0.05(-0.11,-0.00)	Earlier ACLR
Baba, 2019	Low	Loss of Extension > 5 deg	2 yrs.	Earlier ACLR: within 1 month	Later ACLR: after 3 months	RR	1.97(0.35,11.14)	NS
Baba, 2019	Low	Loss of Flexion > 15 deg	2 yrs.	Earlier ACLR: within 1 month	Later ACLR: after 3 months	RR	0.99(0.11,9.06)	NS
Baba, 2019	Low	IKDC (Objective) A/B	2 yrs.	Earlier ACLR: within 1 month	Later ACLR: after 3 months	RR	0.05(0.00,0.11)	Earlier ACLR
Baba, 2019	Low	IKDC (Objective) C/D	2 yrs.	Earlier ACLR: within 1 month	Later ACLR: after 3 months	RD	-0.05(-0.11,-0.00)	Earlier ACLR

Reference Title	Quality	Outcome Details	Duration	Treatment 1 (Details)	Treatment 2 (Details)	Effect Measure	Result (95% CI)	Favored Treatment
Baba, 2019	Low	Strength: Hamstring (% of contralateral side)	2 yrs.	Earlier ACLR: within 1 month	Later ACLR: after 3 months	Mean Difference	8.7 (0.83, 16.57)	Earlier ACLR
Baba, 2019	Low	Strength: Quadriceps (% of contralateral side)	2 yrs.	Earlier ACLR: within 1 month	Later ACLR: after 3 months	Mean Difference	4.4 (-2.87, 11.67)	NS

Table 50: PICO 6 – Surgery Timing: 2 Months – Adverse Events

Reference Title	Quality	Outcome Details	Duration	Treatment 1 (Details)	Treatment 2 (Details)	Effect Measure	Result (95% CI)	Favored Treatment
Everhart, 2019	Low	Lateral meniscal tear treated with partial meniscectomy	Postop .	<8weeks	>8weeks	Author Reported - logistic regression	0.77(0.21,1.45)	NS
Everhart, 2019	Low	Lateral meniscal tear treated with repair	Postop .	<8weeks	>8weeks	Author Reported - multivariate logistic regression models	0.67(0.38,1.15)	NS
Everhart, 2019	Low	Medial Meniscectomy	Postop .	<8weeks	>8weeks	Author Reported - multivariate logistic regression models	2.30(1.04,5.21)	Early Reconstruction
Everhart, 2019	Low	Medial Meniscal Repair	Postop .	<8weeks	>8weeks	Author Reported - multivariate logistic regression models	0.50(0.32,0.76)	Early Reconstruction
Everhart, 2019	Low	Lateral Meniscectomy	Postop .	<8weeks	>8weeks	Author Reported - multivariate logistic regression models	N/A	NS
Everhart, 2019	Low	Lateral Meniscal Repair	Postop .	<8weeks	>8weeks	Author Reported - multivariate logistic regression models	N/A	NS
Everhart, 2019	Low	Medial meniscal tear vascularity	Postop .	<8weeks	>8weeks	Author Reported - Cochran Armitage trend test	N/A	NS

Table 51: PICO 6 – Surgery Timing: 2 Months – Function

Reference Title	Quality	Outcome Details	Duration	Treatment 1 (Details)	Treatment 2 (Details)	Effect Measure	Result (95% CI)	Favored Treatment
Ochiai, 2014	Low	SF-36 ("The SF-36 questionnaire is constructed of eight subscales: physical functioning (PF),role-physical (RP), bodily pain (BP) and general health(GH) that belong to physical health; as well as vitality(VT), social functioning (SF), role-emotional (RE) and mental health (MH) that belong to mental health")	30 mos.	<8weeks:"acute"	>8weeks:"chronic"	Author Reported - Mann–Whitney's U test and two-way ANOVA	N/A	NS
Ochiai, 2014	Low	Lysholm Knee Score	30 mos.	<8weeks:"acute"	>8weeks:"chronic"	Author Reported - Mann–Whitney's and two-way ANOVA	N/A	NS
Ochiai, 2014	Low	Anterior Tibial Translation	30 mos.	<8weeks:"acute"	>8weeks:"chronic"	Author Reported - Mann–Whitney's and two-way ANOVA	N/A	NS
Ochiai, 2014	Low	Pivot Shift test	30 mos.	<8weeks:"acute"	>8weeks:"chronic"	RR	0.76(0.07,8.13)	NS

Table 52: PICO 6 – Surgery Timing: 2 Months – Pain

Reference Title	Quality	Outcome Details	Duration	Treatment 1 (Details)	Treatment 2 (Details)	Effect Measure	Result (95% CI)	Favored Treatment
Ochiai, 2014	Low	VAS Pain	30 mos.	<8weeks:"acute"	>8weeks:"chronic"	Author Reported - Mann–Whitney's and two-way ANOVA	N/A	NS

Table 53: PICO 6 – Surgery Timing: 3 Months – Adverse Events

Reference Title	Quality	Outcome Details	Duration	Treatment 1 (Details)	Treatment 2 (Details)	Effect Measure	Result (95% CI)	Favored Treatment
Andernord,2014	High	Revision ACL Surgery	2 yrs.	< 3 mo. after injury: HS Autograft	3+ mo. after injury: HS Autograft	Author Reported - multivariate analysis	1.17(0.38,3.64)	NS
Andernord,2014	High	Revision ACL Surgery	2 yrs.	< 3 mo. after injury: PT Autograft	3+ mo. after injury: PT Autograft	Author Reported - multivariate analysis	1.45(0.33,6.36)	NS
Snoeker, 2020	Moderate	Any Meniscus Injury	5 yrs.	Earlier ACLR: within 10weeks	Later ACLR: after 10 weeks	Author Reported - logistic regression	1.32(0.92,1.88)	NS
Snoeker, 2020	Moderate	Medial Meniscus Injury	5 yrs.	Earlier ACLR: within 10weeks	Later ACLR: after 10 weeks	Author Reported - logistic regression	2.10(1.14,3.86)	Early ACLR
Snoeker, 2020	Moderate	Lateral Meniscus Injury	5 yrs.	Earlier ACLR: within 10weeks	Later ACLR: after 10 weeks	Author Reported - logistic regression	0.97(0.63,1.52)	NS
Culvenor, 2019	Moderate	Patellofemoral Cartilage Thickness Changes (from baseline)	2	Earlier ACLR: within 10weeks	Later ACLR: after 10 weeks	Author Reported - linear mixed effects model	N/A	NS
Stone, 2019	Low	Medial Meniscus Injury (at primary ACLR)	Intraop .	Earlier ACLR: within 90 days	Later ACLR: after 90 days	Author Reported - multivariable logistic regression	0.86(0.47,1.56)	NS
Stone, 2019	Low	Lateral Meniscus Injury (at primary ACLR)	Intraop .	Earlier ACLR: within 90 days	Later ACLR: after 90 days	Author Reported - multivariable logistic regression	1.27(0.71,2.26)	NS
Stone, 2019	Low	Chondral Injury - Medial Compartment (at primary ACLR)	Intraop .	Earlier ACLR: within 90 days	Later ACLR: after 90 days	Author Reported - multivariable logistic regression	0.68(0.36,1.27)	NS
Stone, 2019	Low	Chondral Injury - Lateral Compartment (at primary ACLR)	Intraop .	Earlier ACLR: within 90 days	Later ACLR: after 90 days	Author Reported - multivariable logistic regression	1.22(0.65,2.29)	NS
Stone, 2019	Low	Chondral Injury - Patellofemoral (at primary ACLR)	Intraop .	Earlier ACLR: within 90 days	Later ACLR: after 90 days	Author Reported - multivariable logistic regression	1.23(0.68,2.23)	NS
Baba, 2019	Low	Medial Meniscus Injury (at primary ACLR)	Intraop .	Earlier ACLR: between 1-3months	Later ACLR: after 3 months	RR	0.29(0.11,0.73)	Earlier ACLR
Baba, 2019	Low	Lateral Meniscus Injury (at primary ACLR)	Intraop .	Earlier ACLR: between 1-3months	Later ACLR: after 3 months	RR	0.87(0.50,1.53)	NS

Reference Title	Quality	Outcome Details	Duration	Treatment 1 (Details)	Treatment 2 (Details)	Effect Measure	Result (95% CI)	Favored Treatment
Baba, 2019	Low	Chondral Injury - Medial Compartment (at primary ACLR)	Intraop .	Earlier ACLR: between 1-3months	Later ACLR: after 3 months	RR	0.31(0.09,1.07)	NS
Baba, 2019	Low	Chondral Injury - Lateral Compartment (at primary ACLR)	Intraop .	Earlier ACLR: between 1-3months	Later ACLR: after 3 months	RR	1.54(0.27,8.96)	NS
Snaebjornsson,2019	High	Revision ACL Surgery (Incidence)	2 yrs.	<3months	>3months	Author Reported - Generalized linear models with a binomial distribution and log-link function adjusted by multivariable analysis	2.07(1.64,2.61)	Delayed ACL Reconstruction
Crawford, 2019	Low	Medial Meniscal Injury ("Medial meniscus tear")	Postop .	<12weeks	>12weeks	Author Reported - chi-square test	N/A	NS
Crawford, 2019	Low	Lateral Meniscal Injury ("Lateral meniscal tear")	Postop .	<12weeks	>12weeks	Author Reported - chi-square test	N/A	NS
Crawford, 2019	Low	Articular Cartilage damage- Medial	Postop .	<12weeks	>12weeks	Author Reported - chi-square test	N/A	NS
Crawford, 2019	Low	Articular Cartilage damage- Lateral	Postop .	<12weeks	>12weeks	Author Reported - chi-square test	N/A	NS
Crawford, 2019	Low	Articular Cartilage Damage-Patellofemoral compartments	Postop .	<12weeks	>12weeks	Author Reported - chi-square test	N/A	NS
Brambilla,2015	Low	intra-articular lesion	Postop .	0-3months	3-6months	Author Reported - Chi-square test and the Fisher exact test	0.87(0.61,1.25)	NS
Brambilla,2015	Low	intra-articular lesion	Postop .	0-3months	6-12months	Author Reported - logistic regression analysis	0.85(0.60,1.21)	NS
Brambilla,2015	Low	intra-articular lesion	Postop .	0-3months	12-24months	Author Reported - logistic regression analysis	1.82(1.02,3.27)	
Brambilla,2015	Low	intra-articular lesion	Postop .	0-3months	24-60months	Author Reported - logistic regression analysis	1.80(1.01,3.18)	
Brambilla,2015	Low	intra-articular lesion	Postop .	0-3months	>60months	Author Reported - logistic regression analysis	1.73(0.85,3.53)	NS
Brambilla,2015	Low	Medial Meniscal Injury	Postop .	0-3months	3-6months	Author Reported - logistic regression analysis	0.87(0.60,1.25)	NS
Brambilla,2015	Low	Medial Meniscal Injury	Postop .	0-3months	6-12months	Author Reported - logistic regression analysis	1.03(0.60,1.25)	NS

Reference Title	Quality	Outcome Details	Duration	Treatment 1 (Details)	Treatment 2 (Details)	Effect Measure	Result (95% CI)	Favored Treatment
Brambilla,2015	Low	Medial Meniscal Injury	Postop .	0-3months	12-24months	Author Reported - logistic regression analysis	1.45(0.86,2.46)	NS
Brambilla,2015	Low	Medial Meniscal Injury	Postop .	0-3months	24-60months	Author Reported - logistic regression analysis	1.94(1.16,3.26)	
Brambilla,2015	Low	Medial Meniscal Injury	Postop .	0-3months	>60months	Author Reported - logistic regression analysis	1.95(1.03,3.70)	
Brambilla,2015	Low	Lateral Meniscal Injury	Postop .	0-3months	3-6months	Author Reported - logistic regression analysis	0.88(0.60,1.28)	NS
Brambilla,2015	Low	Lateral Meniscal Injury	Postop .	0-3months	6-12months	Author Reported - logistic regression analysis	0.78(0.54,1.14)	NS
Brambilla,2015	Low	Lateral Meniscal Injury	Postop .	0-3months	12-24months	Author Reported - logistic regression analysis	1.00(0.58,1.75)	NS
Brambilla,2015	Low	Lateral Meniscal Injury	Postop .	0-3months	24-60months	Author Reported - logistic regression analysis	1.07(0.62,1.84)	NS
Brambilla,2015	Low	Lateral Meniscal Injury	Postop .	0-3months	>60months	Author Reported - logistic regression analysis	1.05(0.53,2.06)	NS
Brambilla,2015	Low	Presence of Medial Femoral condyle	Postop .	0-3months	3-6months	Author Reported - logistic regression analysis	0.93(0.50,1.73)	NS
Brambilla,2015	Low	Presence of Medial Femoral condyle	Postop .	0-3months	6-12months	Author Reported - logistic regression analysis	0.86(0.46,1.60)	NS
Brambilla,2015	Low	Presence of Medial Femoral condyle	Postop .	0-3months	12-24months	Author Reported - logistic regression analysis	2.20(1.04,4.65)	
Brambilla,2015	Low	Presence of Medial Femoral condyle	Postop .	0-3months	24-60months	Author Reported - logistic regression analysis	1.91(0.89,4.09)	NS
Brambilla,2015	Low	Presence of Medial Femoral condyle	Postop .	0-3months	>60months	Author Reported - logistic regression analysis	2.58(1.10,6.09)	
Brambilla,2015	Low	Presence of Medial tibial plateau	Postop .	0-3months	3-6months	Author Reported - logistic regression analysis	1.79(0.16,19.85)	NS
Brambilla,2015	Low	Presence of Medial tibial plateau	Postop .	0-3months	6-12months	Author Reported - logistic regression analysis	2.50(0.26,24.23)	NS
Brambilla,2015	Low	Presence of Medial tibial plateau	Postop .	0-3months	24-60months	Author Reported - logistic regression analysis	12.99(1.43,118.02)	
Brambilla,2015	Low	Presence of Medial tibial plateau	Postop .	0-3months	>60months	Author Reported - logistic regression analysis	23.12(2.52,212.09)	

Reference Title	Quality	Outcome Details	Duration	Treatment 1 (Details)	Treatment 2 (Details)	Effect Measure	Result (95% CI)	Favored Treatment
Brambilla,2015	Low	Presence of Medial tibial plateau	Postop .	<12months	>12months	Author Reported - logistic regression analysis	5.57(1.91,16.26)	
Brambilla,2015	Low	Presence of Lateral Femoral condyle	Postop .	0-3months	3-6months	Author Reported - logistic regression analysis	1.19(0.41,3.49)	NS
Brambilla,2015	Low	Presence of Lateral Femoral condyle	Postop .	0-3months	6-12months	Author Reported - logistic regression analysis	0.97(0.32,2.92)	NS
Brambilla,2015	Low	Presence of Lateral Femoral condyle	Postop .	0-3months	12-24months	Author Reported - logistic regression analysis	1.07(0.21,5.44)	NS
Brambilla,2015	Low	Presence of Lateral Femoral condyle	Postop .	0-3months	24-60months	Author Reported - logistic regression analysis	2.12(0.58,7.71)	NS
Brambilla,2015	Low	Presence of Lateral Femoral condyle	Postop .	0-3months	>60months	Author Reported - logistic regression analysis	5.95(1.83,19.39)	
Brambilla,2015	Low	Presence of Lateral tibial plateau	Postop .	0-3months	3-6months	Author Reported - logistic regression analysis	1.35(0.38,4.82)	NS
Brambilla,2015	Low	Presence of Lateral tibial plateau	Postop .	0-3months	6-12months	Author Reported - logistic regression analysis	1.46(0.42,5.06)	NS
Brambilla,2015	Low	Presence of Lateral tibial plateau	Postop .	0-3months	12-24months	Author Reported - logistic regression analysis	3.34(0.82,13.71)	NS
Brambilla,2015	Low	Presence of Lateral tibial plateau	Postop .	0-3months	24-60months	Author Reported - logistic regression analysis	2.37(0.52,10.84)	NS
Brambilla,2015	Low	Presence of Lateral tibial plateau	Postop .	0-3months	>60months	Author Reported - logistic regression analysis	4.18(0.90,19.35)	NS
Newman, 2015	High	Concomitant injury (univariate model)	Postop .	<3months	>3months	Author Reported - Univariate analysis	N/A	NS
Newman, 2015	High	Concomitant injury (multivariate model)	Postop .	<3months	>3months	Author Reported - multivariable model	N/A	NS
Newman, 2015	High	Chondral/meniscal injury	Postop .	<3months	>3months	Author Reported - chi square tests or Student t tests	4.75(14.37,)	Early Reconstruction
Newman, 2015	High	Lateral Meniscal Injury (Meniscal Injury)	Postop .	<3months	>3months	RR	0.54(0.29,1.01)	NS
Newman, 2015	High	Medial Meniscal Injury (Meniscal Injury)	Postop .	<3months	>3months	RR	0.23(0.08,0.64)	<3months
Newman, 2015	High	Femoral Condyle Injury (Chondral Injury)	Postop .	<3months	>3months	RR	0.30(0.08,1.05)	NS

Reference Title	Quality	Outcome Details	Duration	Treatment 1 (Details)	Treatment 2 (Details)	Effect Measure	Result (95% CI)	Favored Treatment
Newman, 2015	High	Tibial Plateau Injury (Chondral Injury)	Postop .	<3months	>3months	RR	0.14(0.02,1.12)	NS
Newman, 2015	High	Patella injury (Chondral Injury)	Postop .	<3months	>3months	RD	-0.04(-0.11,0.03)	NS
Newman, 2015	High	Severity of meniscal injuries-Nonsurgical tear(Severity)	Postop .	<3months	>3months	Author Reported - Kaplan-Meier time-to-event models	1.71(0.69,2.17)	NS
Newman, 2015	High	Severity of meniscal injury- Reparable tear (Severity)	Postop .	<3months	>3months	Author Reported - Kaplan-Meier time-to-event models	3.15(1.58,11.07)	NS
Newman, 2015	High	Severity of meniscal injury- Irreparable tear (Severity)	Postop .	<3months	>3months	Author Reported - Kaplan-Meier time-to-event models	10.15(2.53,33.84)	Early Reconstruction
Newman, 2015	High	Severity of chondral injury- Type I (Severity)	Postop .	<3months	>3months	Author Reported - Kaplan-Meier time-to-event models	5.95(0.66,37.13)	NS
Newman, 2015	High	Severity of chondral injury- Type II, III, IV (Severity)	Postop .	<3months	>3months	Author Reported - Kaplan-Meier time-to-event models	33.40(1.97,44.91)	Early Reconstruction
Newman, 2015	High	Concomitant injury (univariate model)	Postop .	<3months	>3months	Author Reported - Univariate analysis	N/A	NS
Newman, 2015	High	Lateral Meniscal Injury (Meniscal Injury)	Postop .	<3months	>3months	RR	0.79(0.60,1.06)	NS
Newman, 2015	High	Medial Meniscal Injury (Meniscal Injury)	Postop .	<3months	>3months	RR	0.52(0.32,0.83)	<3months
Newman, 2015	High	Femoral Condyle Injury (Chondral Injury)	Postop .	<3months	>3months	RR	0.33(0.20,0.53)	<3months
Newman, 2015	High	Tibial Plateau Injury (Chondral Injury)	Postop .	<3months	>3months	RR	0.37(0.17,0.81)	<3months
Newman, 2015	High	Patella injury (Chondral Injury)	Postop .	<3months	>3months	RR	0.65(0.20,2.15)	NS
Newman, 2015	High	Severity of meniscal injuries-Nonsurgical tear(Severity)	Postop .	<3months	>3months	Author Reported - Kaplan-Meier time-to-event models	1.15(0.89,1.48)	NS
Newman, 2015	High	Severity of meniscal injury- Reparable tear (Severity)	Postop .	<3months	>3months	Author Reported - Kaplan-Meier time-to-event models	1.69(1.28,2.23)	NS

Reference Title	Quality	Outcome Details	Duration	Treatment 1 (Details)	Treatment 2 (Details)	Effect Measure	Result (95% CI)	Favored Treatment
Newman, 2015	High	Severity of meniscal injury- Irreparable tear (Severity)	Postop .	<3months	>3months	Author Reported - Kaplan-Meier time-to-event models	2.23(1.91,3.12)	Early Reconstruction
Newman, 2015	High	Severity of chondral injury- Type I (Severity)	Postop .	<3months	>3months	Author Reported - Kaplan-Meier time-to-event models	2.94(1.48,5.03)	NS
Newman, 2015	High	Severity of chondral injury- Type II, III, IV (Severity)	Postop .	<3months	>3months	Author Reported - Kaplan-Meier time-to-event models	2.60(1.54,4.37)	NS
Anderson,2015	High	Lateral Meniscal Injury	Postop .	6-12weeks	>12weeks	Author Reported - multivariable logistic regression	2.23(0.71,7.04)	NS
Anderson,2015	High	Lateral Meniscal Grade	Postop .	6-12weeks	>12weeks	Author Reported - proportional odds model	2.82(1.05,7.59)	Early Reconstruction
Anderson,2015	High	Medial Meniscal Injury	Postop .	6-12weeks	>12weeks	Author Reported - multivariable logistic regression	3.51(0.79,15.60)	Early Reconstruction
Anderson,2015	High	Medial Meniscal Grade	Postop .	6-12weeks	>12weeks	Author Reported - proportional odds model	4.28(1.10,16.60)	NS
Anderson,2015	High	Chondral injury	Postop .	6-12weeks	>12weeks	RR	0.98(0.25,3.93)	NS
Everhart, 2019	Low	Medial Chondral Injury-Grade 2-4 defect	Postop .	<20weeks	>20weeks	Author Reported - multivariate logistic regression models	1.73(1.08,2.76)	Early Reconstruction
Everhart, 2019	Low	Medial Chondral Injury-Grade 3 or 4 defect	Postop .	<20weeks	>20weeks	Author Reported - multivariate logistic regression models	3.11(1.64,5.87)	Early Reconstruction
Everhart, 2019	Low	Medial Chondral Injury-Grade 4 defect	Postop .	<20weeks	>20weeks	Author Reported - multivariate logistic regression models	3.84(1.75,8.45)	Early Reconstruction

Table 54: PICO 6 – Surgery Timing: 3 Months – Composite

Reference Title	Quality	Outcome Details	Duration	Treatment 1 (Details)	Treatment 2 (Details)	Effect Measure	Result (95% CI)	Favored Treatment
Baba, 2019	Low	Lysholm Knee Score	2 yrs.	Earlier ACLR: between 1-3months	Later ACLR: after 3 months	Mean Difference	-0.9 (-2.47, 0.67)	NS

Table 55: PICO 6 – Surgery Timing: 3 Months – Function

Reference Title	Quality	Outcome Details	Duration	Treatment 1 (Details)	Treatment 2 (Details)	Effect Measure	Result (95% CI)	Favored Treatment
Baba, 2019	Low	Side to Side Difference (mm) (KT-1000)	2 yrs.	Earlier ACLR: between 1-3months	Later ACLR: after 3 months	Mean Difference	-0.3 (-0.79, 0.19)	NS
Baba, 2019	Low	Pivot Shift Test Grade 0/1	2 yrs.	Earlier ACLR: between 1-3months	Later ACLR: after 3 months	RR	1.03(0.96,1.10)	NS
Baba, 2019	Low	Pivot-Shift Test Grade 2/3	2 yrs.	Earlier ACLR: between 1-3months	Later ACLR: after 3 months	RR	0.51(0.10,2.72)	NS
Baba, 2019	Low	Loss of Extension > 5 deg	2 yrs.	Earlier ACLR: between 1-3months	Later ACLR: after 3 months	RR	1.37(0.32,5.91)	NS
Baba, 2019	Low	Loss of Flexion > 15 deg	2 yrs.	Earlier ACLR: between 1-3months	Later ACLR: after 3 months	RD	-0.04(-0.09,0.00)	NS
Baba, 2019	Low	IKDC (Objective) A/B	2 yrs.	Earlier ACLR: between 1-3months	Later ACLR: after 3 months	RR	1.03(0.96,1.10)	NS
Baba, 2019	Low	IKDC (Objective) C/D	2 yrs.	Earlier ACLR: between 1-3months	Later ACLR: after 3 months	RR	0.51(0.10,2.72)	NS
Baba, 2019	Low	Strength: Hamstring (% of contralateral side)	2 yrs.	Earlier ACLR: between 1-3months	Later ACLR: after 3 months	Mean Difference	2.6 (-3.82, 9.02)	NS
Baba, 2019	Low	Strength: Quadriceps (% of contralateral side)	2 yrs.	Earlier ACLR: between 1-3months	Later ACLR: after 3 months	Mean Difference	4.4 (-1.45, 10.25)	NS
Ahn, 2016	High	Postoperative Instability ((SSD > 5mm and Pivot-Shift2+))	55 mos.	Earlier ACLR: within 3 months	Later ACLR: after 3 months	Author Reported - multivariable regression	6.22(2.14,18.06)	Earlier ACLR
Rosso, 2018	Low	Pivot Shift B-C-D	44.1mos	<3months	>3 months(chronic)	Author Reported - multiple logistic regression	4.03(1.26,12.93)	NS
Rosso, 2018	Low	Lachman Test B-C-D	44.1mos	<3months	>3 months(chronic)	Author Reported - multiple logistic regression	1.22(0.35,4.22)	NS
Rosso, 2018	Low	Leg Hop Test B-C-D	44.1mos	<3months	>3 months(chronic)	Author Reported - multiple logistic regression	2.77(0.95,8.11)	NS
Phillips, 2018	Low	KOOS (Symptoms)	2 yrs.	<12 weeks to surgery	>12 weeks to surgery	Author Reported - linear regression	N/A	NS
Phillips, 2018	Low	KOOS (ADL)	2 yrs.	<12 weeks to surgery	>12 weeks to surgery	Author Reported - t-test	N/A	NS
Phillips, 2018	Low	KOOS (Sports)	2 yrs.	<12 weeks to surgery	>12 weeks to surgery	Author Reported - t-test	N/A	NS

Reference Title	Quality	Outcome Details	Duration	Treatment 1 (Details)	Treatment 2 (Details)	Effect Measure	Result (95% CI)	Favored Treatment
Phillips, 2018	Low	EQ-5D Index	2 yrs.	<12 weeks to surgery	>12 weeks to surgery	Author Reported - t-test	N/A	NS

Table 56: PICO 6 – Surgery Timing: 3 Months – Pain

Reference Title	Quality	Outcome Details	Duration	Treatment 1 (Details)	Treatment 2 (Details)	Effect Measure	Result (95% CI)	Favored Treatment
Phillips, 2018	Low	KOOS (Pain)	2 yrs.	<12 weeks to surgery	>12 weeks to surgery	Author Reported - t-test	N/A	NS
Phillips, 2018	Low	EQ-5D VAS	2 yrs.	<12 weeks to surgery	>12 weeks to surgery	Author Reported - t-test	N/A	NS

Table 57: PICO 6 – Surgery Timing: 3 Months – QOL

Reference Title	Quality	Outcome Details	Duration	Treatment 1 (Details)	Treatment 2 (Details)	Effect Measure	Result (95% CI)	Favored Treatment
Phillips, 2018	Low	KOOS (QoL)	2 yrs.	<12 weeks to surgery	>12 weeks to surgery	Author Reported - t-test	N/A	NS

Table 58: PICO 6 – Surgery Timing: 3 Months – Return to Activity

Reference Title	Quality	Outcome Details	Duration	Treatment 1 (Details)	Treatment 2 (Details)	Effect Measure	Result (95% CI)	Favored Treatment
Rosso, 2018	Low	Return to Sport	44.1mos	<3months	>3 months(chronic)	Author Reported - multiple logistic regression	3.95(0.00,0.00)	NS

Table 59: PICO 6 – Surgery Timing: 4 Months – Adverse Events

Reference Title	Quality	Outcome Details	Duration	Treatment 1 (Details)	Treatment 2 (Details)	Effect Measure	Result (95% CI)	Favored Treatment
Antosh, 2018	Low	Lateral Meniscal Injury	Postop .	<4months	>5 months:>=5months	Author Reported - Multivariate logistic regression	1.90(1.10,3.40)	surgery<5months

Table 60: PICO 6 – Surgery Timing: 5 Months – Adverse Events

Reference Title	Quality	Outcome Details	Duration	Treatment 1 (Details)	Treatment 2 (Details)	Effect Measure	Result (95% CI)	Favored Treatment
Karikis, 2018	Low	Medial Meniscus Injury	Intraop .	Earlier ACLR: within 5 months	Later ACLR: after 2 years	RR	0.40(0.16,0.98)	Earlier ACLR
Karikis, 2018	Low	Lateral Meniscus Injury	Intraop .	Earlier ACLR: within 5 months	Later ACLR: after 2 years	RR	3.10(0.93,10.36)	NS
Karikis, 2018	Low	Bilateral Meniscus Injury	Intraop .	Earlier ACLR: within 5 months	Later ACLR: after 2 years	RR	0.52(0.10,2.61)	NS

Table 61: PICO 6 – Surgery Timing: 5 Months – Composite

Reference Title	Quality	Outcome Details	Duration	Treatment 1 (Details)	Treatment 2 (Details)	Effect Measure	Result (95% CI)	Favored Treatment
Karikis, 2018	Low	Lysholm Knee Score	10 yrs.	Earlier ACLR: within 5 months	Later ACLR: after 2 years	Mean Difference	8.9 (1.24, 16.56)	Earlier ACLR

Table 62: PICO 6 – Surgery Timing: 5 Months – Function

Reference Title	Quality	Outcome Details	Duration	Treatment 1 (Details)	Treatment 2 (Details)	Effect Measure	Result (95% CI)	Favored Treatment
Karikis, 2018	Low	Tegner Activity Scale	10 yrs.	Earlier ACLR: within 5 months	Later ACLR: after 2 years	Mean Difference	-0.2 (-1.16, 0.76)	NS
Karikis, 2018	Low	One Leg Hop Test (% of contralateral side)	10 yrs.	Earlier ACLR: within 5 months	Later ACLR: after 2 years	Mean Difference	6.6 (-0.57, 13.77)	NS
Karikis, 2018	Low	ROM: Extension (side to side difference)	10 yrs.	Earlier ACLR: within 5 months	Later ACLR: after 2 years	Mean Difference	1 (-1.01, 3.01)	NS
Karikis, 2018	Low	ROM: Flexion (side to side difference)	10 yrs.	Earlier ACLR: within 5 months	Later ACLR: after 2 years	Mean Difference	0 (-3.73, 3.73)	NS
Karikis, 2018	Low	KOOS (Symptoms)	10 yrs.	Earlier ACLR: within 5 months	Later ACLR: after 2 years	Mean Difference	6 (-2.17, 14.17)	NS
Karikis, 2018	Low	KOOS (ADL)	10 yrs.	Earlier ACLR: within 5 months	Later ACLR: after 2 years	Mean Difference	3 (-4.92, 10.92)	NS
Karikis, 2018	Low	KOOS (Sports)	10 yrs.	Earlier ACLR: within 5 months	Later ACLR: after 2 years	Mean Difference	6 (-8.35, 20.35)	NS
Karikis, 2018	Low	Knee Laxity Side to Side Difference (mm)	10 yrs.	Earlier ACLR: within 5 months	Later ACLR: after 2 years	Mean Difference	-0.3 (-1.40, 0.80)	NS
Karikis, 2018	Low	Lachman Test Grade 0/1	10 yrs.	Earlier ACLR: within 5 months	Later ACLR: after 2 years	RR	0.95(0.79,1.13)	NS
Karikis, 2018	Low	Lachman Test Grade 2/3	10 yrs.	Earlier ACLR: within 5 months	Later ACLR: after 2 years	RR	1.68(0.31,9.25)	NS
Karikis, 2018	Low	Pivot Shift Test Grade 0/1	10 yrs.	Earlier ACLR: within 5 months	Later ACLR: after 2 years	RR	1.03(0.87,1.22)	NS
Karikis, 2018	Low	Pivot-Shift Test Grade 2/3	10 yrs.	Earlier ACLR: within 5 months	Later ACLR: after 2 years	RR	0.75(0.14,4.11)	NS

Table 63: PICO 6 – Surgery Timing: 5 Months – OA Progression

Reference Title	Quality	Outcome Details	Duration	Treatment 1 (Details)	Treatment 2 (Details)	Effect Measure	Result (95% CI)	Favored Treatment
Karikis, 2018	Low	OA Progression (KL)	10 yrs.	Earlier ACLR: within 5 months	Later ACLR: after 2 years	Author Reported - chi sq	N/A	NS

Table 64: PICO 6 – Surgery Timing: 5 Months – Other

Reference Title	Quality	Outcome Details	Duration	Treatment 1 (Details)	Treatment 2 (Details)	Effect Measure	Result (95% CI)	Favored Treatment
Naraoka,2017	Low	Total maturation Score (including the Anteromedial and Posterolateral bundles of each tunnel)	24 mos.	<20weeks:ACLR with remnant preservation	>20weeks:ACLR with remnant preservation	Author Reported - Pearson correlation coefficients	N/A	NS
Naraoka,2017	Low	Total integration Score (including the Anteromedial and Posterolateral bundles of each tunnel)	24 mos.	<20weeks:ACLR with remnant preservation	>20weeks:ACLR with remnant preservation	Author Reported - Pearson correlation coefficients	N/A	NS
Naraoka,2017	Low	Total maturation Score (including the Anteromedial and Posterolateral bundles of each tunnel)	24 mos.	<20weeks:ACLR without remnant preservation	>20weeks:ACLR without remnant preservation	Author Reported - Pearson correlation coefficients	N/A	NS
Naraoka,2017	Low	Total integration Score (including the Anteromedial and Posterolateral bundles of each tunnel)	24 mos.	<20weeks:ACLR without remnant preservation	>20weeks:ACLR without remnant preservation	Author Reported - Pearson correlation coefficients	N/A	NS

Table 65: PICO 6 – Surgery Timing: 5 Months – Pain

Reference Title	Quality	Outcome Details	Duration	Treatment 1 (Details)	Treatment 2 (Details)	Effect Measure	Result (95% CI)	Favored Treatment
Karikis, 2018	Low	KOOS (Pain)	10 yrs.	Earlier ACLR: within 5 months	Later ACLR: after 2 years	Mean Difference	4 (-4.19, 12.19)	NS

Table 66: PICO 6 – Surgery Timing: 5 Months – QOL

Reference Title	Quality	Outcome Details	Duration	Treatment 1 (Details)	Treatment 2 (Details)	Effect Measure	Result (95% CI)	Favored Treatment
Karikis, 2018	Low	KOOs (QoL)	10 yrs.	Earlier ACLR: within 5 months	Later ACLR: after 2 years	Mean Difference	14 (2.93, 25.07)	Earlier ACLR

Table 67: PICO 6 – Surgery Timing: 6 Months – Adverse Events

Reference Title	Quality	Outcome Details	Duration	Treatment 1 (Details)	Treatment 2 (Details)	Effect Measure	Result (95% CI)	Favored Treatment
Yabroudi, 2016	Low	Revision ACL Surgery	3.4 yrs.	Early (<6 mo.)	Delayed (6+mo)	Author Reported - Univariate logistic regression	0.27(0.04,2.08)	NS
Andernord,2014	High	Revision ACL Surgery	2 yrs.	< 6 mo. after injury: HS Autograft	6+ mo. after injury: HS Autograft	Author Reported - multivariate analysis	1.71(0.61,4.75)	NS
Andernord,2014	High	Revision ACL Surgery	2 yrs.	< 6 mo. after injury: PT Autograft	6+ mo. after injury: PT Autograft	Author Reported - multivariate analysis	1.21(0.43,3.38)	NS
Stone, 2019	Low	Medial Meniscus Injury (at primary ACLR)	Intraop .	Earlier ACLR: within 180 days	Later ACLR: after 180 days	Author Reported - multivariable logistic regression	1.47(0.77,2.79)	NS
Stone, 2019	Low	Lateral Meniscus Injury (at primary ACLR)	Intraop .	Earlier ACLR: within 180 days	Later ACLR: after 180 days	Author Reported - multivariable logistic regression	1.37(0.74,2.54)	NS
Stone, 2019	Low	Chondral Injury - Medial Compartment (at primary ACLR)	Intraop .	Earlier ACLR: within 180 days	Later ACLR: after 180 days	Author Reported - multivariable logistic regression	1.43(0.72,2.82)	NS
Stone, 2019	Low	Chondral Injury - Lateral Compartment (at primary ACLR)	Intraop .	Earlier ACLR: within 180 days	Later ACLR: after 180 days	Author Reported - multivariable logistic regression	1.02(0.51,2.02)	NS
Stone, 2019	Low	Chondral Injury - Patellofemoral (at primary ACLR)	Intraop .	Earlier ACLR: within 180 days	Later ACLR: after 180 days	Author Reported - multivariable logistic regression	1.54(0.80,2.96)	NS
Antosh, 2018	Low	Medial Meniscal Injury	Postop .	<6months	>7 months:>=7months	Author Reported - Multivariate logistic regression	4.10(2.30,7.20)	surgery<6months
Antosh, 2018	Low	Chondral Lesion	Postop .	<6months	>6 months:>=6months	Author Reported - Multivariate logistic regression	2.90(1.60,5.20)	surgery<6months
Snaebjornsson,2019	High	Revision ACL Surgery (Incidence)	2 yrs.	<6months	>6months	Author Reported - Generalized linear models with a binomial distribution and log-link function adjusted by multivariable analysis	2.49(2.01,3.08)	Delayed ACL Reconstruction
Krutsch, 2017	Low	No Articular Cartilage lesion	Postop .	<6months	7-12months	RR	0.48(0.10,2.26)	NS
Krutsch, 2017	Low	Articular Cartilage lesion; ICRS Grade I	Postop .	<6months	7-12months	RR	0.96(0.22,4.07)	NS

Reference Title	Quality	Outcome Details	Duration	Treatment 1 (Details)	Treatment 2 (Details)	Effect Measure	Result (95% CI)	Favored Treatment
Krutsch, 2017	Low	Articular Cartilage lesion; ICRS Grade II	Postop .	<6months	7-12months	RR	0.99(0.92,1.06)	NS
Krutsch, 2017	Low	Articular Cartilage lesion; ICRS Grade III	Postop .	<6months	7-12months	RR	1.09(0.65,1.81)	NS
Krutsch, 2017	Low	Articular Cartilage lesion; ICRS Grade IV	Postop .	<6months	7-12months	RR	0.88(0.20,3.77)	NS
Krutsch, 2017	Low	No Medial meniscus lesion	Postop .	<6months	7-12months	RR	1.14(0.81,1.61)	NS
Krutsch, 2017	Low	Medial meniscus lesion; Meniscus repair	Postop .	<6months	7-12months	RR	1.39(0.70,2.76)	NS
Krutsch, 2017	Low	Medial meniscus lesion; Meniscus resection	Postop .	<6months	7-12months	RR	0.36(0.17,0.75)	<6months
Krutsch, 2017	Low	No Lateral meniscus lesion	Postop .	<6months	7-12months	RR	0.96(0.77,1.19)	NS
Krutsch, 2017	Low	Lateral meniscus lesion; Meniscus repair	Postop .	<6months	7-12months	RR	3.82(0.54,27.27)	NS
Krutsch, 2017	Low	Lateral meniscus lesion; Meniscus resection	Postop .	<6months	7-12months	RR	0.75(0.36,1.55)	NS
Everhart, 2019	Low	Lateral grade 3 or 4 chondral injury	Postop .	<5months	>5months	Author Reported - logistic regression	0.94(0.43,2.00)	NS
Gupta, 2016	Low	Medial Meniscal Injury	Postop .	<6 months	>6 months	Author Reported - multivariate/multiple binary logistic regression	N/A	NS
Gupta, 2016	Low	Lateral Meniscal Injury	Postop .	<6 months	>6 months	Author Reported - multivariate/multiple binary logistic regression	N/A	NS
Gupta, 2016	Low	Articular cartilage damage- Lateral femoral condyle	Postop .	<6 months	>6 months	Author Reported - multivariate/multiple binary logistic regression	N/A	NS
Gupta, 2016	Low	Articular cartilage damage- Medial femoral condyle	Postop .	<6 months	>6 months	Author Reported - multivariate/multiple binary logistic regression	N/A	NS

Reference Title	Quality	Outcome Details	Duration	Treatment 1 (Details)	Treatment 2 (Details)	Effect Measure	Result (95% CI)	Favored Treatment
Gupta, 2016	Low	Combined meniscal and articular cartilage damage-Lateral injuries	Postop .	<6 months	>6 months	Author Reported - multivariate/multiple binary logistic regression	N/A	NS

Table 68: PICO 6 – Surgery Timing: 6 Months – Function

Reference Title	Quality	Outcome Details	Duration	Treatment 1 (Details)	Treatment 2 (Details)	Effect Measure	Result (95% CI)	Favored Treatment
Antosh, 2018	Low	Tegner Activity Scale	Postop .	<6months:<=6months	>6 months	Mean Difference	1 (-1.83, 3.83)	NS
Filbay, 2017	High	HADS Depression	9 yrs.	<6months	>6months	Author Reported - standard linear multiple regression analysis	0.68(-0.20,1.60)	NS
Filbay, 2017	High	HADS anxiety	9 yrs.	<6months	>6months	Author Reported - standard linear multiple regression analysis	0.29(-1.10,1.60)	NS
Filbay, 2017	High	AQOL -8D	9 yrs.	<6months	>6months	Author Reported - standard linear multiple regression analysis	-0.03(-0.10,0.00)	NS

Table 69: PICO 6 – Surgery Timing: 6 Months – OA Progression

Reference Title	Quality	Outcome Details	Duration	Treatment 1 (Details)	Treatment 2 (Details)	Effect Measure	Result (95% CI)	Favored Treatment
Barenius 2014	Moderate	Osteoarthritis - Medial (%)	14 yrs.	< 6 mo. after injury	6+ mo. after injury	Author Reported - logistic regression	0.70(0.37,1.52)	NS
Barenius 2014	Moderate	Osteoarthritis - Lateral (%)	14 yrs.	< 6 mo. after injury	6+ mo. after injury	Author Reported - logistic regression	1.00(0.42,2.27)	NS
Barenius 2014	Moderate	Osteoarthritis - Patellofemoral (%)	14 yrs.	< 6 mo. after injury	6+ mo. after injury	Author Reported - logistic regression	0.90(0.38,1.98)	NS

Table 70: PICO 6 – Surgery Timing: 6 Months – QOL

Reference Title	Quality	Outcome Details	Duration	Treatment 1 (Details)	Treatment 2 (Details)	Effect Measure	Result (95% CI)	Favored Treatment
Filbay, 2017	High	KOOS-QOL	9 yrs.	<6months	>6months	Author Reported - standard linear multiple regression analysis	-4.40(-11.10,2.20)	NS
Filbay, 2017	High	ACL-QOL	9 yrs.	<6months	>6months	Author Reported - standard linear multiple regression analysis	-6.20(-12.70,0.30)	NS

Table 71: PICO 6 – Surgery Timing: 1 Year – Adverse Events

Reference Title	Quality	Outcome Details	Duration	Treatment 1 (Details)	Treatment 2 (Details)	Effect Measure	Result (95% CI)	Favored Treatment
Andernord,2014	High	Revision ACL Surgery	2 yrs.	< 1 yr. after injury: HS Autograft	1+ yr. after injury: HS Autograft	Author Reported - multivariate analysis	1.95(0.44,8.56)	NS
Andernord,2014	High	Revision ACL Surgery	2 yrs.	< 1 yr. after injury: PT Autograft	1+ yr. after injury: PT Autograft	Author Reported - multivariate analysis	1.02(0.37,2.85)	NS
Stone, 2019	Low	Medial Meniscus Injury (at primary ACLR)	Intraop .	Earlier ACLR: within 1 year	Later ACLR: after 1 year	Author Reported - multivariable logistic regression	3.47(1.55,7.77)	Earlier ACLR
Stone, 2019	Low	Lateral Meniscus Injury (at primary ACLR)	Intraop .	Earlier ACLR: within 1 year	Later ACLR: after 1 year	Author Reported - multivariable logistic regression	1.08(0.53,2.16)	NS
Stone, 2019	Low	Chondral Injury - Medial Compartment (at primary ACLR)	Intraop .	Earlier ACLR: within 1 year	Later ACLR: after 1 year	Author Reported - multivariable logistic regression	1.19(0.54,2.56)	NS
Stone, 2019	Low	Chondral Injury - Lateral Compartment (at primary ACLR)	Intraop .	Earlier ACLR: within 1 year	Later ACLR: after 1 year	Author Reported - multivariable logistic regression	0.68(0.30,1.53)	NS
Stone, 2019	Low	Chondral Injury - Patellofemoral (at primary ACLR)	Intraop .	Earlier ACLR: within 1 year	Later ACLR: after 1 year	Author Reported - multivariable logistic regression	1.49(0.70,3.12)	NS
Snaebjornsson,2019	High	Revision ACL Surgery (Incidence)	2 yrs.	<1yr	>1yr	Author Reported - Generalized linear models with a binomial distribution and log-link function adjusted by multivariable analysis	2.13(1.60,2.83)	Delayed ACL Reconstruction
Chen, 2019	Low	Incidence of medial meniscal tears	Postop .	<12months	>12months	Author Reported - chi-squared test	2.82(.,.)	Early Reconstruction
Chen, 2019	Low	Incidence of lateral meniscal tears	Postop .	<12months	>12months	RR	0.78(0.46,1.33)	NS
Chen, 2019	Low	MMT Pattern- Flap tear	Postop .	<12months	>12months	RR	0.40(0.17,0.96)	<12months
Chen, 2019	Low	MMT Pattern- longitudinal tear	Postop .	<12months	>12months	RR	1.11(0.40,3.10)	NS
Chen, 2019	Low	MMT Pattern- Bucket Handle tear	Postop .	<12months	>12months	RR	0.43(0.17,1.09)	NS
Chen, 2019	Low	MMT Pattern- Root tear	Postop .	<12months	>12months	RD	0.02(0.00,0.04)	>12months

Reference Title	Quality	Outcome Details	Duration	Treatment 1 (Details)	Treatment 2 (Details)	Effect Measure	Result (95% CI)	Favored Treatment
Chen, 2019	Low	MMT Pattern- Radial tear	Postop .	<12months	>12months	RR	0.23(0.01,3.67)	NS
Chen, 2019	Low	MMT Pattern- Horizontal tear	Postop .	<12months	>12months	RR	0.23(0.06,0.90)	<12months
Chen, 2019	Low	MMT Pattern- Discoid tear	Postop .	<12months	>12months	RD	0.00(0.00,0.00)	NS
Chen, 2019	Low	LMT Pattern- Flap tear	Postop .	<12months	>12months	RR	0.49(0.14,1.67)	NS
Chen, 2019	Low	LMT Pattern- longitudinal tear	Postop .	<12months	>12months	RR	0.88(0.39,2.00)	NS
Chen, 2019	Low	LMT Pattern- Bucket Handle tear	Postop .	<12months	>12months	RR	0.65(0.06,7.04)	NS
Chen, 2019	Low	LMT Pattern- Root tear	Postop .	<12months	>12months	RR	0.97(0.20,4.71)	NS
Chen, 2019	Low	LMT Pattern- Radial tear	Postop .	<12months	>12months	RR	0.32(0.02,5.12)	NS
Chen, 2019	Low	LMT Pattern- Horizontal tear	Postop .	<12months	>12months	RD	0.01(-0.00,0.02)	NS
Chen, 2019	Low	LMT Pattern- Discoid tear	Postop .	<12months	>12months	RD	0.00(0.00,0.00)	NS
Brambilla,2015	Low	intra-articular lesion	Postop .	<12months	>12months	Author Reported - logistic regression analysis	1.99(1.40,2.82)	
Brambilla,2015	Low	Medial Meniscal Injury	Postop .	<12months	>12months	Author Reported - logistic regression analysis	1.81(1.32,2.48)	
Brambilla,2015	Low	Lateral Meniscal Injury	Postop .	<12months	>12months	Author Reported - logistic regression analysis	1.18(0.85,1.65)	NS
Brambilla,2015	Low	Presence of Medial Femoral condyle	Postop .	<12months	>12months	Author Reported - logistic regression analysis	2.35(1.50,3.68)	
Brambilla,2015	Low	Presence of Lateral Femoral condyle	Postop .	<12months	>12months	Author Reported - logistic regression analysis	2.39(1.16,4.96)	
Brambilla,2015	Low	Presence of Lateral tibial plateau	Postop .	<12months	>12months	Author Reported - logistic regression analysis	2.45(1.10,5.44)	
Cheecharern,2018	Low	Medial Meniscal Injury	Postop .	<12months	>12months	RR	0.72(0.56,0.92)	<12months
Cheecharern,2018	Low	Lateral Meniscal Injury	Postop .	<12months	>12months	RR	1.17(0.70,1.95)	NS

Table 72: PICO 6 – Surgery Timing: 1 Year – Composite

Reference Title	Quality	Outcome Details	Duration	Treatment 1 (Details)	Treatment 2 (Details)	Effect Measure	Result (95% CI)	Favored Treatment
HarmonSenorski, 2018	Low	KOOS	10 yrs.	0-12 mo.	12+ mo.	Author Reported - Univariate Proportional Odds Regression	N/A	NS

Table 73: PICO 6 – Surgery Timing: 1 Year – Function

Reference Title	Quality	Outcome Details	Duration	Treatment 1 (Details)	Treatment 2 (Details)	Effect Measure	Result (95% CI)	Favored Treatment
Senorski, 2019	Low	IKDC ? 75.9 ("PASS" Threshold)	16.4 yrs.	0-12 months	> 12 months	Author Reported - univariate logistic regression	0.78(0.38,1.63)	NS
Senorski, 2019	Low	OA (KL > 2) ("PASS" Threshold)	16.4 yrs.	0-12 months	> 12 months	Author Reported - univariate logistic regression	2.49(1.16,5.32)	Delayed Surgery

Table 74: PICO 6 – Surgery Timing: 1 Year – OA Progression

Reference Title	Quality	Outcome Details	Duration	Treatment 1 (Details)	Treatment 2 (Details)	Effect Measure	Result (95% CI)	Favored Treatment
Barenius 2014	Moderate	Osteoarthritis - Medial (%)	14 yrs.	< 1 yr. after injury	1+ yr. after injury	Author Reported - logistic regression	0.80(0.38,1.67)	NS
Barenius 2014	Moderate	Osteoarthritis - Lateral (%)	14 yrs.	< 1 yr. after injury	1+ yr. after injury	Author Reported - logistic regression	1.50(0.60,3.65)	NS
Barenius 2014	Moderate	Osteoarthritis - Patellofemoral (%)	14 yrs.	< 1 yr. after injury	1+ yr. after injury	Author Reported - logistic regression	1.10(0.48,2.61)	NS

Table 75: PICO 6 – Surgery Timing: 2 Years – Adverse Events

Reference Title	Quality	Outcome Details	Duration	Treatment 1 (Details)	Treatment 2 (Details)	Effect Measure	Result (95% CI)	Favored Treatment
Andernord,2014	High	Revision ACL Surgery	2 yrs.	< 2 yr. after injury: HS Autograft	2+ yr. after injury: HS Autograft	Author Reported - multivariate analysis	1.64(0.22,12.29)	NS
Andernord,2014	High	Revision ACL Surgery	2 yrs.	< 2 yr. after injury: PT Autograft	2+ yr. after injury: PT Autograft	Author Reported - multivariate analysis	7.81(0.47,130.03)	NS
Lindanger,2019	Low	Contralateral ACL Rupture / Failure	2 yrs.	Earlier ACLR: <24 mo.	Later ACLR:24+ mo.	RR	1.85(0.97,3.55)	NS
Lindanger,2019	Low	Knee Replacement Surgery	2 yrs.	Earlier ACLR: <24 mo.	Later ACLR:24+ mo.	RR	0.24(0.06,0.90)	Earlier ACLR
Lindanger,2019	Low	Medial Meniscus Injury (at primary ACLR)	Intraop .	Earlier ACLR: <24 mo.	Later ACLR:24+ mo.	RR	0.49(0.36,0.67)	Earlier ACLR
Lindanger,2019	Low	Lateral Meniscus Injury (at primary ACLR)	Intraop .	Earlier ACLR: <24 mo.	Later ACLR:24+ mo.	RR	1.39(0.94,2.07)	NS
Lindanger,2019	Low	Cartilage Injury	Intraop .	Earlier ACLR: <24 mo.	Later ACLR:24+ mo.	RR	0.35(0.23,0.53)	Earlier ACLR
Snaebjornsson,2019	High	Revision ACL Surgery (Incidence)	2 yrs.	<2yrs	>2yrs	Author Reported - Generalized linear models with a binomial distribution and log-link function adjusted by multivariable analysis	1.98(1.29,3.06)	Delayed ACL Reconstruction

Table 76: PICO 6 – Surgery Timing: 2 Years – Return to Activity

Reference Title	Quality	Outcome Details	Duration	Treatment 1 (Details)	Treatment 2 (Details)	Effect Measure	Result (95% CI)	Favored Treatment
Lindanger,2019	Low	Return to Sport	2 yrs.	Earlier ACLR: <24 mo.	Later ACLR:24+ mo.	RR	1.53(1.23,1.89)	Earlier ACLR
Lindanger,2019	Low	Return to Preinjury Quality of Exercise	2 yrs.	Earlier ACLR: <24 mo.	Later ACLR:24+ mo.	RR	1.89(1.28,2.78)	Earlier ACLR
Lindanger,2019	Low	Return to Competitive Level of Sport	2 yrs.	Earlier ACLR: <24 mo.	Later ACLR:24+ mo.	RR	1.85(1.37,2.50)	Earlier ACLR

Table 77: PICO 7 – Single Bundle vs. Double Bundle – Adverse Events

Reference Title	Quality	Outcome Details	Duration	Treatment 1 (Details)	Treatment 2 (Details)	Effect Measure	Result (95% CI)	Favored Treatment
Mohtadi,2019	High	Graft Rupture / Failure	5 yrs.	Hamstring (quadrupled ST- bundle)	Hamstring (2 strand ST, 2 strand bundle)	RR	0.96(0.51,1.80)	NS
Mohtadi,2019	High	Contralateral ACL Rupture /Failure	5 yrs.	Hamstring (quadrupled ST- bundle)	Hamstring (2 strand ST, 2 strand bundle)	RR	1.02(0.42,2.47)	NS
Mohtadi,2016	High	Graft Rupture / Failure	2 yrs.	Hamstring (quadrupled ST- bundle)	Hamstring (2 strand ST, 2 strand bundle)	RR	1.03(0.87,1.21)	NS
Mohtadi,2016	High	Contralateral ACL Rupture /Failure	2 yrs.	Hamstring (quadrupled ST- bundle)	Hamstring (2 strand ST, 2 strand bundle)	RR	1.20(0.38,3.82)	NS
Jarvela,2017	High	Graft Rupture / Failure	Postop .	Single Bundle reconstruction with bioabsorbable screw: SBB with Bioabsorbable screw	Double Bundle: Double-Bundle reconstruction with bioabsorbable screw	RR	5.83(0.77,44.28)	NS
Jarvela,2017	High	Graft Rupture / Failure	Postop .	Single Bundle reconstruction with metallic screw: SBM with Bioabsorbable screw	Double Bundle: Double-Bundle reconstruction with bioabsorbable screw	RR	2.88(0.32,25.92)	NS
Sasaki, 2016	High	Meniscus Injury	Postop .	Rectangular-tunnel Single Bundle Patellar Tendon: “RTSB-PT"	Double Bundle Hamstring Tendon graft: "DB-HT"	RR	1.23(0.92,1.65)	NS
Sasaki, 2016	High	Ipsilateral Injury (Secondary ACL injury)	Postop .	Rectangular-tunnel Single Bundle Patellar Tendon: “RTSB-PT"	Double Bundle Hamstring Tendon graft: "DB-HT"	RR	0.61(0.15,2.45)	NS
Sasaki, 2016	High	Contralateral ACL Rupture /Failure (Secondary ACL injury)	Postop .	Rectangular-tunnel Single Bundle Patellar Tendon: “RTSB-PT"	Double Bundle Hamstring Tendon graft: "DB-HT"	RR	0.51(0.10,2.68)	NS
Koga, 2015	Moderate	Graft Rupture / Failure	Postop .	Single Bundle	Double Bundle	RR	2.57(0.25,26.48)	NS
Koga, 2015	Moderate	Contralateral ACL Rupture /Failure	Postop .	Single Bundle	Double Bundle	RD	0.10(-0.03,0.22)	NS

Table 78: PICO 7 – Single Bundle vs. Double Bundle – Composite

Reference Title	Quality	Outcome Details	Duration	Treatment 1 (Details)	Treatment 2 (Details)	Effect Measure	Result (95% CI)	Favored Treatment
Sun, 2015	High	Lysholm Knee Score	36 mos.	Tibialis Anterior (single bundle)	Tibialis Anterior(double bundle)	Mean Difference	-1 (-2.05, 0.05)	NS
Kang, 2015	High	Lysholm Knee Score	31 mos.	BPTB (single bundle):Allograft	Tibialis Anterior(double bundle):Allograft	Mean Difference	-0.8 (-2.90, 1.30)	NS
Yang, 2017	High	Lysholm Knee Score	38 mos.	STG (single bundle)	STG (double bundle)	Mean Difference	2.18 (0.68, 3.68)	STG(single bundle)
Komzak,2018	Moderate	Lysholm Knee Score	24 mos.	Hamstring (single bundle)	Hamstring (double bundle)	Mean Difference	-8.2 (-12.89, -3.51)	Hamstring(double bundle)
Beyaz, 2017	High	Lysholm Knee Score	8 yrs.	Single Bundle: "SB"	Double Bundle: "DB"	Mean Difference	0.51 (-4.28, 5.30)	NS
Jarvela,2017	High	Lysholm Knee Score	10 yrs.	Single Bundle reconstruction with bioabsorbable screw: SBB with Bioabsorbable screw	Double Bundle: Double-Bundle reconstruction with bioabsorbable screw	Mean Difference	1 (-3.00, 5.00)	NS
Jarvela,2017	High	Lysholm Knee Score	10 yrs.	Single Bundle reconstruction with metallic screw: SBM with Bioabsorbable screw	Double Bundle: Double-Bundle reconstruction with bioabsorbable screw	Mean Difference	-2 (-6.30, 2.30)	NS
Adravanti,2017	High	Lysholm Knee Score	6 yrs.	Single Bundle	Double Bundle	Mean Difference	-2.2 (-11.25, 6.85)	NS
Koga, 2015	Moderate	Lysholm Knee Score	69.5mos	Single Bundle	Double Bundle	Mean Difference	-2.3 (-5.71, 1.11)	NS
Liu, 2016	High	Lysholm Knee Score	80 mos.	Single Bundle	Double Bundle	Mean Difference	0.3 (-6.00, 6.60)	NS
Karikis, 2016	High	Lysholm Knee Score	5 yrs.	Single Bundle	Double Bundle	Mean Difference	-5.8 (-12.80, 1.20)	NS

Table 79: PICO 7 – Single Bundle vs. Double Bundle – Function

Reference Title	Quality	Outcome Details	Duration	Treatment 1 (Details)	Treatment 2 (Details)	Effect Measure	Result (95% CI)	Favored Treatment
Mohtadi,2019	High	Pivot-Shift Test Grade 0/1	2 yrs.	Hamstring (quadrupled ST-bundle)	Hamstring (2 strand ST, 2 strand bundle)	RR	1.01(0.88,1.14)	NS
Mohtadi,2019	High	Pivot-Shift Test Grade 2/3	2 yrs.	Hamstring (quadrupled ST-bundle)	Hamstring (2 strand ST, 2 strand bundle)	RR	0.98(0.55,1.72)	NS
Mohtadi,2019	High	Pivot-Shift Test Grade 0/1	5 yrs.	Hamstring (quadrupled ST-bundle)	Hamstring (2 strand ST, 2 strand bundle)	RR	1.08(0.94,1.24)	NS
Mohtadi,2019	High	Pivot-Shift Test Grade 2/3	5 yrs.	Hamstring (quadrupled ST-bundle)	Hamstring (2 strand ST, 2 strand bundle)	RR	0.72(0.41,1.29)	NS
Mohtadi,2019	High	IKDC (Objective) A/B	2 yrs.	Hamstring (quadrupled ST-bundle)	Hamstring (2 strand ST, 2 strand bundle)	RR	1.02(0.85,1.21)	NS
Mohtadi,2019	High	IKDC (Objective) C/D	2 yrs.	Hamstring (quadrupled ST-bundle)	Hamstring (2 strand ST, 2 strand bundle)	RR	0.96(0.63,1.47)	NS
Mohtadi,2019	High	IKDC (Objective) A/B	2 yrs.	Hamstring (quadrupled ST-bundle)	Hamstring (2 strand ST, 2 strand bundle)	RR	1.08(0.93,1.27)	NS
Mohtadi,2019	High	IKDC (Objective) C/D	2 yrs.	Hamstring (quadrupled ST-bundle)	Hamstring (2 strand ST, 2 strand bundle)	RR	0.79(0.49,1.26)	NS
Mohtadi,2019	High	IKDC Subjective Score	2 yrs.	Hamstring (quadrupled ST-bundle)	Hamstring (2 strand ST, 2 strand bundle)	Mean Difference	1.1 (-2.04, 4.24)	NS
Mohtadi,2019	High	IKDC Subjective Score	5 yrs.	Hamstring (quadrupled ST-bundle)	Hamstring (2 strand ST, 2 strand bundle)	Mean Difference	0.9 (-2.65, 4.45)	NS
Mohtadi,2019	High	ROM: Passive Extension Deficit>3°	5 yrs.	Hamstring (quadrupled ST-bundle)	Hamstring (2 strand ST, 2 strand bundle)	RD	0.00(0.00,0.00)	NS
Mohtadi,2019	High	ROM: Flexion (°) (Passive flexion)	5 yrs.	Hamstring (quadrupled ST-bundle)	Hamstring (2 strand ST, 2 strand bundle)	Mean Difference	1.3 (-0.85, 3.45)	NS
Mohtadi,2019	High	Single Leg Hop Test ((% of non-op side))	5 yrs.	Hamstring (quadrupled ST-bundle)	Hamstring (2 strand ST, 2 strand bundle)	Mean Difference	-0.6 (-70.77, 69.57)	NS
Mohtadi,2019	High	Cincinnati Occupational Rating	5 yrs.	Hamstring (quadrupled ST-bundle)	Hamstring (2 strand ST, 2 strand bundle)	Mean Difference	-1.2 (-7.66, 5.26)	NS
Mohtadi,2019	High	Tegner Activity Scale (5+)	2 yrs.	Hamstring (quadrupled ST-bundle)	Hamstring (2 strand ST, 2 strand bundle)	RR	0.97(0.85,1.10)	NS

Reference Title	Quality	Outcome Details	Duration	Treatment 1 (Details)	Treatment 2 (Details)	Effect Measure	Result (95% CI)	Favored Treatment
Mohtadi,2019	High	Tegner Activity Scale (5+)	5 yrs.	Hamstring (quadrupled ST-bundle)	Hamstring (2 strand ST, 2 strand bundle)	RR	1.00(0.87,1.14)	NS
Mohtadi,2015	High	Side to Side Difference (mm)(KT-1000)	2 yrs.	Hamstring (quadrupled ST-bundle)	Hamstring (2 strand ST, 2 strand bundle)	Mean Difference	0.3 (-0.31, 0.91)	NS
Mohtadi,2015	High	ROM: Passive Extension Deficit>3°	2 yrs.	Hamstring (quadrupled ST-bundle)	Hamstring (2 strand ST, 2 strand bundle)	RR	0.73(0.24,2.24)	NS
Mohtadi,2015	High	ROM: Passive Flexion (°)	2 yrs.	Hamstring (quadrupled ST-bundle)	Hamstring (2 strand ST, 2 strand bundle)	Mean Difference	0.9 (-0.75, 2.55)	NS
Mohtadi,2015	High	Cincinnati Occupational Rating	2 yrs.	Hamstring (quadrupled ST-bundle)	Hamstring (2 strand ST, 2 strand bundle)	Mean Difference	-3.6 (-9.58, 2.38)	NS
Mohtadi,2015	High	Tegner Activity Scale	2 yrs.	Hamstring (quadrupled ST-bundle)	Hamstring (2 strand ST, 2 strand bundle)	Mean Difference	0 (-0.52, 0.52)	NS
Mohtadi,2015	High	Single Leg Hop Test ((% of non-op side))	2 yrs.	Hamstring (quadrupled ST-bundle)	Hamstring (2 strand ST, 2 strand bundle)	Mean Difference	1.9 (-3.90, 7.70)	NS
Sun, 2015	High	Side to Side Difference (mm)(KT-1000)	36 mos.	Tibialis Anterior (single bundle)	Tibialis Anterior(double bundle)	Author Reported -unclear	N/A	NS
Sun, 2015	High	Pivot-Shift Test Grade 0	36 mos.	Tibialis Anterior (single bundle)	Tibialis Anterior(double bundle)	RR	0.82(0.72,0.93)	Tibialis Anterior(double bundle)
Sun, 2015	High	IKDC Subjective Score	36 mos.	Tibialis Anterior (single bundle)	Tibialis Anterior(double bundle)	Mean Difference	-1 (-1.99, -0.01)	Tibialis Anterior(double bundle)
Sun, 2015	High	IKDC (Objective) A/B	36 mos.	Tibialis Anterior (single bundle)	Tibialis Anterior(double bundle)	RR	1.00(0.95,1.05)	NS
Sun, 2015	High	IKDC (Objective) C/D	36 mos.	Tibialis Anterior (single bundle)	Tibialis Anterior(double bundle)	RR	1.05(0.36,3.05)	NS
Kang, 2015	High	Lachman Test Grade 0/1	31 mos.	BPTB (single bundle):Allograft	Tibialis Anterior(double bundle):Allograft	RR	1.03(0.92,1.15)	NS

Reference Title	Quality	Outcome Details	Duration	Treatment 1 (Details)	Treatment 2 (Details)	Effect Measure	Result (95% CI)	Favored Treatment
Kang, 2015	High	Lachman Test Grade 2/3	31 mos.	BPTB (single bundle):Allograft	Tibialis Anterior(double bundle):Allograft	RR	0.64(0.11,3.61)	NS
Kang, 2015	High	Pivot-Shift Test Grade 0/1	31 mos.	BPTB (single bundle):Allograft	Tibialis Anterior(double bundle):Allograft	RR	-0.02(-0.07,0.02)	NS
Kang, 2015	High	Pivot-Shift Test Grade 2/3	31 mos.	BPTB (single bundle):Allograft	Tibialis Anterior(double bundle):Allograft	RD	0.02(-0.02,0.07)	NS
Kang, 2015	High	Side to Side Difference (mm)(KT-1000)	31 mos.	BPTB (single bundle):Allograft	Tibialis Anterior(double bundle):Allograft	Mean Difference	-0.1 (-0.76, 0.56)	NS
Kang, 2015	High	IKDC Subjective Score	31 mos.	BPTB (single bundle):Allograft	Tibialis Anterior(double bundle):Allograft	Mean Difference	-1.2 (-3.42, 1.02)	NS
Kang, 2015	High	Tegner Activity Scale	31 mos.	BPTB (single bundle):Allograft	Tibialis Anterior(double bundle):Allograft	Author Reported -MW U Test	N/A	NS
Aga, 2018	High	KOOS (Symptoms)	2 yrs.	STG (single bundle)	STG (double bundle)	Mean Difference	-2.1 (-7.20, 3.00)	NS
Aga, 2018	High	KOOS (ADL)	2 yrs.	STG (single bundle)	STG (double bundle)	Mean Difference	-2.4 (-7.14, 2.34)	NS
Aga, 2018	High	KOOS (Sports)	2 yrs.	STG (single bundle)	STG (double bundle)	Mean Difference	-7.2 (-14.77, 0.37)	NS
Aga, 2018	High	IKDC Subjective Score	2 yrs.	STG (single bundle)	STG (double bundle)	Mean Difference	-4.1 (-8.70, 0.50)	NS
Aga, 2018	High	Lachman Test Grade 0/1	2 yrs.	STG (single bundle)	STG (double bundle)	RR	0.97(0.83,1.13)	NS
Aga, 2018	High	Lachman Test Grade 2/3	2 yrs.	STG (single bundle)	STG (double bundle)	RR	1.22(0.50,2.97)	NS
Aga, 2018	High	Pivot-Shift Test Grade 0/1	2 yrs.	STG (single bundle)	STG (double bundle)	RR	0.98(0.86,1.13)	NS
Aga, 2018	High	Pivot-Shift Test Grade 2/3	2 yrs.	STG (single bundle)	STG (double bundle)	RR	1.14(0.42,3.06)	NS
Aga, 2018	High	Side to Side Difference (mm)(KT-1000)	2 yrs.	STG (single bundle)	STG (double bundle)	Mean Difference	0.9 (-0.01, 1.81)	NS
Aga, 2018	High	ROM: Extension Deficit (°)	2 yrs.	STG (single bundle)	STG (double bundle)	Mean Difference	0.1 (-1.06, 1.26)	NS
Aga, 2018	High	ROM: Flexion Deficit (°)	2 yrs.	STG (single bundle)	STG (double bundle)	Mean Difference	0.7 (-0.65, 2.05)	NS

Reference Title	Quality	Outcome Details	Duration	Treatment 1 (Details)	Treatment 2 (Details)	Effect Measure	Result (95% CI)	Favored Treatment
Mayr, 2016	High	IKDC Subjective Score	2 yrs.	STG (single bundle)	STG (double bundle)	Mean Difference	-4.9 (-11.37, 1.57)	NS
Mayr, 2016	High	IKDC (Objective) A/B	2 yrs.	STG (single bundle)	STG (double bundle)	RR	-0.07(-0.17,0.02)	NS
Mayr, 2016	High	IKDC (Objective) C/D	2 yrs.	STG (single bundle)	STG (double bundle)	RD	0.07(-0.02,0.17)	NS
Mayr, 2016	High	Anterior-Posterior Translation(mm)	2 yrs.	STG (single bundle)	STG (double bundle)	Author Reported -MW U Test	N/A	NS
Mayr, 2018	High	IKDC Subjective Score	5 yrs.	STG (single bundle)	STG (double bundle)	Author Reported -MW U Test	N/A	NS
Mayr, 2018	High	IKDC (Objective) A/B	5 yrs.	STG (single bundle)	STG (double bundle)	RR	1.12(0.91,1.38)	NS
Mayr, 2018	High	IKDC (Objective) C/D	5 yrs.	STG (single bundle)	STG (double bundle)	RR	0.45(0.10,2.11)	NS
Mayr, 2018	High	Pivot Shift Test (+)	5 yrs.	STG (single bundle)	STG (double bundle)	RR	0.75(0.14,4.11)	NS
Mayr, 2018	High	Lachman Test (+)	5 yrs.	STG (single bundle)	STG (double bundle)	RD	-0.11(-0.22,0.01)	NS
Mayr, 2018	High	Anterior-Posterior Translation(mm)	5 yrs.	STG (single bundle)	STG (double bundle)	Author Reported -MW U Test	N/A	NS
Yang, 2017	High	IKDC Subjective Score	38 mos.	STG (single bundle)	STG (double bundle)	Mean Difference	1.66 (0.12, 3.20)	STG(single bundle)
Yang, 2017	High	Pivot Shift Test (+)	38 mos.	STG (single bundle)	STG (double bundle)	RD	0.07(-0.02,0.16)	NS
Yang, 2017	High	Anterior-Posterior Translation(mm)	38 mos.	STG (single bundle)	STG (double bundle)	Mean Difference	0.14 (-0.01, 0.29)	NS
Komzak,2018	Moderate	Cincinnati Occupational Rating	24 mos.	Hamstring (single bundle)	Hamstring (double bundle)	Mean Difference	-9.3 (-13.72, -4.88)	Hamstring(double bundle)
Komzak,2018	Moderate	IKDC Subjective Score	24 mos.	Hamstring (single bundle)	Hamstring (double bundle)	Mean Difference	-6.8 (-12.31, -1.29)	Hamstring(double bundle)
Komzak,2018	Moderate	Anterior-Posterior Translation(mm) (KT-1000)	24 mos.	Hamstring (single bundle)	Hamstring (double bundle)	Mean Difference	0.2 (-0.95, 1.35)	NS
Komzak,2018	Moderate	External Rotation (°)	24 mos.	Hamstring (single bundle)	Hamstring (double bundle)	Mean Difference	1.3 (0.42, 2.18)	Hamstring(double bundle)
Komzak,2018	Moderate	Internal Rotation (°)	24 mos.	Hamstring (single bundle)	Hamstring (double bundle)	Mean Difference	3 (1.64, 4.36)	Hamstring(double bundle)
Beyaz, 2017	High	Tegner Activity Scale	8 yrs.	Single Bundle: "SB"	Double Bundle: "DB"	Mean Difference	0.04 (-0.83, 0.91)	NS

Reference Title	Quality	Outcome Details	Duration	Treatment 1 (Details)	Treatment 2 (Details)	Effect Measure	Result (95% CI)	Favored Treatment
Beyaz, 2017	High	IKDC Subjective Score	8 yrs.	Single Bundle: "SB"	Double Bundle: "DB"	Mean Difference	0.58 (-5.97, 7.13)	NS
Beyaz, 2017	High	Isokinetic muscle strength 60degree/s Peak Torque (Hamstring autograft)	8 yrs.	Single Bundle: "SB"	Double Bundle: "DB"	Mean Difference	-5.72 (-20.67, 9.23)	NS
Beyaz, 2017	High	Isokinetic muscle strength 120degree/s Peak Torque (Hamstring autograft)	8 yrs.	Single Bundle: "SB"	Double Bundle: "DB"	Mean Difference	-1.61 (-9.36, 6.14)	NS
Beyaz, 2017	High	Isokinetic muscle strength 180degree/s Peak Torque (Hamstring autograft)	8 yrs.	Single Bundle: "SB"	Double Bundle: "DB"	Mean Difference	0.47 (-15.29, 16.23)	NS
Beyaz, 2017	High	Isokinetic muscle strength 60degree/s Peak Torque/Bodyweight (Hamstring autograft)	8 yrs.	Single Bundle: "SB"	Double Bundle: "DB"	Mean Difference	-20.4 (-42.92, 2.12)	NS
Beyaz, 2017	High	Isokinetic muscle strength 120degree/s Peak Torque/Bodyweight (Hamstring autograft)	8 yrs.	Single Bundle: "SB"	Double Bundle: "DB"	Mean Difference	-11.8 (-27.54, 3.94)	NS
Beyaz, 2017	High	Isokinetic muscle strength 180degree/s Peak Torque/Bodyweight (Hamstring autograft)	8 yrs.	Single Bundle: "SB"	Double Bundle: "DB"	Mean Difference	-11.41 (-29.72, 6.90)	NS
Beyaz, 2017	High	Isokinetic muscle strength 60degree/s Peak Torque(Quadriceps autograft)	8 yrs.	Single Bundle: "SB"	Double Bundle: "DB"	Mean Difference	-18.56 (-47.00, 9.88)	NS
Beyaz, 2017	High	Isokinetic muscle strength 120degree/s Peak Torque(Quadriceps autograft)	8 yrs.	Single Bundle: "SB"	Double Bundle: "DB"	Mean Difference	9.09 (-6.98, 25.16)	NS
Beyaz, 2017	High	Isokinetic muscle strength 180degree/s Peak Torque(Quadriceps autograft)	8 yrs.	Single Bundle: "SB"	Double Bundle: "DB"	Mean Difference	2.1 (-22.45, 26.65)	NS

Reference Title	Quality	Outcome Details	Duration	Treatment 1 (Details)	Treatment 2 (Details)	Effect Measure	Result (95% CI)	Favored Treatment
Beyaz, 2017	High	Isokinetic muscle strength 60degree/s Peak Torque/Bodyweight (Quadriceps autograft)	8 yrs.	Single Bundle: "SB"	Double Bundle: "DB"	Mean Difference	-15.92 (-59.77, 27.93)	NS
Beyaz, 2017	High	Isokinetic muscle strength 120degree/s Peak Torque/Bodyweight (Quadriceps autograft)	8 yrs.	Single Bundle: "SB"	Double Bundle: "DB"	Mean Difference	-11.98 (-37.03, 13.07)	NS
Beyaz, 2017	High	Isokinetic muscle strength 180degree/s Peak Torque/Bodyweight (Quadriceps autograft)	8 yrs.	Single Bundle: "SB"	Double Bundle: "DB"	Mean Difference	-13.54 (-40.60, 13.52)	NS
Jarvela,2017	High	IKDC (Objective) A/B	10 yrs.	Single Bundle reconstruction with bioabsorbable screw: SBB with Bioabsorbable screw	Double Bundle: Double-Bundle reconstruction with bioabsorbable screw	RR	0.00(0.00,0.00)	NS
Jarvela,2017	High	IKDC (Objective) C/D	10 yrs.	Single Bundle reconstruction with bioabsorbable screw: SBB with Bioabsorbable screw	Double Bundle: Double-Bundle reconstruction with bioabsorbable screw	RD	0.00(0.00,0.00)	NS
Jarvela,2017	High	Pivot-Shift Test Grade 0/1	10 yrs.	Single Bundle reconstruction with bioabsorbable screw: SBB with Bioabsorbable screw	Double Bundle: Double-Bundle reconstruction with bioabsorbable screw	RR	0.00(0.00,0.00)	NS
Jarvela,2017	High	Pivot-Shift Test Grade 2/3	10 yrs.	Single Bundle reconstruction with bioabsorbable screw: SBB with Bioabsorbable screw	Double Bundle: Double-Bundle reconstruction with bioabsorbable screw	RD	-0.04(-0.12,0.04)	NS
Jarvela,2017	High	Side to Side Difference (mm)(KT-1000 arthrometer difference, mm)	10 yrs.	Single Bundle reconstruction with bioabsorbable screw: SBB with Bioabsorbable screw	Double Bundle: Double-Bundle reconstruction with bioabsorbable screw	Mean Difference	0.7 (-0.42, 1.82)	NS
Jarvela,2017	High	IKDC Function Score	10 yrs.	Single Bundle reconstruction with metallic screw: SBM with Bioabsorbable screw	Double Bundle: Double-Bundle reconstruction with bioabsorbable screw	Mean Difference	0 (-1.14, 1.14)	NS

Reference Title	Quality	Outcome Details	Duration	Treatment 1 (Details)	Treatment 2 (Details)	Effect Measure	Result (95% CI)	Favored Treatment
Jarvela,2017	High	IKDC (Objective) A/B	10 yrs.	Single Bundle reconstruction with metallic screw: SBM with Bioabsorbable screw	Double Bundle: Double-Bundle reconstruction with bioabsorbable screw	RR	0.00(0.00,0.00)	NS
Jarvela,2017	High	IKDC (Objective) C/D	10 yrs.	Single Bundle reconstruction with metallic screw: SBM with Bioabsorbable screw	Double Bundle: Double-Bundle reconstruction with bioabsorbable screw	RD	0.00(0.00,0.00)	NS
Jarvela,2017	High	Pivot-Shift Test Grade 0/1	10 yrs.	Single Bundle reconstruction with metallic screw: SBM with Bioabsorbable screw	Double Bundle: Double-Bundle reconstruction with bioabsorbable screw	RR	0.00(0.00,0.00)	NS
Jarvela,2017	High	Pivot-Shift Test Grade 2/3	10 yrs.	Single Bundle reconstruction with metallic screw: SBM with Bioabsorbable screw	Double Bundle: Double-Bundle reconstruction with bioabsorbable screw	RD	0.00(0.00,0.00)	NS
Jarvela,2017	High	Side to Side Difference (mm)	10 yrs.	Single Bundle reconstruction with metallic screw: SBM with Bioabsorbable screw	Double Bundle: Double-Bundle reconstruction with bioabsorbable screw	Mean Difference	0.8 (-0.34, 1.94)	NS
Jarvela,2017	High	IKDC Subjective Score	10 yrs.	Single Bundle reconstruction with metallic screw: SBM with Bioabsorbable screw	Double Bundle: Double-Bundle reconstruction with bioabsorbable screw	Mean Difference	0 (-0.90, 0.90)	NS
Adravanti,2017	High	IKDC (Objective) A/B	6 yrs.	Single Bundle	Double Bundle	RR	0.00(0.00,0.00)	NS
Adravanti,2017	High	IKDC (Objective) C/D	6 yrs.	Single Bundle	Double Bundle	RD	0.00(0.00,0.00)	NS
Adravanti,2017	High	KT- 2000	6 yrs.	Single Bundle	Double Bundle	Mean Difference	-0.1 (-0.49, 0.29)	NS
Adravanti,2017	High	Single Leg Hop Test (maximum distance (m))	6 yrs.	Single Bundle	Double Bundle	Mean Difference	-0.17 (-0.38, 0.04)	NS
Adravanti,2017	High	Timed hop (s) (time spent by the patients to cover a distance of 6m jumping on one leg)	6 yrs.	Single Bundle	Double Bundle	Mean Difference	0.7 (-1.55, 2.95)	NS
Adravanti,2017	High	Crossover hop (m) (stand on one leg and perform three consecutive hops as far as	6 yrs.	Single Bundle	Double Bundle	Mean Difference	-0.6 (-1.46, 0.26)	NS

Reference Title	Quality	Outcome Details	Duration	Treatment 1 (Details)	Treatment 2 (Details)	Effect Measure	Result (95% CI)	Favored Treatment
		possible landing on the same leg)						
Sasaki, 2016	High	ROM: Flexion (°)	2 yrs.	Rectangular-tunnel Single Bundle Patellar Tendon: “RTSB-PT"	Double Bundle Hamstring Tendon graft: "DB-HT"	Mean Difference	1 (-0.13, 2.13)	NS
Sasaki, 2016	High	Heel-height difference, cm	2 yrs.	Rectangular-tunnel Single Bundle Patellar Tendon: “RTSB-PT"	Double Bundle Hamstring Tendon graft: "DB-HT"	Mean Difference	0 (-0.19, 0.19)	NS
Sasaki, 2016	High	Side to Side Difference (mm)(anterior laxity, mm)	2 yrs.	Rectangular-tunnel Single Bundle Patellar Tendon: “RTSB-PT"	Double Bundle Hamstring Tendon graft: "DB-HT"	Mean Difference	-0.2 (-0.54, 0.14)	NS
Sasaki, 2016	High	Pivot-Shift Test Grade 0/1	2 yrs.	Rectangular-tunnel Single Bundle Patellar Tendon: “RTSB-PT"	Double Bundle Hamstring Tendon graft: "DB-HT"	RR	0.01(-0.01,0.04)	NS
Sasaki, 2016	High	Pivot-Shift Test Grade 2/3	2 yrs.	Rectangular-tunnel Single Bundle Patellar Tendon: “RTSB-PT"	Double Bundle Hamstring Tendon graft: "DB-HT"	RD	-0.01(-0.04,0.01)	NS
Sasaki, 2016	High	Tegner Activity Scale	2 yrs.	Rectangular-tunnel Single Bundle Patellar Tendon: “RTSB-PT"	Double Bundle Hamstring Tendon graft: "DB-HT"	Mean Difference	0.6 (-0.12, 1.32)	NS
Sasaki, 2016	High	KOOS (Pain)	2 yrs.	Rectangular-tunnel Single Bundle Patellar Tendon: “RTSB-PT"	Double Bundle Hamstring Tendon graft: "DB-HT"	Mean Difference	0.6 (-2.56, 3.76)	NS
Sasaki, 2016	High	KOOS (Symptoms)	2 yrs.	Rectangular-tunnel Single Bundle Patellar Tendon: “RTSB-PT"	Double Bundle Hamstring Tendon graft: "DB-HT"	Mean Difference	-1.8 (-5.53, 1.93)	NS
Sasaki, 2016	High	KOOS (ADL)	2 yrs.	Rectangular-tunnel Single Bundle Patellar Tendon: “RTSB-PT"	Double Bundle Hamstring Tendon graft: "DB-HT"	Mean Difference	0.6 (-0.55, 1.75)	NS
Sasaki, 2016	High	KOOS (Sports)	2 yrs.	Rectangular-tunnel Single Bundle Patellar Tendon: “RTSB-PT"	Double Bundle Hamstring Tendon graft: "DB-HT"	Mean Difference	-0.3 (-4.17, 3.57)	NS
Sasaki, 2016	High	KOOS (QoL)	2 yrs.	Rectangular-tunnel Single Bundle Patellar Tendon: “RTSB-PT"	Double Bundle Hamstring Tendon graft: "DB-HT"	Mean Difference	-1.6 (-7.30, 4.10)	NS

Reference Title	Quality	Outcome Details	Duration	Treatment 1 (Details)	Treatment 2 (Details)	Effect Measure	Result (95% CI)	Favored Treatment
Koga, 2015	Moderate	Knee laxity (KT measurements, mm (SD))	69.5mos	Single Bundle	Double Bundle	Mean Difference	1.3 (0.51, 2.09)	Double Bundle
Koga, 2015	Moderate	Lachman Test Grade 0/1	69.5mos	Single Bundle	Double Bundle	RR	0.00(0.00,0.00)	NS
Koga, 2015	Moderate	Lachman Test Grade 2/3	69.5mos	Single Bundle	Double Bundle	RD	0.00(0.00,0.00)	NS
Koga, 2015	Moderate	Anterior Drawer Test 0/1	69.5mos	Single Bundle	Double Bundle	RR	-0.05(-0.14,0.04)	NS
Koga, 2015	Moderate	Anterior Drawer Test 2/3	69.5mos	Single Bundle	Double Bundle	RD	0.05(-0.04,0.14)	NS
Koga, 2015	Moderate	Pivot-Shift Test Grade 0/1	69.5mos	Single Bundle	Double Bundle	RR	-0.14(-0.29,0.01)	NS
Koga, 2015	Moderate	Pivot-Shift Test Grade 2/3	69.5mos	Single Bundle	Double Bundle	RD	0.14(-0.01,0.29)	NS
Koga, 2015	Moderate	Extension Strength (Mean muscle strength)	69.5mos	Single Bundle	Double Bundle	Mean Difference	-3.1 (-10.25, 4.05)	NS
Koga, 2015	Moderate	Flexion Strength (Mean muscle strength)	69.5mos	Single Bundle	Double Bundle	Mean Difference	-7.6 (-15.12, -0.08)	Double Bundle
Koga, 2015	Moderate	Sports Performance Level	69.5mos	Single Bundle	Double Bundle	Mean Difference	-4.8 (-12.10, 2.50)	NS
Koga, 2015	Moderate	Tegner Activity Scale	69.5mos	Single Bundle	Double Bundle	Mean Difference	-1 (-4.55, 2.55)	NS
Liu, 2016	High	IKDC Subjective Score	80 mos.	Single Bundle	Double Bundle	Mean Difference	1.2 (-9.02, 11.42)	NS
Liu, 2016	High	Tegner Activity Scale	80 mos.	Single Bundle	Double Bundle	Mean Difference	0.62 (-1.81, 3.05)	NS
Liu, 2016	High	Pivot-Shift Test Grade 0/1	80 mos.	Single Bundle	Double Bundle	RR	1.00(0.92,1.09)	NS
Liu, 2016	High	Pivot-Shift Test Grade 2/3	80 mos.	Single Bundle	Double Bundle	RR	0.94(0.06,14.42)	NS
Liu, 2016	High	Flexion Restriction (deg)	80 mos.	Single Bundle	Double Bundle	Mean Difference	4 (-2.32, 10.32)	NS
Liu, 2016	High	Extension Restriction (deg)	80 mos.	Single Bundle	Double Bundle	Mean Difference	-2 (-5.00, 1.00)	NS
Liu, 2016	High	Anterior Laxity- 30-degree flexion,15lb (67 N) (KT-2000 arthrometer, mm)	80 mos.	Single Bundle	Double Bundle	Mean Difference	0 (-3.25, 3.25)	NS
Liu, 2016	High	Anterior Laxity- 30-degree flexion,20lb (89 N) (KT-2000 arthrometer, mm)	80 mos.	Single Bundle	Double Bundle	Mean Difference	-0.2 (-4.82, 4.42)	NS

Reference Title	Quality	Outcome Details	Duration	Treatment 1 (Details)	Treatment 2 (Details)	Effect Measure	Result (95% CI)	Favored Treatment
Liu, 2016	High	Anterior Laxity- 30-degree flexion,30lb (135 N) (KT-2000arthrometer, mm)	80 mos.	Single Bundle	Double Bundle	Mean Difference	-0.1 (-5.46, 5.26)	NS
Liu, 2016	High	Anterior Laxity- 90-degree flexion,15lb (67 N) (KT-2000 arthrometer, mm)	80 mos.	Single Bundle	Double Bundle	Mean Difference	0.1 (-1.65, 1.85)	NS
Liu, 2016	High	Anterior Laxity- 90-degree flexion,20lb (89 N) (KT-2000 arthrometer, mm)	80 mos.	Single Bundle	Double Bundle	Mean Difference	-0.1 (-2.15, 1.95)	NS
Liu, 2016	High	Anterior Laxity- 90-degree flexion,30lb (135 N) (KT-2000arthrometer, mm)	80 mos.	Single Bundle	Double Bundle	Mean Difference	0 (-2.37, 2.37)	NS
Karikis, 2016	High	Tegner Activity Scale	5 yrs.	Single Bundle	Double Bundle	Mean Difference	0 (-0.59, 0.59)	NS
Karikis, 2016	High	Square-hop test, total	5 yrs.	Single Bundle	Double Bundle	Mean Difference	-5 (-11.51, 1.51)	NS
Karikis, 2016	High	Square-hop test, correct	5 yrs.	Single Bundle	Double Bundle	Mean Difference	-9 (-19.14, 1.14)	NS
Karikis, 2016	High	Single Leg Hop Test	5 yrs.	Single Bundle	Double Bundle	Mean Difference	8 (-5.70, 21.70)	NS
Karikis, 2016	High	Extension	5 yrs.	Single Bundle	Double Bundle	Mean Difference	0 (-1.68, 1.68)	NS
Karikis, 2016	High	ROM: Flexion (°)	5 yrs.	Single Bundle	Double Bundle	Mean Difference	0 (-2.53, 2.53)	NS
Karikis, 2016	High	KOOS (Pain)	5 yrs.	Single Bundle	Double Bundle	Mean Difference	-7 (-13.37, -0.63)	Double Bundle
Karikis, 2016	High	KOOS (Symptoms)	5 yrs.	Single Bundle	Double Bundle	Mean Difference	-5 (-12.57, 2.57)	NS
Karikis, 2016	High	KOOS (ADL)	5 yrs.	Single Bundle	Double Bundle	Mean Difference	-4 (-9.78, 1.78)	NS
Karikis, 2016	High	KOOS (Sports)	5 yrs.	Single Bundle	Double Bundle	Mean Difference	-8 (-19.50, 3.50)	NS
Karikis, 2016	High	KOOS (QoL)	5 yrs.	Single Bundle	Double Bundle	Mean Difference	-10 (-19.42, -0.58)	Double Bundle
Karikis, 2016	High	KT-1000 anterior MMT side-to-side difference	5 yrs.	Single Bundle	Double Bundle	Mean Difference	0.1 (-1.08, 1.28)	NS
Karikis, 2016	High	KT-1000 anterior 134-Nside-to-side difference	5 yrs.	Single Bundle	Double Bundle	Mean Difference	0.2 (-1.14, 1.54)	NS
Karikis, 2016	High	Lachman Test Grade 0/1	5 yrs.	Single Bundle	Double Bundle	RR	0.00(0.00,0.00)	NS
Karikis, 2016	High	Lachman Test Grade 2/3	5 yrs.	Single Bundle	Double Bundle	RD	0.00(0.00,0.00)	NS

Reference Title	Quality	Outcome Details	Duration	Treatment 1 (Details)	Treatment 2 (Details)	Effect Measure	Result (95% CI)	Favored Treatment
Karikis, 2016	High	Pivot-Shift Test Grade 0/1	5 yrs.	Single Bundle	Double Bundle	RR	0.00(0.00,0.00)	NS
Karikis, 2016	High	Pivot-Shift Test Grade 2/3	5 yrs.	Single Bundle	Double Bundle	RD	0.00(0.00,0.00)	NS
Abdelrazek,2019	Moderate	Effusion: None/Mild (IKDC objective scores)	2 yrs.	Anatomical Single Bundle with ALL augmentation: “ASB" plus ALL	Anatomical Double Bundle: "ADB"	RR	0.00(0.00,0.00)	NS
Abdelrazek,2019	Moderate	Effusion: Moderate/Severe (IKDC objective scores)	2 yrs.	Anatomical Single Bundle with ALL augmentation: “ASB" plus ALL	Anatomical Double Bundle: "ADB"	RD	0.00(0.00,0.00)	NS
Abdelrazek,2019	Moderate	Motion Deficit: Lack of Extension,< 6 degree (IKDC objective scores)	2 yrs.	Anatomical Single Bundle with ALL augmentation: “ASB" plus ALL	Anatomical Double Bundle: "ADB"	RR	0.05(-0.05,0.15)	NS
Abdelrazek,2019	Moderate	Motion Deficit: Lack of Extension,10+ degrees (IKDC objective scores)	2 yrs.	Anatomical Single Bundle with ALL augmentation: “ASB" plus ALL	Anatomical Double Bundle: "ADB"	RD	-0.05(-0.15,0.05)	NS
Abdelrazek,2019	Moderate	Motion Deficit: Lack of Flexion, A-0-15 degree (IKDC objective scores)	2 yrs.	Anatomical Single Bundle with ALL augmentation: “ASB" plus ALL	Anatomical Double Bundle: "ADB"	RR	1.00(0.87,1.15)	NS
Abdelrazek,2019	Moderate	Motion Deficit: Lack of Flexion,15+ degree (IKDC objective scores)	2 yrs.	Anatomical Single Bundle with ALL augmentation: “ASB" plus ALL	Anatomical Double Bundle: "ADB"	RR	1.00(0.07,14.90)	NS
Abdelrazek,2019	Moderate	Lachman Test Grade 0/1 (IKDC objective scores)	2 yrs.	Anatomical Single Bundle with ALL augmentation: “ASB" plus ALL	Anatomical Double Bundle: "ADB"	RR	1.06(0.88,1.26)	NS
Abdelrazek,2019	Moderate	Lachman Test Grade 2/3 (IKDC objective scores)	2 yrs.	Anatomical Single Bundle with ALL augmentation: “ASB" plus ALL	Anatomical Double Bundle: "ADB"	RR	0.50(0.05,5.08)	NS
Abdelrazek,2019	Moderate	Pivot-Shift Test Grade 0/1	2 yrs.	Anatomical Single Bundle with ALL augmentation: “ASB" plus ALL	Anatomical Double Bundle: "ADB"	RR	0.05(-0.05,0.15)	NS
Abdelrazek,2019	Moderate	Pivot-Shift Test Grade 2/3	2 yrs.	Anatomical Single Bundle with ALL augmentation: “ASB" plus ALL	Anatomical Double Bundle: "ADB"	RD	-0.05(-0.15,0.05)	NS
Abdelrazek,2019	Moderate	Single Leg Hop Test (% of non-op side) > 76%	2 yrs.	Anatomical Single Bundle with ALL augmentation: “ASB" plus ALL	Anatomical Double Bundle: "ADB"	RR	1.06(0.88,1.26)	NS

Reference Title	Quality	Outcome Details	Duration	Treatment 1 (Details)	Treatment 2 (Details)	Effect Measure	Result (95% CI)	Favored Treatment
Abdelrazek,2019	Moderate	Single Leg Hop Test (% of non-op side) < 76%	2 yrs.	Anatomical Single Bundle with ALL augmentation: “ASB" plus ALL	Anatomical Double Bundle: "ADB"	RR	0.50(0.05,5.08)	NS
Abdelrazek,2019	Moderate	KT-1000, side to side difference(IKDC objective scores)	2 yrs.	Anatomical Single Bundle with ALL augmentation: “ASB" plus ALL	Anatomical Double Bundle: "ADB"	Mean Difference	0.5 (-0.49, 1.49)	NS
Abdelrazek,2019	Moderate	Rotational Stability (Internal Tibial Rotation Angle)	2 yrs.	Anatomical Single Bundle with ALL augmentation: “ASB" plus ALL	Anatomical Double Bundle: "ADB"	Mean Difference	3.2 (0.77, 5.63)	
Zaffagnini,2008	High	IKDC (Objective) A/B	3 yrs.	Single Bundle plus Lateral Plasty: single intraarticular bundle associated to an extra-articular sling	Anatomic Double Bundle	RR	-0.06(-0.13,0.02)	NS
Zaffagnini,2008	High	IKDC (Objective) C/D	3 yrs.	Single Bundle plus Lateral Plasty: single intraarticular bundle associated to an extra-articular sling	Anatomic Double Bundle	RD	0.06(-0.02,0.13)	NS
Zaffagnini,2008	High	Pivot-Shift Test Grade 0/1	3 yrs.	Single Bundle plus Lateral Plasty: single intraarticular bundle associated to an extra-articular sling	Anatomic Double Bundle	RR	0.00(0.00,0.00)	NS
Zaffagnini,2008	High	Pivot-Shift Test Grade 2/3	3 yrs.	Single Bundle plus Lateral Plasty: single intraarticular bundle associated to an extra-articular sling	Anatomic Double Bundle	RD	0.00(0.00,0.00)	NS
Zaffagnini,2008	High	Subjective Evaluation	3 yrs.	Single Bundle plus Lateral Plasty: single intraarticular bundle associated to an extra-articular sling	Anatomic Double Bundle	RR	0.96(0.79,1.17)	NS
Zaffagnini,2008	High	Side-to-side muscle thigh circumference 5 cm proximal to superior patellar pole (b=0.8)	3 yrs.	Single Bundle plus Lateral Plasty: single intraarticular bundle associated to an extra-articular sling	Anatomic Double Bundle	Mean Difference	-0.4 (-1.02, 0.22)	NS
Zaffagnini,2008	High	Side-to-side muscle thigh circumference 15 cm proximal to superior patellar pole (b=0.5)	3 yrs.	Single Bundle plus Lateral Plasty: single intraarticular bundle associated to an extra-articular sling	Anatomic Double Bundle	Mean Difference	0 (-0.82, 0.82)	NS

Reference Title	Quality	Outcome Details	Duration	Treatment 1 (Details)	Treatment 2 (Details)	Effect Measure	Result (95% CI)	Favored Treatment
Zaffagnini,2008	High	Tegner Activity Scale	3 yrs.	Single Bundle plus Lateral Plasty: single intraarticular bundle associated to an extra-articular sling	Anatomic Double Bundle	Mean Difference	-0.5 (-1.32, 0.32)	NS
Zaffagnini,2008	High	Post-operative activity rating scale score (max. 16)	3 yrs.	Single Bundle plus Lateral Plasty: single intraarticular bundle associated to an extra-articular sling	Anatomic Double Bundle	Mean Difference	-2.6 (-4.03, -1.17)	
Zaffagnini,2008	High	KT2000 30 lbs. anterior drawer test(total)	3 yrs.	Single Bundle plus Lateral Plasty: single intraarticular bundle associated to an extra-articular sling	Anatomic Double Bundle	Mean Difference	0.1 (-1.14, 1.34)	NS
Zaffagnini,2008	High	KT2000 30 lbs. anterior drawer test<3mm	3 yrs.	Single Bundle plus Lateral Plasty: single intraarticular bundle associated to an extra-articular sling	Anatomic Double Bundle	RR	1.02(0.76,1.37)	NS
Zaffagnini,2008	High	KT2000 30 lbs. anterior drawer test3-5mm	3 yrs.	Single Bundle plus Lateral Plasty: single intraarticular bundle associated to an extra-articular sling	Anatomic Double Bundle	RR	0.48(0.19,1.24)	NS
Zaffagnini,2008	High	KT2000 30 lbs. anterior drawer test>5mm	3 yrs.	Single Bundle plus Lateral Plasty: single intraarticular bundle associated to an extra-articular sling	Anatomic Double Bundle	RD	0.14(0.03,0.26)	
Zaffagnini,2008	High	KT2000 manual max. displacement (total)	3 yrs.	Single Bundle plus Lateral Plasty: single intraarticular bundle associated to an extra-articular sling	Anatomic Double Bundle	Mean Difference	-0.4 (-1.40, 0.60)	NS
Zaffagnini,2008	High	KT2000 manual max. displacement <3mm	3 yrs.	Single Bundle plus Lateral Plasty: single intraarticular bundle associated to an extra-articular sling	Anatomic Double Bundle	RR	0.99(0.79,1.24)	NS
Zaffagnini,2008	High	KT2000 manual max. displacement 3-5mm	3 yrs.	Single Bundle plus Lateral Plasty: single intraarticular bundle associated to an extra-articular sling	Anatomic Double Bundle	RR	0.76(0.26,2.16)	NS

Reference Title	Quality	Outcome Details	Duration	Treatment 1 (Details)	Treatment 2 (Details)	Effect Measure	Result (95% CI)	Favored Treatment
Zaffagnini,2008	High	KT2000 manual max. displacement >5mm	3 yrs.	Single Bundle plus Lateral Plasty: single intraarticular bundle associated to an extra-articular sling	Anatomic Double Bundle	RD	0.06(-0.02,0.13)	NS
Zaffagnini,2008	High	KT2000 quadriceps active test(total)	3 yrs.	Single Bundle plus Lateral Plasty: single intraarticular bundle associated to an extra-articular sling	Anatomic Double Bundle	Mean Difference	0.5 (-1.01, 2.01)	NS
Zaffagnini,2008	High	KT2000 quadriceps active test<3mm	3 yrs.	Single Bundle plus Lateral Plasty: single intraarticular bundle associated to an extra-articular sling	Anatomic Double Bundle	RR	0.82(0.59,1.15)	NS
Zaffagnini,2008	High	KT2000 quadriceps active test3-5mm	3 yrs.	Single Bundle plus Lateral Plasty: single intraarticular bundle associated to an extra-articular sling	Anatomic Double Bundle	RR	0.85(0.38,1.89)	NS
Zaffagnini,2008	High	KT2000 quadriceps active test>5mm	3 yrs.	Single Bundle plus Lateral Plasty: single intraarticular bundle associated to an extra-articular sling	Anatomic Double Bundle	RD	0.17(0.05,0.30)	
Zaffagnini,2008	High	Return to Sport	3 yrs.	Single Bundle plus Lateral Plasty: single intraarticular bundle associated to an extra-articular sling	Anatomic Double Bundle	RR	-0.09(-0.18,0.01)	NS
Zaffagnini,2008	High	Time to recover sport activity(mean time)	3 yrs.	Single Bundle plus Lateral Plasty: single intraarticular bundle associated to an extra-articular sling	Anatomic Double Bundle	Mean Difference	2.6 (-15.49, 20.69)	NS
Zaffagnini,2008	High	Time to recover sport activity <4months	3 yrs.	Single Bundle plus Lateral Plasty: single intraarticular bundle associated to an extra-articular sling	Anatomic Double Bundle	RR	0.33(0.15,0.74)	
Zaffagnini,2008	High	Time to recover sport activity 4-6months	3 yrs.	Single Bundle plus Lateral Plasty: single intraarticular bundle associated to an extra-articular sling	Anatomic Double Bundle	RR	1.36(0.81,2.29)	NS

Reference Title	Quality	Outcome Details	Duration	Treatment 1 (Details)	Treatment 2 (Details)	Effect Measure	Result (95% CI)	Favored Treatment
Zaffagnini,2008	High	Time to recover sport activity>6months	3 yrs.	Single Bundle plus Lateral Plasty: single intraarticular bundle associated to an extra-articular sling	Anatomic Double Bundle	RR	2.11(0.70,6.40)	NS
Irrgang, 2021	High	KT-1000, side to side difference	24 mos.	Single Bundle Quadriceps Autograft	Double Bundle Quadriceps Autograft	Mean Difference	0.1 (-0.71, 0.91)	NS
Irrgang, 2021	High	Pivot-Shift Test Grade 0/1	24 mos.	Single Bundle Quadriceps Autograft	Double Bundle Quadriceps Autograft	RR	0.00(0.00,0.00)	NS
Irrgang, 2021	High	Pivot-Shift Test Grade 2/3	24 mos.	Single Bundle Quadriceps Autograft	Double Bundle Quadriceps Autograft	RD	0.00(0.00,0.00)	NS
Irrgang, 2021	High	Lachman Test Grade 0/1	24 mos.	Single Bundle Quadriceps Autograft	Double Bundle Quadriceps Autograft	RR	-0.04(-0.12,0.04)	NS
Irrgang, 2021	High	Lachman Test Grade 2/3	24 mos.	Single Bundle Quadriceps Autograft	Double Bundle Quadriceps Autograft	RD	0.04(-0.04,0.12)	NS
Irrgang, 2021	High	Marx Activity Level Scores	24 mos.	Single Bundle Quadriceps Autograft	Double Bundle Quadriceps Autograft	Mean Difference	-1.1 (-3.30, 1.10)	NS

Table 80: PICO 7 – Single Bundle vs. Double Bundle – OA Progression

Reference Title	Quality	Outcome Details	Duration	Treatment 1 (Details)	Treatment 2 (Details)	Effect Measure	Result (95% CI)	Favored Treatment
Sun, 2015	High	IKDC Radiological Score (Grade A/B)	36 mos.	Tibialis Anterior (single bundle)	Tibialis Anterior(double bundle)	RR	1.15(1.04,1.27)	Tibialis Anterior(single bundle)
Sun, 2015	High	IKDC Radiological Score (Grade C/D)	36 mos.	Tibialis Anterior (single bundle)	Tibialis Anterior(double bundle)	RR	0.50(0.29,0.86)	Tibialis Anterior(single bundle)
Mayr, 2016	High	Kellgren-Lawrence Grade 0/1	2 yrs.	STG (single bundle)	STG (double bundle)	RR	1.11(0.58,2.13)	NS
Mayr, 2016	High	Kellgren-Lawrence Grade 2/3	2 yrs.	STG (single bundle)	STG (double bundle)	RR	0.94(0.64,1.38)	NS
Mayr, 2018	High	Kellgren-Lawrence Grade 0/1	5 yrs.	STG (single bundle)	STG (double bundle)	RR	1.12(0.59,2.12)	NS
Mayr, 2018	High	Kellgren-Lawrence Grade 2/3	5 yrs.	STG (single bundle)	STG (double bundle)	RR	0.92(0.58,1.46)	NS
Jarvela,2017	High	Kellgren-Lawrence Grade 0/1(medial)	10 yrs.	Single Bundle reconstruction with bioabsorbable screw: SBB with Bioabsorbable screw	Double Bundle: Double-Bundle reconstruction with bioabsorbable screw	RR	1.22(0.73,2.04)	NS
Jarvela,2017	High	Kellgren-Lawrence Grade 2-4(medial)	10 yrs.	Single Bundle reconstruction with bioabsorbable screw: SBB with Bioabsorbable screw	Double Bundle: Double-Bundle reconstruction with bioabsorbable screw	RR	0.78(0.41,1.50)	NS
Jarvela,2017	High	Kellgren-Lawrence Grade 0/1(lateral)	10 yrs.	Single Bundle reconstruction with bioabsorbable screw: SBB with Bioabsorbable screw	Double Bundle: Double-Bundle reconstruction with bioabsorbable screw	RR	1.36(0.88,2.12)	NS
Jarvela,2017	High	Kellgren-Lawrence Grade 2-4(lateral)	10 yrs.	Single Bundle reconstruction with bioabsorbable screw: SBB with Bioabsorbable screw	Double Bundle: Double-Bundle reconstruction with bioabsorbable screw	RR	0.57(0.25,1.28)	NS
Jarvela,2017	High	Kellgren-Lawrence Grade 0/1(patellofemoral)	10 yrs.	Single Bundle reconstruction with bioabsorbable screw: SBB with Bioabsorbable screw	Double Bundle: Double-Bundle reconstruction with bioabsorbable screw	RR	1.19(0.77,1.84)	NS
Jarvela,2017	High	Kellgren-Lawrence Grade 2-4(patellofemoral)	10 yrs.	Single Bundle reconstruction with bioabsorbable screw: SBB with Bioabsorbable screw	Double Bundle: Double-Bundle reconstruction with bioabsorbable screw	RR	0.73(0.34,1.59)	NS

Reference Title	Quality	Outcome Details	Duration	Treatment 1 (Details)	Treatment 2 (Details)	Effect Measure	Result (95% CI)	Favored Treatment
Jarvela,2017	High	Kellgren-Lawrence Grade 0/1(medial)	10 yrs.	Single Bundle reconstruction with metallic screw: SBM with Bioabsorbable screw	Double Bundle: Double-Bundle reconstruction with bioabsorbable screw	RR	1.39(0.86,2.25)	NS
Jarvela,2017	High	Kellgren-Lawrence Grade 2-4(medial)	10 yrs.	Single Bundle reconstruction with metallic screw: SBM with Bioabsorbable screw	Double Bundle: Double-Bundle reconstruction with bioabsorbable screw	RR	0.61(0.29,1.27)	NS
Jarvela,2017	High	Kellgren-Lawrence Grade 0/1(lateral)	10 yrs.	Single Bundle reconstruction with metallic screw: SBM with Bioabsorbable screw	Double Bundle: Double-Bundle reconstruction with bioabsorbable screw	RR	0.96(0.56,1.65)	NS
Jarvela,2017	High	Kellgren-Lawrence Grade 2-4(lateral)	10 yrs.	Single Bundle reconstruction with metallic screw: SBM with Bioabsorbable screw	Double Bundle: Double-Bundle reconstruction with bioabsorbable screw	RR	1.04(0.57,1.92)	NS
Jarvela,2017	High	Kellgren-Lawrence Grade 0/1(patellofemoral)	10 yrs.	Single Bundle reconstruction with metallic screw: SBM with Bioabsorbable screw	Double Bundle: Double-Bundle reconstruction with bioabsorbable screw	RR	1.12(0.71,1.76)	NS
Jarvela,2017	High	Kellgren-Lawrence Grade 2-4(patellofemoral)	10 yrs.	Single Bundle reconstruction with metallic screw: SBM with Bioabsorbable screw	Double Bundle: Double-Bundle reconstruction with bioabsorbable screw	RR	0.83(0.40,1.74)	NS
Adravanti,2017	High	Kellgren-Lawrence Grade 1	6 yrs.	Single Bundle	Double Bundle	RR	0.67(0.12,3.65)	NS
Karikis, 2016	High	Ahlback classification–medial (0-2)	5 yrs.	Single Bundle	Double Bundle	RR	-0.02(-0.07,0.02)	NS
Karikis, 2016	High	Ahlback classification–medial (3-5)	5 yrs.	Single Bundle	Double Bundle	RD	0.02(-0.02,0.07)	NS
Karikis, 2016	High	Ahlback classification–lateral (0-2)	5 yrs.	Single Bundle	Double Bundle	RR	-0.05(-0.11,0.02)	NS
Karikis, 2016	High	Ahlback classification–lateral (3-5)	5 yrs.	Single Bundle	Double Bundle	RD	0.05(-0.02,0.11)	NS
Karikis, 2016	High	Cumulative Fairbank changes 0-2	5 yrs.	Single Bundle	Double Bundle	RR	1.00(0.81,1.23)	NS
Karikis, 2016	High	Cumulative Fairbank changes 3-6	5 yrs.	Single Bundle	Double Bundle	RR	1.00(0.42,2.34)	NS
Karikis, 2016	High	Kellgren-Lawrence Grade 0/1	5 yrs.	Single Bundle	Double Bundle	RR	0.99(0.77,1.27)	NS

Reference Title	Quality	Outcome Details	Duration	Treatment 1 (Details)	Treatment 2 (Details)	Effect Measure	Result (95% CI)	Favored Treatment
Karikis, 2016	High	Kellgren-Lawrence Grade 2/3/4	5 yrs.	Single Bundle	Double Bundle	RR	1.03(0.51,2.07)	NS
Karikis, 2016	High	Patellofemoral osteophytes-None/Minor	5 yrs.	Single Bundle	Double Bundle	RR	1.02(0.92,1.13)	NS
Karikis, 2016	High	Patellofemoral osteophytes-Moderate/Severe	5 yrs.	Single Bundle	Double Bundle	RR	1.12(0.17,7.61)	NS
Karikis, 2016	High	Patellofemoral OA-None/Minor	5 yrs.	Single Bundle	Double Bundle	RR	1.02(0.94,1.10)	NS
Karikis, 2016	High	Patellofemoral OA-Moderate/Severe	5 yrs.	Single Bundle	Double Bundle	RD	0.00(0.00,0.00)	NS

Table 81: PICO 7 – Single Bundle vs. Double Bundle – Pain

Reference Title	Quality	Outcome Details	Duration	Treatment 1 (Details)	Treatment 2 (Details)	Effect Measure	Result (95% CI)	Favored Treatment
Mohtadi,2019	High	Pain While Kneeling (%)(Moderate or Severe)	2 yrs.	Hamstring (quadrupled ST- bundle)	Hamstring (2 strand ST, 2 strand bundle)	RR	2.27(0.72,7.15)	NS
Mohtadi,2019	High	Pain While Kneeling (%)(Moderate or Severe)	5 yrs.	Hamstring (quadrupled ST- bundle)	Hamstring (2 strand ST, 2 strand bundle)	RR	2.06(0.39,11.00)	NS
Aga, 2018	High	KOOS (Pain)	2 yrs.	STG (single bundle)	STG (double bundle)	Mean Difference	-1.5 (-6.32, 3.32)	NS
Zaffagnini,2008	High	Mild Harvest Site pain	3 yrs.	Single Bundle plus Lateral Plasty: single intraarticular bundle associated to an extra-articular sling	Anatomic Double Bundle	RR	0.35(0.04,3.23)	NS

Table 82: PICO 7 – Single Bundle vs. Double Bundle – QOL

Reference Title	Quality	Outcome Details	Duration	Treatment 1 (Details)	Treatment 2 (Details)	Effect Measure	Result (95% CI)	Favored Treatment
Mohtadi,2019	High	ACL-QoL	2 yrs.	Hamstring (quadrupled ST- bundle)	Hamstring (2 strand ST, 2 strand bundle)	Mean Difference	0.1 (-4.59, 4.79)	NS
Mohtadi,2019	High	ACL-QoL	5 yrs.	Hamstring (quadrupled ST- bundle)	Hamstring (2 strand ST, 2 strand bundle)	Mean Difference	2.8 (-2.25, 7.85)	NS
Aga, 2018	High	KOOs (QoL)	2 yrs.	STG (single bundle)	STG (double bundle)	Mean Difference	-6.3 (-13.45, 0.85)	NS

Table 83: PICO 7 – Single Bundle vs. Double Bundle – Return to Activity

Reference Title	Quality	Outcome Details	Duration	Treatment 1 (Details)	Treatment 2 (Details)	Effect Measure	Result (95% CI)	Favored Treatment
Mohtadi,2019	High	Return to Preinjury Quality of Exercise (Tegner Activity Level)	2 yrs.	Hamstring (quadrupled ST-G, single bundle)	Hamstring (2 strand ST, 2 strand bundle)	RR	1.19(0.84,1.70)	NS
Mohtadi,2019	High	Return to Preinjury Quality of Exercise (Tegner Activity Level)	5 yrs.	Hamstring (quadrupled ST-bundle)	Hamstring (2 strand ST, 2 strand G, double bundle)	RR	1.02(0.73,1.43)	NS
Liu, 2016	High	Level of Sport- Same	80 mos.	Single Bundle	Double Bundle	RR	0.47(0.13,1.73)	NS
Liu, 2016	High	Level of Sport- Less	80 mos.	Single Bundle	Double Bundle	RR	1.11(0.72,1.70)	NS
Liu, 2016	High	Level of Sport- None	80 mos.	Single Bundle	Double Bundle	RR	1.15(0.55,2.40)	NS
Liu, 2016	High	Level of Participation	80 mos.	Single Bundle	Double Bundle	Mean Difference	-0.3 (-8.02, 7.42)	NS
Liu, 2016	High	Months to return to sport	80 mos.	Single Bundle	Double Bundle	Mean Difference	-0.8 (-14.05, 12.45)	NS
Liu, 2016	High	Sport played, return rate (Basketball)	80 mos.	Single Bundle	Double Bundle	RR	1.16(0.67,2.01)	NS
Liu, 2016	High	Sport played, return rate (Running)	80 mos.	Single Bundle	Double Bundle	RR	0.88(0.51,1.52)	NS
Liu, 2016	High	Sport played, return rate (Soccer)	80 mos.	Single Bundle	Double Bundle	RR	3.76(1.17,12.12)	Single Bundle
Liu, 2016	High	Sport played, return rate(Badminton, Table Tennis)	80 mos.	Single Bundle	Double Bundle	RR	1.06(0.47,2.41)	NS
Irrgang, 2021	High	Return to Sport	24 mos.	Single Bundle Quadriceps Autograft	Double Bundle Quadriceps Autograft	RR	0.99 (0.71, 1.36)	NS

Table 84: PICO 8 – Allograft vs. Allograft: Achilles vs. Tibialis Anterior – Adverse Events

Reference Title	Quality	Outcome Details	Duration	Treatment 1 (Details)	Treatment 2 (Details)	Effect Measure	Result (95% CI)	Favored Treatment
McCarthy,2017	High	Revision ACL Surgery	2 yrs.	Allograft: Achilles	Allograft: Tibialis Anterior	RR	0.54(0.17,1.73)	NS
McCarthy,2017	High	Subsequent Knee Procedure	2 yrs.	Allograft: Achilles	Allograft: Tibialis Anterior	RR	0.84(0.27,2.62)	NS

Table 85: PICO 8 – Allograft vs. Allograft: Achilles vs. Tibialis Posterior – Adverse Events

Reference Title	Quality	Outcome Details	Duration	Treatment 1 (Details)	Treatment 2 (Details)	Effect Measure	Result (95% CI)	Favored Treatment
McCarthy,2017	High	Revision ACL Surgery	2 yrs.	Allograft: Achilles	Allograft: Tibialis Posterior Allograft	RR	0.32(0.08,1.24)	NS
McCarthy,2017	High	Subsequent Knee Procedure	2 yrs.	Allograft: Achilles	Allograft: Tibialis Posterior Allograft	RR	0.50(0.13,1.88)	NS

Table 86: PICO 8 – Allograft vs. Allograft: BPTB Allograft (Double vs. Single Layer) - Composite

Reference Title	Quality	Outcome Details	Duration	Treatment 1 (Details)	Treatment 2 (Details)	Effect Measure	Result (95% CI)	Favored Treatment
Mei, 2016	High	Lysholm Knee Score	3 yrs.	Allograft: Double Layer BPTB	Allograft: Single Layer BPTB	Mean Difference	4.2 (-0.32, 8.72)	NS

Table 87: PICO 8 – Allograft vs. Allograft: BPTB Allograft (Double vs. Single Layer) - Function

Reference Title	Quality	Outcome Details	Duration	Treatment 1 (Details)	Treatment 2 (Details)	Effect Measure	Result (95% CI)	Favored Treatment
Mei, 2016	High	Lachman Test Grade 0/1	3 yrs.	Allograft: Double Layer BPTB	Allograft: Single Layer BPTB	RR	0.00(0.00,0.00)	NS
Mei, 2016	High	Lachman Test Grade 2/3	3 yrs.	Allograft: Double Layer BPTB	Allograft: Single Layer BPTB	RD	0.00(0.00,0.00)	NS
Mei, 2016	High	Anterior Drawer Test Grade 0/1	3 yrs.	Allograft: Double Layer BPTB	Allograft: Single Layer BPTB	RR	0.00(0.00,0.00)	NS
Mei, 2016	High	Anterior Drawer Test Grade 2/3	3 yrs.	Allograft: Double Layer BPTB	Allograft: Single Layer BPTB	RD	0.00(0.00,0.00)	NS
Mei, 2016	High	Pivot Shift Test Grade 0	3 yrs.	Allograft: Double Layer BPTB	Allograft: Single Layer BPTB	RR	0.04(-0.04,0.12)	NS
Mei, 2016	High	Pivot-Shift Test Grade 1	3 yrs.	Allograft: Double Layer BPTB	Allograft: Single Layer BPTB	RD	-0.04(-0.12,0.04)	NS
Mei, 2016	High	Strength: Extension (%)	3 yrs.	Allograft: Double Layer BPTB	Allograft: Single Layer BPTB	Mean Difference	4.1 (-0.19, 8.39)	NS
Mei, 2016	High	Strength: Flexion (%)	3 yrs.	Allograft: Double Layer BPTB	Allograft: Single Layer BPTB	Mean Difference	2.6 (-0.30, 5.50)	NS
Mei, 2016	High	Tegner Activity Scale	3 yrs.	Allograft: Double Layer BPTB	Allograft: Single Layer BPTB	Mean Difference	1.7 (1.54, 1.86)	Allograft: Double Layer BPTB

Table 88: PICO 8 – Allograft vs. Allograft: BPTB vs. Achilles – Composite

Reference Title	Quality	Outcome Details	Duration	Treatment 1 (Details)	Treatment 2 (Details)	Effect Measure	Result (95% CI)	Favored Treatment
Wang, 2011	Moderate	Lysholm Knee Score	37 mos.	Bone-Patellar Tendon-Bone	Achilles Tendon	Mean Difference	-1.8 (-3.64, 0.04)	NS

Table 89: PICO 8 – Allograft vs. Allograft: BPTB vs. Achilles – Function

Reference Title	Quality	Outcome Details	Duration	Treatment 1 (Details)	Treatment 2 (Details)	Effect Measure	Result (95% CI)	Favored Treatment
Wang, 2011	Moderate	Side to Side Difference (mm)(KT-1000, anterior translation)	37 mos.	Bone-Patellar Tendon-Bone	Achilles Tendon	Mean Difference	0.73 (0.21, 1.25)	Achilles Tendon
Wang, 2011	Moderate	IKDC Subjective Score	37 mos.	Bone-Patellar Tendon-Bone	Achilles Tendon	Mean Difference	-1.2 (-3.70, 1.30)	NS
Wang, 2011	Moderate	Tegner Activity Scale	37 mos.	Bone-Patellar Tendon-Bone	Achilles Tendon	Mean Difference	0.2 (-0.25, 0.65)	NS

Table 90: PICO 8 – Allograft vs. Allograft: BPTB vs. Facia Lata – Composite

Reference Title	Quality	Outcome Details	Duration	Treatment 1 (Details)	Treatment 2 (Details)	Effect Measure	Result (95% CI)	Favored Treatment
Noyes, 1990	Low	Final Rating (non-validated)	40 mos.	Bone-Patellar Tendon-Bone	Facia Lata	Author Reported -chi-sq	N/A	NS

Table 91: PICO 8 – Allograft vs. Allograft: BPTB vs. Facia Lata – Function

Reference Title	Quality	Outcome Details	Duration	Treatment 1 (Details)	Treatment 2 (Details)	Effect Measure	Result (95% CI)	Favored Treatment
Noyes, 1990	Low	Anterior-Posterior Displacement (mm)	40 mos.	Bone-Patellar Tendon-Bone	Facia Lata	Author Reported -unclear	N/A	BPTB

Table 92: PICO 8 – Allograft vs. Allograft: BPTB vs. HS – Adverse Events

Reference Title	Quality	Outcome Details	Duration	Treatment 1 (Details)	Treatment 2 (Details)	Effect Measure	Result (95% CI)	Favored Treatment
Dai, 2016	High	Revision ACL Surgery	4 yrs.	Allograft: Bone-Patellar Tendon-Bone	Allograft: Hamstring: 6 strand	RR	1.76(0.52,5.90)	NS

Table 93: PICO 8 – Allograft vs. Allograft: BPTB vs. HS – Composite

Reference Title	Quality	Outcome Details	Duration	Treatment 1 (Details)	Treatment 2 (Details)	Effect Measure	Result (95% CI)	Favored Treatment
Dai, 2016	High	Lysholm Knee Score	2 yrs.	Allograft: Bone-Patellar Tendon-Bone	Allograft: Hamstring: 6 strand	Mean Difference	-1.1 (-2.64, 0.44)	NS
Dai, 2016	High	Lysholm Knee Score	4 yrs.	Allograft: Bone-Patellar Tendon-Bone	Allograft: Hamstring: 6 strand	Mean Difference	-1.1 (-3.18, 0.98)	NS

Table 94: PICO 8 – Allograft vs. Allograft: BPTB vs. HS – Function

Reference Title	Quality	Outcome Details	Duration	Treatment 1 (Details)	Treatment 2 (Details)	Effect Measure	Result (95% CI)	Favored Treatment
Dai, 2016	High	IKDC Subjective Score	2 yrs.	Allograft: Bone-Patellar Tendon-Bone	Allograft: Hamstring: 6 strand	Mean Difference	-0.9 (-2.71, 0.91)	NS
Dai, 2016	High	IKDC Subjective Score	4 yrs.	Allograft: Bone-Patellar Tendon-Bone	Allograft: Hamstring: 6 strand	Mean Difference	-1.2 (-3.19, 0.79)	NS
Dai, 2016	High	Side to side difference (KT-1000)	2 yrs.	Allograft: Bone-Patellar Tendon-Bone	Allograft: Hamstring: 6 strand	Mean Difference	0.5 (0.02, 0.98)	Allograft: Hamstring
Dai, 2016	High	Side to side difference	4 yrs.	Allograft: Bone-Patellar Tendon-Bone	Allograft: Hamstring: 6 strand	Mean Difference	0.6 (0.06, 1.14)	Allograft: Hamstring
Dai, 2016	High	Lachman Test Grade 0/1	2 yrs.	Allograft: Bone-Patellar Tendon-Bone	Allograft: Hamstring: 6 strand	RR	-0.06(-0.12,0.01)	NS
Dai, 2016	High	Lachman Test Grade 2/3	2 yrs.	Allograft: Bone-Patellar Tendon-Bone	Allograft: Hamstring: 6 strand	RD	0.06(-0.01,0.12)	NS
Dai, 2016	High	Lachman Test Grade 0/1	4 yrs.	Allograft: Bone-Patellar Tendon-Bone	Allograft: Hamstring: 6 strand	RR	-0.06(-0.12,0.01)	NS
Dai, 2016	High	Lachman Test Grade 2/3	4 yrs.	Allograft: Bone-Patellar Tendon-Bone	Allograft: Hamstring: 6 strand	RD	0.06(-0.01,0.12)	NS
Dai, 2016	High	Pivot Shift Test Grade 0/1	2 yrs.	Allograft: Bone-Patellar Tendon-Bone	Allograft: Hamstring: 6 strand	RR	-0.09(-0.17,-0.02)	Allograft: Hamstring
Dai, 2016	High	Pivot-Shift Test Grade 2/3	2 yrs.	Allograft: Bone-Patellar Tendon-Bone	Allograft: Hamstring: 6 strand	RD	0.09(0.02,0.17)	Allograft: Hamstring
Dai, 2016	High	Pivot Shift Test Grade 0/1	4 yrs.	Allograft: Bone-Patellar Tendon-Bone	Allograft: Hamstring: 6 strand	RR	-0.10(-0.18,-0.02)	Allograft: Hamstring
Dai, 2016	High	Pivot-Shift Test Grade 2/3	4 yrs.	Allograft: Bone-Patellar Tendon-Bone	Allograft: Hamstring: 6 strand	RD	0.10(0.02,0.18)	Allograft: Hamstring
Dai, 2016	High	Pivot-Shift Test (+)	2 yrs.	Allograft: Bone-Patellar Tendon-Bone	Allograft: Hamstring: 6 strand	RR	2.57(0.95,6.94)	NS
Dai, 2016	High	Pivot-Shift Test (+)	4 yrs.	Allograft: Bone-Patellar Tendon-Bone	Allograft: Hamstring: 6 strand	RR	2.54(1.04,6.21)	Allograft: Hamstring
Dai, 2016	High	Extension deficit (loss of extension)	2 yrs.	Allograft: Bone-Patellar Tendon-Bone	Allograft: Hamstring: 6 strand	Mean Difference	0.2 (-0.04, 0.44)	NS
Dai, 2016	High	Extension deficit	4 yrs.	Allograft: Bone-Patellar Tendon-Bone	Allograft: Hamstring: 6 strand	Mean Difference	0.2 (-0.03, 0.43)	NS

Reference Title	Quality	Outcome Details	Duration	Treatment 1 (Details)	Treatment 2 (Details)	Effect Measure	Result (95% CI)	Favored Treatment
Dai, 2016	High	Flexion Deficit (loss of flexion)	2 yrs.	Allograft: Bone-Patellar Tendon-Bone	Allograft: Hamstring: 6 strand	Mean Difference	-0.1 (-0.32, 0.12)	NS
Dai, 2016	High	Flexion Deficit	4 yrs.	Allograft: Bone-Patellar Tendon-Bone	Allograft: Hamstring: 6 strand	Mean Difference	-0.1 (-0.30, 0.10)	NS
Dai, 2016	High	Single-Legged Hop Test (Grade A)(grade A, >90 % the distance hopped on the contralateral limb)	2 yrs.	Allograft: Bone-Patellar Tendon-Bone	Allograft: Hamstring: 6 strand	RR	0.97(0.87,1.08)	NS
Dai, 2016	High	Single-Legged Hop Test (Grade B)(grade B, 75–89 %)	2 yrs.	Allograft: Bone-Patellar Tendon-Bone	Allograft: Hamstring: 6 strand	RR	1.46(0.41,5.17)	NS
Dai, 2016	High	Single-Legged Hop Test (Grade C)(grade C, <75 %)	2 yrs.	Allograft: Bone-Patellar Tendon-Bone	Allograft: Hamstring: 6 strand	RD	0.00(0.00,0.00)	NS
Dai, 2016	High	Single-Legged Hop Test (Grade A)(grade A, >90 % the distance hopped on the contralateral limb)	4 yrs.	Allograft: Bone-Patellar Tendon-Bone	Allograft: Hamstring: 6 strand	RR	0.95(0.87,1.05)	NS
Dai, 2016	High	Single-Legged Hop Test (Grade B)(grade B, 75–89 %)	4 yrs.	Allograft: Bone-Patellar Tendon-Bone	Allograft: Hamstring: 6 strand	RR	2.35(0.45,12.30)	NS
Dai, 2016	High	Single-Legged Hop Test (Grade C)(grade C, <75 %)	4 yrs.	Allograft: Bone-Patellar Tendon-Bone	Allograft: Hamstring: 6 strand	RD	0.00(0.00,0.00)	NS

Table 95: PICO 8 – Allograft vs. Allograft: HS vs. Achilles – Adverse Events

Reference Title	Quality	Outcome Details	Duration	Treatment 1 (Details)	Treatment 2 (Details)	Effect Measure	Result (95% CI)	Favored Treatment
McCarthy,2017	High	Revision ACL Surgery	2 yrs.	Allograft: Hamstring	Allograft: Achilles	RR	0.81(0.11,5.86)	NS
McCarthy,2017	High	Subsequent Knee Procedure	2 yrs.	Allograft: Hamstring	Allograft: Achilles	RR	0.52(0.07,3.65)	NS

Table 96: PICO 8 – Allograft vs. Allograft: HS vs. Tibialis Anterior – Adverse Events

Reference Title	Quality	Outcome Details	Duration	Treatment 1 (Details)	Treatment 2 (Details)	Effect Measure	Result (95% CI)	Favored Treatment
McCarthy,2017	High	Revision ACL Surgery	2 yrs.	Allograft: Hamstring	Allograft: Tibialis Anterior	RR	0.43(0.05,3.91)	NS
McCarthy,2017	High	Subsequent Knee Procedure	2 yrs.	Allograft: Hamstring	Allograft: Tibialis Anterior	RR	0.43(0.05,3.91)	NS

Table 97: PICO 8 – Allograft vs. Allograft: HS vs. Tibialis Posterior – Adverse Events

Reference Title	Quality	Outcome Details	Duration	Treatment 1 (Details)	Treatment 2 (Details)	Effect Measure	Result (95% CI)	Favored Treatment
McCarthy,2017	High	Revision ACL Surgery	2 yrs.	Allograft: Hamstring	Allograft: Tibialis Posterior Allograft	RR	0.26(0.03,2.59)	NS
McCarthy,2017	High	Subsequent Knee Procedure	2 yrs.	Allograft: Hamstring	Allograft: Tibialis Posterior Allograft	RR	0.26(0.03,2.59)	NS

Table 98: PICO 8 – Allograft vs. Allograft: Tibialis Anterior vs. Tibialis Posterior – Adverse Events

Reference Title	Quality	Outcome Details	Duration	Treatment 1 (Details)	Treatment 2 (Details)	Effect Measure	Result (95% CI)	Favored Treatment
McCarthy,2017	High	Revision ACL Surgery	2 yrs.	Allograft: Tibialis Anterior	Allograft: Tibialis Posterior Allograft	RR	0.60(0.11,3.15)	NS
McCarthy,2017	High	Subsequent Knee Procedure	2 yrs.	Allograft: Tibialis Anterior	Allograft: Tibialis Posterior Allograft	RR	0.60(0.11,3.15)	NS

Table 99: PICO 8 – Allograft vs. Hybrid – Adverse Events

Reference Title	Quality	Outcome Details	Duration	Treatment 1 (Details)	Treatment 2 (Details)	Effect Measure	Result (95% CI)	Favored Treatment
Mirzayan,2020	Low	Graft Rupture / Failure	3.4 yrs.	Soft-Tissue Allograft	Hybrid Graft	Author Reported -Multivariable Cox Proportions Hazards Regression	2.00(1.21,3.31)	Hybrid Graft

Table 100: PICO 8 – Allograft vs. Hybrid – Composite

Reference Title	Quality	Outcome Details	Duration	Treatment 1 (Details)	Treatment 2 (Details)	Effect Measure	Result (95% CI)	Favored Treatment
Li, 2015	Moderate	Lysholm Knee Score	5 yrs.	Allograft: Tibialis Anterior: gamma irradiated	Hybrid: HS (ST) Auto + Ant. Tibialis Allo.	Mean Difference	-1.8 (-6.47, 2.87)	NS

Table 101: PICO 8 – Allograft vs. Hybrid – Function

Reference Title	Quality	Outcome Details	Duration	Treatment 1 (Details)	Treatment 2 (Details)	Effect Measure	Result (95% CI)	Favored Treatment
Li, 2015	Moderate	IKDC (Objective) A/B	5 yrs.	Allograft: Tibialis Anterior: Gamma irradiated	Hybrid: HS (ST) Auto + Ant. Tibialis Allo	RR	1.00(0.85,1.18)	NS
Li, 2015	Moderate	IKDC (Objective) C/D	5 yrs.	Allograft: Tibialis Anterior: Gamma irradiated	Hybrid: HS (ST) Auto + Ant. Tibialis Allo	RR	0.97(0.21,4.44)	NS
Li, 2015	Moderate	Pivot Shift Test Grade 0/1	5 yrs.	Allograft: Tibialis Anterior: Gamma irradiated	Hybrid: HS (ST) Auto + Ant. Tibialis Allo	RR	-0.03(-0.09,0.03)	NS
Li, 2015	Moderate	Pivot-Shift Test Grade 2/3	5 yrs.	Allograft: Tibialis Anterior: Gamma irradiated	Hybrid: HS (ST) Auto + Ant. Tibialis Allo	RD	0.03(-0.03,0.09)	NS
Li, 2015	Moderate	Lachman Test Grade 0/1	5 yrs.	Allograft: Tibialis Anterior: Gamma irradiated	Hybrid: HS (ST) Auto + Ant. Tibialis Allo	RR	0.90(0.78,1.05)	NS
Li, 2015	Moderate	Lachman Test Grade 2/3	5 yrs.	Allograft: Tibialis Anterior: Gamma irradiated	Hybrid: HS (ST) Auto + Ant. Tibialis Allo	RR	3.88(0.46,32.77)	NS
Li, 2015	Moderate	Knee Laxity (mm) (KT-1000)	5 yrs.	Allograft: Tibialis Anterior: Gamma irradiated	Hybrid: HS (ST) Auto + Ant. Tibialis Allo	Mean Difference	1.5 (0.83, 2.17)	Hybrid: HS (ST) Auto +Ant. Tibialis Allo
Li, 2015	Moderate	Tegner Activity Scale	5 yrs.	Allograft: Tibialis Anterior: Gamma irradiated	Hybrid: HS (ST) Auto + Ant. Tibialis Allo	Mean Difference	-0.5 (-1.40, 0.40)	NS
Li, 2015	Moderate	IKDC Subjective Score	5 yrs.	Allograft: Tibialis Anterior: Gamma irradiated	Hybrid: HS (ST) Auto + Ant. Tibialis Allo	Mean Difference	-6 (-9.12, -2.88)	Hybrid: HS (ST) Auto +Ant. Tibialis Allo

Table 102: PICO 8 – Autograft vs. Allograft – Adverse Events

Reference Title	Quality	Outcome Details	Duration	Treatment 1 (Details)	Treatment 2 (Details)	Effect Measure	Result (95% CI)	Favored Treatment
Sevimli, 2020	Low	Revision ACL Surgery	5 yrs.	Any Autograft: (BPTB or HS)	Quadriceps	RR	0.85(0.33,2.20)	NS
Zhang, 2017	Low	Tibial Tunnel Enlargement	36 mos.	Hamstring (Quadrupled)	Hamstring, Anterior Tibialis, or Achilles	Mean Difference	-3 (-5.23, -0.77)	Hamstring (Quadrupled)
Zhang, 2017	Low	Thigh Atrophy	24 mos.	Hamstring (Quadrupled)	Hamstring, Anterior Tibialis, or Achilles	Mean Difference	-0.34 (-0.84, 0.16)	NS
Zhang, 2017	Low	Thigh Atrophy	36 mos.	Hamstring (Quadrupled)	Hamstring, Anterior Tibialis, or Achilles	Mean Difference	-0.17 (-0.61, 0.27)	NS
Maletis, 2017	Moderate	Graft Rupture / Failure	2 yrs.	Autograft: Bone-Patellar Tendon-Bone	Allograft: Bone-Patellar Tendon-Bone	Author Reported - cox proportional hazards models	4.54(3.03,6.79)	Autograft
Murphy, 2016	Low	Infection	6 mos.	Autograft: Bone-Patellar Tendon-Bone: "BPTB"	Allograft	Author Reported - Multivariate logistic regression	1.20(0.30,4.80)	NS
Murphy, 2016	Low	Infection	6 mos.	Autograft: Hamstring	Allograft	Author Reported - Multivariate logistic regression	5.90(2.80,12.80)	Allograft
Yabroudi,2016	Low	Revision ACL Surgery	3.4 yrs.	Autograft	Allograft	Author Reported - Multivariate logistic regression	3.75(1.38,10.22)	Autograft
Steadman,2015	Low	Revision ACL Surgery	2 yrs.	Autograft: Bone-Patellar Tendon-Bone: "BPTB"	Allograft: Bone-Patellar Tendon-Bone: "BPTB"	RD	-0.11(-0.18,-0.05)	Autograft: Bone-Patellar Tendon-Bone
Barber, 2014	Low	Graft Rupture / Failure	34 mos.	Autograft: Bone-Patellar Tendon-Bone: "BPTB"	Allograft: Bone-Patellar Tendon-Bone: "BPTB"	RR	1.32(0.27,6.38)	NS
Perkins, 2020	Low	Graft Rupture / Failure	26 mos.	Hamstring (4-STG):4-strand doubled semitendinosus andgracilis autograft (4-STG)	6-STGAllo: 6-strand doubled gracilis and semitendinosus autograft augmented with a soft tissue allograft (6-STGAllo)	Author Reported - Multivariate logistic regression analyses	2.60(1.02,6.50)	HT Autograft
Kane, 2016	Low	Revision ACL Surgery	2 yrs.	Autograft: Bone-Patellar Tendon-Bone	Allograft: Bone-Patellar Tendon-Bone	RR	0.10(0.01,0.77)	Autograft: Bone-Patellar Tendon-Bone

Reference Title	Quality	Outcome Details	Duration	Treatment 1 (Details)	Treatment 2 (Details)	Effect Measure	Result (95% CI)	Favored Treatment
Mardani-Kivi,2016	Low	Side to side difference	55.5mos	Autograft: Hamstring:"HTA" 4-strand	Allograft: Tibialis Posterior Allograft: "TP"	RR	0.78(0.41,1.48)	NS
Nelson, 2016	Low	Aseptic Revision (Aseptic failure of a primary ACLR that required the replacement of the previously implanted graft)	2.9 yrs.	Autograft: Bone-Patellar Tendon-Bone: "BPTB"	Allograft: Any Allograft	RR	0.41(0.12,1.40)	NS
Nelson, 2016	Low	Reoperation (Non-revision operation(re-operation) on the same knee of the primary ACLR during the study period)	2.9 yrs.	Autograft: Bone-Patellar Tendon-Bone: "BPTB"	Allograft: Any Allograft	RR	0.47(0.16,1.36)	NS
Nelson, 2016	Low	Aseptic Revision (Aseptic failure of a primary ACLR that required the replacement of the previously implanted graft)	2.9 yrs.	Autograft: Hamstring	Allograft: Any Allograft	RR	0.57(0.30,1.07)	NS
Nelson, 2016	Low	Reoperation (Non-revision operation(re-operation) on the same knee of the primary ACLR during the study period)	2.9 yrs.	Autograft: Hamstring	Allograft: Any Allograft	RR	0.50(0.28,0.91)	NS
Maletis, 2016	Low	Aseptic Revision (Risk of Revisions)	2.2 yrs.	Autograft: Bone-Patellar Tendon-Bone: "BPTB"	Allograft: Any Allograft	Author Reported - Cox proportional hazard model	2.63(2.08,3.33)	BPTB autograft
Jia, 2015	High	Tunnel Widening (Tibia)	81 mos.	Autograft: Hamstring: "HS"	Allograft: Bone-Patellar Tendon-Bone: "BPTB"	Mean Difference	-0.19 (-0.31, -0.07)	Autograft: Hamstring
Jia, 2015	High	Tunnel Widening (Femur)	81 mos.	Autograft: Hamstring: "HS"	Allograft: Bone-Patellar Tendon-Bone: "BPTB"	Mean Difference	-0.13 (-0.28, 0.02)	NS
Lenehan, 2015	Low	Reoperation	50.3mos	Autograft: semitendinosus+ gracilis tendon: Quadrupled	Allograft: tibialis Anterior +Tibialis Posterior: double strand	RR	1.70(0.80,3.63)	NS
Lenehan, 2015	Low	Revision ACL Surgery	50.3mos	Autograft: semitendinosus+ gracilis tendon: Quadrupled	Allograft: tibialis Anterior +Tibialis Posterior: double strand	RR	0.41(0.06,3.07)	NS

Reference Title	Quality	Outcome Details	Duration	Treatment 1 (Details)	Treatment 2 (Details)	Effect Measure	Result (95% CI)	Favored Treatment
Lenehan, 2015	Low	Meniscus Repair	50.3mos	Autograft: semitendinosus+ gracilis tendon: Quadrupled	Allograft: tibialis Anterior +Tibialis Posterior: double strand	RR	3.09(0.74,12.92)	NS
Lenehan, 2015	Low	Partial Meniscectomy	50.3mos	Autograft: semitendinosus+ gracilis tendon: Quadrupled	Allograft: tibialis Anterior +Tibialis Posterior: double strand	RR	2.06(0.56,7.66)	NS
Lenehan, 2015	Low	Meniscus transplant	50.3mos	Autograft: semitendinosus+ gracilis tendon: Quadrupled	Allograft: tibialis Anterior +Tibialis Posterior: double strand	RD	0.04(-0.04,0.12)	NS
Lenehan, 2015	Low	Hardware removal	50.3mos	Autograft: semitendinosus+ gracilis tendon: Quadrupled	Allograft: tibialis Anterior +Tibialis Posterior: double strand	RR	2.06(0.19,21.82)	NS
Lenehan, 2015	Low	Infection	50.3mos	Autograft: semitendinosus+ gracilis tendon: Quadrupled	Allograft: tibialis Anterior +Tibialis Posterior: double strand	RD	-0.03(-0.06,0.00)	NS
Lenehan, 2015	Low	Graft Rupture / Failure	50.3mos	Autograft: semitendinosus+ gracilis tendon: Quadrupled	Allograft: tibialis Anterior +Tibialis Posterior: double strand	RD	-0.62(-0.88,-0.35)	Autograft: semitendinosus +gracilis tendon
Engelman,2014	Low	Graft Rupture / Failure	41.72mos	Autograft: Hamstring	Allograft: Anterior tibial, posterior tibial, or peroneal tendon grafts	RR	0.39(0.14,1.13)	NS
Engelman,2014	Low	Relative risk for failure to attain one's previous activity level	41.72mos	Autograft: Hamstring	Allograft: Anterior tibial, posterior tibial, or peroneal tendon grafts	Author Reported - Univariate Cox Proportional hazards models	1.45(0.63,3.32)	NS
Engelman,2014	Low	Relative risk for reinjury necessitating medical attention	41.72mos	Autograft: Hamstring	Allograft: Anterior tibial, posterior tibial, or peroneal tendon grafts	Author Reported - Univariate Cox Proportional hazards models	1.71(0.77,3.79)	NS
Engelman,2014	Low	Risk of Revision surgery (after controlling for post operative laxity)	41.72mos	Autograft: Hamstring	Allograft: Anterior tibial, posterior tibial, or peroneal tendon grafts	Author Reported - Univariate Cox Proportional hazards models	4.40(1.23,18.89)	Hamstring Autograft
Engelman,2014	Low	Superficial infection	41.72mos	Autograft: Hamstring	Allograft: Anterior tibial, posterior tibial, or peroneal tendon grafts	RD	0.06(-0.02,0.13)	NS

Reference Title	Quality	Outcome Details	Duration	Treatment 1 (Details)	Treatment 2 (Details)	Effect Measure	Result (95% CI)	Favored Treatment
McCarthy,2017	High	Revision ACL Surgery	2 yrs.	Autograft: Hamstring +BTB + Quad bone	Allograft: Hamstring + Achilles + tibialis anterior +tibialis posterior	RR	1.35(0.87,2.09)	NS
McCarthy,2017	High	Subsequent Knee Procedure	2 yrs.	Autograft: Hamstring +BTB + Quad bone	Allograft: Hamstring + Achilles + tibialis anterior +tibialis posterior	RR	1.34(0.93,1.91)	NS
McCarthy,2017	High	Revision ACL Surgery	2 yrs.	Autograft: Bone-Patellar Tendon-Bone: "BTB"	Allograft: Hamstring	RR	1.89(0.27,13.07)	NS
McCarthy,2017	High	Subsequent Knee Procedure	2 yrs.	Autograft: Bone-Patellar Tendon-Bone: "BTB"	Allograft: Hamstring	RR	2.56(0.37,17.56)	NS
McCarthy,2017	High	Revision ACL Surgery	2 yrs.	Autograft: Bone-Patellar Tendon-Bone: "BTB"	Allograft: Achilles	RR	1.54(0.90,2.62)	NS
McCarthy,2017	High	Subsequent Knee Procedure	2 yrs.	Autograft: Bone-Patellar Tendon-Bone: "BTB"	Allograft: Achilles	RR	1.32(0.87,2.03)	NS
McCarthy,2017	High	Revision ACL Surgery	2 yrs.	Autograft: Bone-Patellar Tendon-Bone: "BTB"	Allograft: Tibialis Anterior	RR	0.82(0.27,2.47)	NS
McCarthy,2017	High	Subsequent Knee Procedure	2 yrs.	Autograft: Bone-Patellar Tendon-Bone: "BTB"	Allograft: Tibialis Anterior	RR	1.11(0.37,3.31)	NS
McCarthy,2017	High	Revision ACL Surgery	2 yrs.	Autograft: Bone-Patellar Tendon-Bone: "BTB"	Allograft: Tibialis Posterior Allograft	RR	0.49(0.14,1.79)	NS
McCarthy,2017	High	Subsequent Knee Procedure	2 yrs.	Autograft: Bone-Patellar Tendon-Bone: "BTB"	Allograft: Tibialis Posterior Allograft	RR	0.67(0.19,2.40)	NS
McCarthy,2017	High	Revision ACL Surgery	2 yrs.	Autograft: Hamstring	Allograft: Hamstring	RR	1.88(0.27,13.12)	NS
McCarthy,2017	High	Subsequent Knee Procedure	2 yrs.	Autograft: Hamstring	Allograft: Hamstring	RR	2.95(0.43,20.33)	NS
McCarthy,2017	High	Revision ACL Surgery	2 yrs.	Autograft: Hamstring	Allograft: Achilles	RR	1.53(0.87,2.69)	NS
McCarthy,2017	High	Subsequent Knee Procedure	2 yrs.	Autograft: Hamstring	Allograft: Achilles	RR	1.53(0.98,2.38)	NS
McCarthy,2017	High	Revision ACL Surgery	2 yrs.	Autograft: Hamstring	Allograft: Tibialis Anterior	RR	0.82(0.27,2.50)	NS
McCarthy,2017	High	Subsequent Knee Procedure	2 yrs.	Autograft: Hamstring	Allograft: Tibialis Anterior	RR	1.28(0.43,3.85)	NS
McCarthy,2017	High	Revision ACL Surgery	2 yrs.	Autograft: Hamstring	Allograft: Tibialis Posterior Allograft	RR	0.49(0.13,1.80)	NS

Reference Title	Quality	Outcome Details	Duration	Treatment 1 (Details)	Treatment 2 (Details)	Effect Measure	Result (95% CI)	Favored Treatment
McCarthy,2017	High	Subsequent Knee Procedure	2 yrs.	Autograft: Hamstring	Allograft: Tibialis Posterior Allograft	RR	0.77(0.21,2.78)	NS
Kaeding, 2017	Low	Graft Rupture / Failure	2 yrs.	Autograft: BTB or HS:"BTB"	Allograft	Author Reported - Multivariate logistic regression	5.91(2.91,12.01)	Autograft
Schilaty, 2017	Low	Risk of Second ACL Injuries	8.1 yrs.	Autograft: Bone-Patellar Tendon-Bone: "Patellar tendon"	Allograft: Any Allograft	Mean Difference	-0.0462 (-0.26, 0.16)	NS
Schilaty, 2017	Low	Risk of Second ACL Injuries	8.1 yrs.	Autograft: Hamstring	Allograft: Any Allograft	Mean Difference	-0.0626 (-0.26, 0.14)	NS
Schilaty, 2017	Low	Graft Rupture / Failure	8.1 yrs.	Autograft: Bone-Patellar Tendon-Bone: "Patellar tendon"	Allograft: Any Allograft	Author Reported - One-way analysis of variance	20.09(.,.)	BPTB autograft
Schilaty, 2017	Low	Graft Rupture / Failure	8.1 yrs.	Autograft: Hamstring	Allograft: Any Allograft	Author Reported - One-way analysis of variance	20.09(.,.)	Hamstring autograft
Schilaty, 2017	Low	Contralateral ACL tear	8.1 yrs.	Autograft: Bone-Patellar Tendon-Bone: "Patellar tendon"	Allograft: Any Allograft	Author Reported - One-way analysis of variance	5.30(.,.)	Any Allograft
Schilaty, 2017	Low	Subset of Contralateral tear that experienced third ACL injury	.	Autograft: Bone-Patellar Tendon-Bone: "Patellar tendon"	Allograft: Any Allograft	Author Reported - One-way analysis of variance	4.71(.,.)	BPTB autograft

Reference Title	Quality	Outcome Details	Duration	Treatment 1 (Details)	Treatment 2 (Details)	Effect Measure	Result (95% CI)	Favored Treatment
Kentel, 2021	Low	Revision ACL Surgery	Postop .	Autograft: Hamstring	Artificial: Ligament Advanced Reinforcement System (LARS)	RR	0.12(0.07,0.20)	Autograft: Hamstring

Table 103: PICO 8 – Autograft vs. Allograft – Composite

Reference Title	Quality	Outcome Details	Duration	Treatment 1 (Details)	Treatment 2 (Details)	Effect Measure	Result (95% CI)	Favored Treatment
Yoo, 2017	High	Lysholm Knee Score	33 mos.	Hamstring (Semitendinosus+ Gracilis): 6-8mmdiameter	Tibialis: 7-8mm diameter	Author Reported - Independent-Sample t-test	N/A	NS
Kwak, 2018	Low	Lysholm Knee Score	31 mos.	Quadriceps Tendon Patellar Bone: QTPB	Quadriceps Tendon Patellar Bone: QTPB	Mean Difference	-1.7 (-4.13, 0.73)	NS
Kwak, 2018	Low	KOOS	31 mos.	Quadriceps Tendon Patellar Bone: QTPB	Quadriceps Tendon Patellar Bone: QTPB	Mean Difference	9.9 (-9.12, 28.92)	NS
Zhang, 2017	Low	Lysholm Knee Score	36 mos.	Hamstring (Quadrupled)	Hamstring, Anterior Tibialis, or Achilles	Mean Difference	2.1 (-0.99, 5.19)	NS
Steadman,2015	Low	Lysholm Knee Score	2 yrs.	Autograft: Bone-Patellar Tendon-Bone: "BPTB"	Allograft: Bone-Patellar Tendon-Bone: "BPTB"	Mean Difference	-2.2 (-6.73, 2.33)	NS
Li, 2015	Moderate	Lysholm Knee Score	5 yrs.	Autograft: Hamstring(STG)	Allograft: Tibialis Anterior: gamma irradiated	Mean Difference	2.6 (-2.38, 7.58)	NS
Sun, 2015	High	Lysholm Knee Score	36 mos.	Autograft: Hamstring(STG, double bundle)	Allograft: Tibialis Anterior (double bundle)	Mean Difference	-0.5 (-1.46, 0.46)	NS
Barber, 2014	Low	Lysholm Knee Score	34 mos.	Autograft: Bone-Patellar Tendon-Bone: "BPTB"	Allograft: Bone-Patellar Tendon-Bone: "BPTB"	Author Reported - unclear	N/A	NS
Issin, 2019	Low	Lysholm Knee Score	2 yrs.	Autograft: Hamstring(Quadrupled, STG)	Allograft: Tibialis Anterior: irradiated	Mean Difference	0.8 (-0.93, 2.53)	NS
Biz, 2019	Low	KOOS	2 yrs.	Autograft: Hamstring(semitendinosus-gracilis):"GST"	Allograft: Bone-Patellar Tendon-Bone	Mean Difference	0.99 (-4.33, 6.31)	NS
Biz, 2019	Low	Lysholm Knee Score	2 yrs.	Autograft: Hamstring(semitendinosus-gracilis):"GST"	Allograft: Bone-Patellar Tendon-Bone	Mean Difference	-0.4 (-4.12, 3.32)	NS
Kane, 2016	Low	Lysholm Knee Score	2 yrs.	Autograft: Bone-Patellar Tendon-Bone	Allograft: Bone-Patellar Tendon-Bone	Mean Difference	0 (-7.07, 7.07)	NS

Reference Title	Quality	Outcome Details	Duration	Treatment 1 (Details)	Treatment 2 (Details)	Effect Measure	Result (95% CI)	Favored Treatment
Mardani-Kivi,2016	Low	Lysholm Knee Score	55.5mos	Autograft: Hamstring:"HTA" 4-strand	Allograft: Tibialis Posterior Allograft: "TP"	Mean Difference	-0.48 (-1.52, 0.56)	NS
Jia, 2015	High	Lysholm Knee Score	81 mos.	Autograft: Hamstring: "HS"	Allograft: Bone-Patellar Tendon-Bone: "BPTB"	Mean Difference	-1.6 (-2.69, -0.51)	Allograft: Bone-Patellar Tendon-Bone
Engelman,2014	Low	Lysholm Knee Score (among the grafts that didn't fail)	41.72mos	Autograft: Hamstring	Allograft: Anterior tibial, posterior tibial, or peroneal tendon grafts	Mean Difference	-1 (-8.07, 6.07)	NS

Table 104: PICO 8 – Autograft vs. Allograft – Function

Reference Title	Quality	Outcome Details	Duration	Treatment 1 (Details)	Treatment 2 (Details)	Effect Measure	Result (95% CI)	Favored Treatment
Yoo, 2017	High	Lachman Test Grade 0/1	33 mos.	Hamstring (Semitendinosus+ Gracilis): 6-8mmdiameter	Tibialis: 7-8mm diameter	RR	1.04(0.94,1.15)	NS
Yoo, 2017	High	Lachman Test Grade 2/3	33 mos.	Hamstring (Semitendinosus+ Gracilis): 6-8mmdiameter	Tibialis: 7-8mm diameter	RR	0.63(0.19,2.12)	NS
Yoo, 2017	High	Lachman Test (+)	33 mos.	Hamstring (Semitendinosus+ Gracilis): 6-8mmdiameter	Tibialis: 7-8mm diameter	RR	0.97(0.70,1.34)	NS
Yoo, 2017	High	Pivot-Shift Test (+)	33 mos.	Hamstring (Semitendinosus+ Gracilis): 6-8mmdiameter	Tibialis: 7-8mm diameter	RR	0.74(0.50,1.09)	NS
Yoo, 2017	High	Pivot-Shift Test Grade 0/1	33 mos.	Hamstring (Semitendinosus+ Gracilis): 6-8mmdiameter	Tibialis: 7-8mm diameter	RR	1.02(0.95,1.09)	NS
Yoo, 2017	High	Pivot-Shift Test Grade 2/3	33 mos.	Hamstring (Semitendinosus+ Gracilis): 6-8mmdiameter	Tibialis: 7-8mm diameter	RR	0.63(0.11,3.63)	NS
Yoo, 2017	High	Tegner Activity Scale	33 mos.	Hamstring (Semitendinosus+ Gracilis): 6-8mmdiameter	Tibialis: 7-8mm diameter	Author Reported -Independent--test	N/A	NS
Yoo, 2017	High	Laxity - IKDC (Ordinal) A/B	33 mos.	Hamstring (Semitendinosus+ Gracilis): 6-8mmdiameter	Tibialis: 7-8mm diameter	RR	1.02(0.94,1.11)	NS
Yoo, 2017	High	Laxity - IKDC (Ordinal) C/D	33 mos.	Hamstring (Semitendinosus+ Gracilis): 6-8mmdiameter	Tibialis: 7-8mm diameter	RR	0.71(0.16,3.03)	NS
Kwak, 2018	Low	Anterior Drawer Test Grade 0/1	31 mos.	Quadriceps Tendon Patellar Bone: QTPB	Quadriceps Tendon Patellar Bone: QTPB	RR	0.00(0.00,0.00)	NS
Kwak, 2018	Low	Anterior Drawer Test Grade 2/3	31 mos.	Quadriceps Tendon Patellar Bone: QTPB	Quadriceps Tendon Patellar Bone: QTPB	RD	0.00(0.00,0.00)	NS
Kwak, 2018	Low	Lachman Test Grade 0/1	31 mos.	Quadriceps Tendon Patellar Bone: QTPB	Quadriceps Tendon Patellar Bone: QTPB	RR	1.00(0.94,1.06)	NS
Kwak, 2018	Low	Lachman Test Grade 2/3	31 mos.	Quadriceps Tendon Patellar Bone: QTPB	Quadriceps Tendon Patellar Bone: QTPB	RR	1.00(0.06,15.50)	NS
Kwak, 2018	Low	Pivot Shift Test Grade 0/1	31 mos.	Quadriceps Tendon Patellar Bone: QTPB	Quadriceps Tendon Patellar Bone: QTPB	RR	0.00(0.00,0.00)	NS

Reference Title	Quality	Outcome Details	Duration	Treatment 1 (Details)	Treatment 2 (Details)	Effect Measure	Result (95% CI)	Favored Treatment
Kwak, 2018	Low	Pivot-Shift Test Grade 2/3	31 mos.	Quadriceps Tendon Patellar Bone: QTPB	Quadriceps Tendon Patellar Bone: QTPB	RD	0.00(0.00,0.00)	NS
Kwak, 2018	Low	Knee Laxity (mm)	31 mos.	Quadriceps Tendon Patellar Bone: QTPB	Quadriceps Tendon Patellar Bone: QTPB	Mean Difference	-0.4 (-0.98, 0.18)	NS
Kwak, 2018	Low	Knee Laxity < 3 mm	31 mos.	Quadriceps Tendon Patellar Bone: QTPB	Quadriceps Tendon Patellar Bone: QTPB	RR	0.87(0.71,1.07)	NS
Kwak, 2018	Low	Knee Laxity > 3 mm	31 mos.	Quadriceps Tendon Patellar Bone: QTPB	Quadriceps Tendon Patellar Bone: QTPB	RR	1.83(0.74,4.53)	NS
Kwak, 2018	Low	IKDC Subjective Score	31 mos.	Quadriceps Tendon Patellar Bone: QTPB	Quadriceps Tendon Patellar Bone: QTPB	Mean Difference	-2.8 (-8.92, 3.32)	NS
Kwak, 2018	Low	Tegner Activity Scale	31 mos.	Quadriceps Tendon Patellar Bone: QTPB	Quadriceps Tendon Patellar Bone: QTPB	Author Reported -independent t-test	N/A	NS
Zhang, 2017	Low	Tegner Activity Scale	36 mos.	Hamstring (Quadrupled)	Hamstring, Anterior Tibialis, or Achilles	Mean Difference	0.55 (-0.07, 1.17)	NS
Zhang, 2017	Low	ROM: Abnormal/Severely Abnormal	24 mos.	Hamstring (Quadrupled)	Hamstring, Anterior Tibialis, or Achilles	RR	0.84(0.18,3.89)	NS
Zhang, 2017	Low	ROM: Abnormal/Severely Abnormal	36 mos.	Hamstring (Quadrupled)	Hamstring, Anterior Tibialis, or Achilles	RR	1.12(0.27,4.65)	NS
Zhang, 2017	Low	Knee Laxity (mm) (KT-2000)	24 mos.	Hamstring (Quadrupled)	Hamstring, Anterior Tibialis, or Achilles	Mean Difference	-1.1 (-1.57, -0.63)	Hamstring (Quadrupled)
Zhang, 2017	Low	Knee Laxity (mm) (KT-2000)	36 mos.	Hamstring (Quadrupled)	Hamstring, Anterior Tibialis, or Achilles	Mean Difference	-1.2 (-1.77, -0.63)	Hamstring (Quadrupled)
Steadman,2015	Low	Tegner Activity Scale	2 yrs.	Autograft: Bone-Patellar Tendon-Bone: "BPTB"	Allograft: Bone-Patellar Tendon-Bone: "BPTB"	Mean Difference	-0.6 (-1.18, -0.02)	Allograft: Bone-Patellar Tendon-Bone

Reference Title	Quality	Outcome Details	Duration	Treatment 1 (Details)	Treatment 2 (Details)	Effect Measure	Result (95% CI)	Favored Treatment
Li, 2015	Moderate	IKDC (Objective) A/B	5 yrs.	Autograft: Hamstring(STG)	Allograft: Tibialis Anterior: gamma irradiated	RR	1.00(0.85,1.17)	NS
Li, 2015	Moderate	IKDC (Objective) C/D	5 yrs.	Autograft: Hamstring(STG)	Allograft: Tibialis Anterior: gamma irradiated	RR	1.00(0.22,4.59)	NS
Li, 2015	Moderate	Pivot Shift Test Grade 0/1	5 yrs.	Autograft: Hamstring(STG)	Allograft: Tibialis Anterior: gamma irradiated	RR	0.03(-0.03,0.09)	NS
Li, 2015	Moderate	Pivot-Shift Test Grade 2/3	5 yrs.	Autograft: Hamstring(STG)	Allograft: Tibialis Anterior: gamma irradiated	RD	-0.03(-0.09,0.03)	NS
Li, 2015	Moderate	Lachman Test Grade 0/1	5 yrs.	Autograft: Hamstring(STG)	Allograft: Tibialis Anterior: gamma irradiated	RR	1.07(0.91,1.26)	NS
Li, 2015	Moderate	Lachman Test Grade 2/3	5 yrs.	Autograft: Hamstring(STG)	Allograft: Tibialis Anterior: gamma irradiated	RR	0.50(0.10,2.54)	NS
Li, 2015	Moderate	Knee Laxity (mm) (KT-1000)	5 yrs.	Autograft: Hamstring(STG)	Allograft: Tibialis Anterior: gamma irradiated	Mean Difference	-1.4 (-2.09, -0.71)	Autograft: Hamstring(STG)
Li, 2015	Moderate	Tegner Activity Scale	5 yrs.	Autograft: Hamstring(STG)	Allograft: Tibialis Anterior: gamma irradiated	Mean Difference	0.3 (-0.56, 1.16)	NS
Li, 2015	Moderate	IKDC Subjective Score	5 yrs.	Autograft: Hamstring(STG)	Allograft: Tibialis Anterior: gamma irradiated	Mean Difference	3.7 (1.06, 6.34)	Autograft: Hamstring(STG)
Sun, 2015	High	Pivot Shift Test Grade 0	36 mos.	Autograft: Hamstring(STG, double bundle)	Allograft: Tibialis Anterior (double bundle)	RR	0.94(0.85,1.05)	NS
Sun, 2015	High	Pivot-Shift Test Grade 1	36 mos.	Autograft: Hamstring(STG, double bundle)	Allograft: Tibialis Anterior (double bundle)	RR	1.34(0.78,2.30)	NS
Sun, 2015	High	IKDC Subjective Score	36 mos.	Autograft: Hamstring(STG, double bundle)	Allograft: Tibialis Anterior (double bundle)	Mean Difference	-0.8 (-1.77, 0.17)	NS

Reference Title	Quality	Outcome Details	Duration	Treatment 1 (Details)	Treatment 2 (Details)	Effect Measure	Result (95% CI)	Favored Treatment
Sun, 2015	High	IKDC (Objective) A/B	36 mos.	Autograft: Hamstring(STG, double bundle)	Allograft: Tibialis Anterior (double bundle)	RR	1.02(0.97,1.07)	NS
Sun, 2015	High	IKDC (Objective) C/D	36 mos.	Autograft: Hamstring(STG, double bundle)	Allograft: Tibialis Anterior (double bundle)	RR	0.69(0.22,2.22)	NS
Barber, 2014	Low	Side to Side Difference (mm)(KT-1000)	34 mos.	Autograft: Bone-Patellar Tendon-Bone: "BPTB"	Allograft: Bone-Patellar Tendon-Bone: "BPTB"	Mean Difference	-0.25 (-1.01, 0.51)	NS
Barber, 2014	Low	Lachman Test Grade 0/1	34 mos.	Autograft: Bone-Patellar Tendon-Bone: "BPTB"	Allograft: Bone-Patellar Tendon-Bone: "BPTB"	RR	0.00(0.00,0.00)	NS
Barber, 2014	Low	IKDC Subjective Score	34 mos.	Autograft: Bone-Patellar Tendon-Bone: "BPTB"	Allograft: Bone-Patellar Tendon-Bone: "BPTB"	Author Reported -unclear	N/A	NS
Barber, 2014	Low	Cincinnati Occupational Rating	34 mos.	Autograft: Bone-Patellar Tendon-Bone: "BPTB"	Allograft: Bone-Patellar Tendon-Bone: "BPTB"	Author Reported -unclear	N/A	NS
Issin, 2019	Low	Tegner Activity Scale	2 yrs.	Autograft: Hamstring(Quadrupled, STG)	Allograft: Tibialis Anterior: irradiated	Mean Difference	0.4 (-0.10, 0.90)	NS
Issin, 2019	Low	Anterior-Posterior Displacement (mm)(KT 2000)	2 yrs.	Autograft: Hamstring(Quadrupled, STG)	Allograft: Tibialis Anterior: irradiated	Mean Difference	-0.1 (-0.52, 0.32)	NS
Issin, 2019	Low	Side to Side Difference (mm)(KT-2000)	2 yrs.	Autograft: Hamstring(Quadrupled, STG)	Allograft: Tibialis Anterior: irradiated	Mean Difference	-0.1 (-0.51, 0.31)	NS
Biz, 2019	Low	IKDC Subjective Score	2 yrs.	Autograft: Hamstring(semitendinosus-gracilis):"GST"	Allograft: Bone-Patellar Tendon-Bone	Mean Difference	-0.1 (-4.76, 4.56)	NS
Biz, 2019	Low	Tegner Activity Scale	2 yrs.	Autograft: Hamstring(semitendinosus-gracilis):"GST"	Allograft: Bone-Patellar Tendon-Bone	Mean Difference	-0.1 (-0.88, 0.68)	NS
Biz, 2019	Low	Time to Return to Sport (months)	2 yrs.	Autograft: Hamstring(semitendinosus-gracilis):"GST"	Allograft: Bone-Patellar Tendon-Bone	Mean Difference	6.2 (-1.38, 13.78)	NS

Reference Title	Quality	Outcome Details	Duration	Treatment 1 (Details)	Treatment 2 (Details)	Effect Measure	Result (95% CI)	Favored Treatment
Biz, 2019	Low	Lachman Test (+)	2 yrs.	Autograft: Hamstring(semitendinosus-gracilis):"GST"	Allograft: Bone-Patellar Tendon-Bone	RR	2.10(0.43,10.26)	NS
Biz, 2019	Low	Pivot-Shift Test (+)	2 yrs.	Autograft: Hamstring(semitendinosus-gracilis):"GST"	Allograft: Bone-Patellar Tendon-Bone	RD	0.10(-0.03,0.22)	NS
Biz, 2019	Low	ROM (full flexion)	2 yrs.	Autograft: Hamstring(semitendinosus-gracilis):"GST"	Allograft: Bone-Patellar Tendon-Bone	RR	0.90(0.74,1.09)	NS
Biz, 2019	Low	ROM (full extension)	2 yrs.	Autograft: Hamstring(semitendinosus-gracilis):"GST"	Allograft: Bone-Patellar Tendon-Bone	RR	0.00(0.00,0.00)	NS
Biz, 2019	Low	Bipodalic Stability Index (Pro-Kin Type B (Techno-Body TM); unknown scale direction/range)	2 yrs.	Autograft: Hamstring(semitendinosus-gracilis):"GST"	Allograft: Bone-Patellar Tendon-Bone	Mean Difference	0.2 (-0.11, 0.51)	NS
Biz, 2019	Low	Monopodalic Stability Index (Pro-Kin Type B (Techno-Body TM); unknown scale direction/range)	2 yrs.	Autograft: Hamstring(semitendinosus-gracilis):"GST"	Allograft: Bone-Patellar Tendon-Bone	Mean Difference	0.3 (-0.09, 0.69)	NS
Biz, 2019	Low	Average Track Error Index (Pro-Kin Type B (Techno-Body TM); unknown scale direction/range)	2 yrs.	Autograft: Hamstring(semitendinosus-gracilis):"GST"	Allograft: Bone-Patellar Tendon-Bone	Mean Difference	-4.7 (-12.04, 2.64)	NS
Razi, 2019	Low	IKDC Subjective Score (2000 IKDC subjective score)	24 mos.	Autograft: Hamstring: 4strand	Allograft: Tibialis Posterior Allograft	Mean Difference	1.3 (-1.38, 3.98)	NS
Razi, 2019	Low	KOOS (QoL) (KOOS subscale Knee Related Quality of Life)	24 mos.	Autograft: Hamstring: 4strand	Allograft: Tibialis Posterior Allograft	Mean Difference	-3 (-8.20, 2.20)	NS
Razi, 2019	Low	KOOS (Sports) (KOOS subscale Sports and Recreation)	24 mos.	Autograft: Hamstring: 4strand	Allograft: Tibialis Posterior Allograft	Mean Difference	2.7 (-1.69, 7.09)	NS
Razi, 2019	Low	Lachman Test (+)	24 mos.	Autograft: Hamstring: 4strand	Allograft: Tibialis Posterior Allograft	RR	0.84(0.37,1.92)	NS

Reference Title	Quality	Outcome Details	Duration	Treatment 1 (Details)	Treatment 2 (Details)	Effect Measure	Result (95% CI)	Favored Treatment
Razi, 2019	Low	Pivot-Shift Test (+) (minor positive Lachman test)	24 mos.	Autograft: Hamstring: 4strand	Allograft: Tibialis Posterior Allograft	RD	0.00(0.00,0.00)	NS
Kane, 2016	Low	IKDC Subjective Score	2 yrs.	Autograft: Bone-Patellar Tendon-Bone	Allograft: Bone-Patellar Tendon-Bone	Mean Difference	0 (-4.62, 4.62)	NS
Mardani-Kivi,2016	Low	Side to side difference ("SSD"KT-1000)	55.5mos	Autograft: Hamstring:"HTA" 4-strand	Allograft: Tibialis Posterior Allograft: "TP"	Mean Difference	-0.2 (-0.62, 0.22)	NS
Mardani-Kivi,2016	Low	IKDC (Objective) C/D	55.5mos	Autograft: Hamstring:"HTA" 4-strand	Allograft: Tibialis Posterior Allograft: "TP"	RR	1.76(0.33,9.43)	NS
Mardani-Kivi,2016	Low	Time to: Walking without crutches(wks.)	55.5mos	Autograft: Hamstring:"HTA" 4-strand	Allograft: Tibialis Posterior Allograft: "TP"	Mean Difference	-0.17 (-0.40, 0.06)	NS
Mardani-Kivi,2016	Low	Time to: Normal Daily Activities (wks.)	55.5mos	Autograft: Hamstring:"HTA" 4-strand	Allograft: Tibialis Posterior Allograft: "TP"	Mean Difference	0.31 (-0.23, 0.85)	NS
Mardani-Kivi,2016	Low	Time to: Jogging (wks.)	55.5mos	Autograft: Hamstring:"HTA" 4-strand	Allograft: Tibialis Posterior Allograft: "TP"	Mean Difference	0.5 (-0.38, 1.38)	NS
Mardani-Kivi,2016	Low	Time to: Exercise (wks.)	55.5mos	Autograft: Hamstring:"HTA" 4-strand	Allograft: Tibialis Posterior Allograft: "TP"	Mean Difference	-0.54 (., .)	NS
Mardani-Kivi,2016	Low	IKDC Subjective Score	55.5mos	Autograft: Hamstring:"HTA" 4-strand	Allograft: Tibialis Posterior Allograft: "TP"	Mean Difference	-0.35 (-1.45, 0.75)	NS
Jia, 2015	High	Lachman Test Grade 0	81 mos.	Autograft: Hamstring: "HS"	Allograft: Bone-Patellar Tendon-Bone: "BPTB"	RR	1.02(0.89,1.18)	NS
Jia, 2015	High	Lachman Test Grade 1	81 mos.	Autograft: Hamstring: "HS"	Allograft: Bone-Patellar Tendon-Bone: "BPTB"	RR	0.86(0.31,2.38)	NS
Jia, 2015	High	Pivot Shift Test Grade 0	81 mos.	Autograft: Hamstring: "HS"	Allograft: Bone-Patellar Tendon-Bone: "BPTB"	RR	0.95(0.77,1.17)	NS

Reference Title	Quality	Outcome Details	Duration	Treatment 1 (Details)	Treatment 2 (Details)	Effect Measure	Result (95% CI)	Favored Treatment
Jia, 2015	High	Pivot-Shift Test Grade 1	81 mos.	Autograft: Hamstring: "HS"	Allograft: Bone-Patellar Tendon-Bone: "BPTB"	RR	1.18(0.58,2.40)	NS
Jia, 2015	High	Postoperative quadriceps circumference (feet)	81 mos.	Autograft: Hamstring: "HS"	Allograft: Bone-Patellar Tendon-Bone: "BPTB"	Mean Difference	-1 (-2.80, 0.80)	NS
Jia, 2015	High	Range of Movement (ROM)	81 mos.	Autograft: Hamstring: "HS"	Allograft: Bone-Patellar Tendon-Bone: "BPTB"	Mean Difference	0 (-11.64, 11.64)	NS
Jia, 2015	High	IKDC Subjective Score	81 mos.	Autograft: Hamstring: "HS"	Allograft: Bone-Patellar Tendon-Bone: "BPTB"	Mean Difference	2.2 (1.31, 3.09)	Autograft: Hamstring
Lenehan, 2015	Low	IKDC	50.3mos	Autograft: semitendinosus+ gracilis tendon: Quadrupled	Allograft: tibialis Anterior +Tibialis Posterior: double strand	Mean Difference	8.93 (-104.96, 122.82)	NS
Lenehan, 2015	Low	Tegner-Lysholm	50.3mos	Autograft: semitendinosus+ gracilis tendon: Quadrupled	Allograft: tibialis Anterior +Tibialis Posterior: double strand	Mean Difference	10.32 (-110.02, 130.66)	NS
Engelman,2014	Low	Increased Laxity (defined as increased translation of the surgically repaired knee relative to the contralateral knee)	41.72mos	Autograft: Hamstring	Allograft: Anterior tibial, posterior tibial, or peroneal tendon grafts	RR	1.45(0.42,4.93)	NS
Engelman,2014	Low	Slight hyperextension (< -10 degree)	41.72mos	Autograft: Hamstring	Allograft: Anterior tibial, posterior tibial, or peroneal tendon grafts	RD	0.09(-0.01,0.18)	NS
Engelman,2014	Low	Minor range of motion limitations (<10degree difference in range of motion between limbs)	41.72mos	Autograft: Hamstring	Allograft: Anterior tibial, posterior tibial, or peroneal tendon grafts	RR	0.72(0.13,4.08)	NS
Engelman,2014	Low	IKDC Subjective Score (among the grafts that didn't fail)	41.72mos	Autograft: Hamstring	Allograft: Anterior tibial, posterior tibial, or peroneal tendon grafts	Mean Difference	-4 (-10.71, 2.71)	NS

Reference Title	Quality	Outcome Details	Duration	Treatment 1 (Details)	Treatment 2 (Details)	Effect Measure	Result (95% CI)	Favored Treatment
McCarthy,2017	High	MARX Activity Scale	2 yrs.	Autograft: Hamstring +BTB + Quad bone	Allograft: Hamstring + Achilles + tibialis anterior +tibialis posterior	Author Reported -Multivariate linear regression	-0.92(.,.)	NS

Reference Title	Quality	Outcome Details	Duration	Treatment 1 (Details)	Treatment 2 (Details)	Effect Measure	Result (95% CI)	Favored Treatment
Bistolfi, 2021	Low	Lysholm Knee Score	124.36mos	Autograft: Hamstring: Semitendinosus+ gracilis tendon	Allograft: Fresh Frozen Graft: used tendons were 21tibialis anterior, 18 peroneus and 8 Achilles	Mean Difference	1.53 (-2.07, 5.13)	NS
Bistolfi, 2021	Low	IKDC Subjective Score	124.36mos	Autograft: Hamstring: Semitendinosus+ gracilis tendon	Allograft: Fresh Frozen Graft: used tendons were 21tibialis anterior, 18 peroneus and 8 Achilles	Mean Difference	5.48 (-0.39, 11.35)	NS

Table 105: PICO 8 – Autograft vs. Allograft – OA Progression

Reference Title	Quality	Outcome Details	Duration	Treatment 1 (Details)	Treatment 2 (Details)	Effect Measure	Result (95% CI)	Favored Treatment
Yoo, 2017	High	OA Progression (Kellgren-Lawrence)	33 mos.	Hamstring (Semitendinosus+ Gracilis): 6-8mmdiameter	Tibialis: 7-8mm diameter	RR	1.18(0.33,4.19)	NS
Sun, 2015	High	IKDC Radiological Score (Grade A/B)	36 mos.	Autograft: Hamstring(STG, double bundle)	Allograft: Tibialis Anterior (double bundle)	RR	1.01(0.95,1.06)	NS
Sun, 2015	High	IKDC Radiological Score (Grade C/D)	36 mos.	Autograft: Hamstring(STG, double bundle)	Allograft: Tibialis Anterior (double bundle)	RR	0.89(0.35,2.24)	NS
Moon Knee Group, 2019	Low	Higher OARSI Grade	2 yrs.	Autograft: Bone-Patellar Tendon-Bone: "BPTB"	Allograft	Author Reported - multivariable logistic regression	1.25(0.56,2.80)	NS

Table 106: PICO 8 – Autograft vs. Allograft – Pain

Reference Title	Quality	Outcome Details	Duration	Treatment 1 (Details)	Treatment 2 (Details)	Effect Measure	Result (95% CI)	Favored Treatment
Mardani-Kivi,2016	Low	VAS Pain	55.5mos	Autograft: Hamstring:"HTA" 4-strand	Allograft: Tibialis Posterior Allograft: "TP"	Mean Difference	-0.11 (-0.24, 0.02)	NS
Engelman,2014	Low	Pain free symmetric knee flexion and extension range of motion	41.72mos	Autograft: Hamstring	Allograft: Anterior tibial, posterior tibial, or peroneal tendon grafts	RR	0.93(0.79,1.10)	NS

Table 107: PICO 8 – Autograft vs. Allograft – Return to Activity

Reference Title	Quality	Outcome Details	Duration	Treatment 1 (Details)	Treatment 2 (Details)	Effect Measure	Result (95% CI)	Favored Treatment
Miardani-Kivi,2020	Low	Return to Preinjury Quality of Exercise	2 yrs.	Hamstring	Achilles Tendon	RR	1.75(1.19,2.55)	Hamstring
Miardani-Kivi,2020	Low	Return to Preinjury Quality of Exercise	8 yrs.	Hamstring	Achilles Tendon	RR	2.18(1.45,3.30)	Hamstring
Nwachukwu,2017	High	Return to Sport	3.7 yrs.	Autograft: Patellar Tendon	Allograft: unspecified	Author Reported -logistic regression	5.63(1.32,25.76)	Autograft (Patellar Tendon)
Nwachukwu,2017	High	Return to Sport	3.7 yrs.	Autograft: Hamstring	Allograft: unspecified	Author Reported -logistic regression	3.09(0.73,14.45)	NS

Reference Title	Quality	Outcome Details	Duration	Treatment 1 (Details)	Treatment 2 (Details)	Effect Measure	Result (95% CI)	Favored Treatment
Bistolfi, 2021	Low	Stayed highly active	124.36mos	Autograft: Hamstring: Semitendinosus+ gracilis tendon	Allograft: Fresh Frozen Graft: used tendons were 21tibialis anterior, 18 peroneus and 8 Achilles	RR	1.40(0.48,4.10)	NS
Bistolfi, 2021	Low	Light to moderate activity	124.36mos	Autograft: Hamstring: Semitendinosus+ gracilis tendon	Allograft: Fresh Frozen Graft: used tendons were 21tibialis anterior, 18 peroneus and 8 Achilles	RR	0.91(0.58,1.43)	NS
Bistolfi, 2021	Low	Stopped due to fear of new injury	124.36mos	Autograft: Hamstring: Semitendinosus+ gracilis tendon	Allograft: Fresh Frozen Graft: used tendons were 21tibialis anterior, 18 peroneus and 8 Achilles	RR	1.11(0.50,2.48)	NS
Bistolfi, 2021	Low	Stopped due to other causes	124.36mos	Autograft: Hamstring: Semitendinosus+ gracilis tendon	Allograft: Fresh Frozen Graft: used tendons were 21tibialis anterior, 18 peroneus and 8 Achilles	RR	0.91(0.43,1.93)	NS

Table 108: PICO 8 – Autograft vs. Artificial – Adverse Events

Reference Title	Quality	Outcome Details	Duration	Treatment 1 (Details)	Treatment 2 (Details)	Effect Measure	Result (95% CI)	Favored Treatment
Bianchi, 2019	Low	Joint Swelling	95 mos.	Hamstring (quadrupled ST-G, single bundle)	LARS (Ligament Advanced Reinforcement System)	RR	1.00(0.07,15.12)	NS

Table 109: PICO 8 – Autograft vs. Artificial – Composite

Reference Title	Quality	Outcome Details	Duration	Treatment 1 (Details)	Treatment 2 (Details)	Effect Measure	Result (95% CI)	Favored Treatment
Bianchi, 2019	Low	Lysholm Knee Score - Excellent/Good(> 84)	95 mos.	Hamstring (quadrupled ST-G, single bundle)	LARS (Ligament Advanced Reinforcement System)	RR	0.90(0.68,1.20)	NS
Bianchi, 2019	Low	Lysholm Knee Score - Fair/Poor (<84)	95 mos.	Hamstring (quadrupled ST-G, single bundle)	LARS (Ligament Advanced Reinforcement System)	RR	1.50(0.48,4.68)	NS
Bianchi, 2019	Low	Lysholm Knee Score	95 mos.	Hamstring (quadrupled ST-G, single bundle)	LARS (Ligament Advanced Reinforcement System)	Author Reported - Student t-test	N/A	NS

Table 110: PICO 8 – Autograft vs. Artificial – Function

Reference Title	Quality	Outcome Details	Duration	Treatment 1 (Details)	Treatment 2 (Details)	Effect Measure	Result (95% CI)	Favored Treatment
Bianchi, 2019	Low	IKDC Subjective Score - Excellent(80-100)	95 mos.	Hamstring (quadrupled ST-G, single bundle)	LARS (Ligament Advanced Reinforcement System)	RR	0.16(0.02,0.30)	Hamstring (quadrupled ST-G, single bundle)
Bianchi, 2019	Low	IKDC Subjective Score - Good (50-80)	95 mos.	Hamstring (quadrupled ST-G, single bundle)	LARS (Ligament Advanced Reinforcement System)	RD	-0.16(-0.30,-0.02)	LARS (Ligament Advanced Reinforcement System)
Bianchi, 2019	Low	IKDC Subjective Score	95 mos.	Hamstring (quadrupled ST-G, single bundle)	LARS (Ligament Advanced Reinforcement System)	Author Reported - Pearson Chi-Sq	N/A	NS
Bianchi, 2019	Low	Anterior Drawer Test Grade 0/1	95 mos.	Hamstring (quadrupled ST-G, single bundle)	LARS (Ligament Advanced Reinforcement System)	RR	-0.20(-0.36,-0.04)	LARS (Ligament Advanced Reinforcement System)
Bianchi, 2019	Low	Anterior Drawer Test Grade 2/3	95 mos.	Hamstring (quadrupled ST-G, single bundle)	LARS (Ligament Advanced Reinforcement System)	RD	0.20(0.04,0.36)	LARS (Ligament Advanced Reinforcement System)
Bianchi, 2019	Low	Lachman Test Grade 0	95 mos.	Hamstring (quadrupled ST-G, single bundle)	LARS (Ligament Advanced Reinforcement System)	RR	-0.28(-0.46,-0.10)	LARS (Ligament Advanced Reinforcement System)
Bianchi, 2019	Low	Lachman Test Grade 1	95 mos.	Hamstring (quadrupled ST-G, single bundle)	LARS (Ligament Advanced Reinforcement System)	RD	0.28(0.10,0.46)	LARS (Ligament Advanced Reinforcement System)

Reference Title	Quality	Outcome Details	Duration	Treatment 1 (Details)	Treatment 2 (Details)	Effect Measure	Result (95% CI)	Favored Treatment
Kentel, 2021	Low	Lysholm Knee Score	24 mos.	Autograft: Hamstring	Artificial: Ligament Advanced Reinforcement System (LARS)	Mean Difference	-1.23 (-2.54, 0.08)	NS
Kentel, 2021	Low	IKDC 2000 Scale	24 mos.	Autograft: Hamstring	Artificial: Ligament Advanced Reinforcement System (LARS)	Mean Difference	-1.58 (-3.55, 0.39)	NS

Table 111: PICO 8 – Autograft vs. Artificial – OA Progression

Reference Title	Quality	Outcome Details	Duration	Treatment 1 (Details)	Treatment 2 (Details)	Effect Measure	Result (95% CI)	Favored Treatment
Bianchi, 2019	Low	Ahlback Classification Normal	95 mos.	Hamstring (quadrupled ST-G, single bundle)	LARS (Ligament Advanced Reinforcement System)	RR	0.76(0.54,1.07)	NS
Bianchi, 2019	Low	Ahlback Classification Stages 1-3	95 mos.	Hamstring (quadrupled ST-G, single bundle)	LARS (Ligament Advanced Reinforcement System)	RR	2.25(0.80,6.36)	NS

Table 112: PICO 8 – Autograft vs. Artificial – Return to Activity

Reference Title	Quality	Outcome Details	Duration	Treatment 1 (Details)	Treatment 2 (Details)	Effect Measure	Result (95% CI)	Favored Treatment
Kentel, 2021	Low	Return to work(weeks) (Office work)	Postop .	Autograft: Hamstring	Artificial: Ligament Advanced Reinforcement System (LARS)	Mean Difference	2.17 (1.61, 2.73)	Artificial: Ligament Advanced Reinforcement System (LARS)
Kentel, 2021	Low	Return to work(weeks) (Physical work)	Postop .	Autograft: Hamstring	Artificial: Ligament Advanced Reinforcement System (LARS)	Mean Difference	0.62 (-0.28, 1.52)	NS

Table 113: PICO 8 – Autograft vs. Autograft: BPTB Autograft vs. HS Autograft – Adverse Events

Reference Title	Quality	Outcome Details	Duration	Treatment 1 (Details)	Treatment 2 (Details)	Effect Measure	Result (95% CI)	Favored Treatment
Salem, 2019	Low	Graft Rupture / Failure	3.7 yrs.	Bone-Patellar Tendon-Bone	Hamstring (Quadrupled)	RR	0.50(0.23,1.10)	NS
Salem, 2019	Low	Contralateral ACL Rupture / Failure	3.7 yrs.	Bone-Patellar Tendon-Bone	Hamstring (Quadrupled)	RR	1.20(0.44,3.26)	NS
Salem, 2019	Low	Meniscal Tear	3.7 yrs.	Bone-Patellar Tendon-Bone	Hamstring (Quadrupled)	RR	0.31(0.05,1.81)	NS
Salem, 2019	Low	Contralateral Ligament Injury	3.7 yrs.	Bone-Patellar Tendon-Bone	Hamstring (Quadrupled)	RR	0.93(0.09,10.06)	NS
Salem, 2019	Low	Patellofemoral Chondromalacia	3.7 yrs.	Bone-Patellar Tendon-Bone	Hamstring (Quadrupled)	RD	0.02(-0.00,0.04)	NS
Salem, 2019	Low	Arthrofibrosis	3.7 yrs.	Bone-Patellar Tendon-Bone	Hamstring (Quadrupled)	RR	0.69(0.20,2.39)	NS
Salem, 2019	Low	Patellar Tendinitis	3.7 yrs.	Bone-Patellar Tendon-Bone	Hamstring (Quadrupled)	RD	0.01(-0.00,0.03)	NS
Sevimli, 2020	Low	Revision ACL Surgery	5 yrs.	Bone-Patellar Tendon-Bone	Hamstring (semitendinosus-gracilis)	RD	-0.07(-0.11,-0.02)	Bone-Patellar Tendon-Bone
Murgier, 2020	Low	Graft Rupture / Failure	3 yrs.	Bone-Patellar Tendon-Bone: "BPB"	Hamstring (Any)	RR	0.51(0.24,1.07)	NS
Murgier, 2020	Low	Graft Rupture / Failure	3 yrs.	Bone-Patellar Tendon-Bone: "BPB"	Hamstring (4 strand HS two-tendon doubled graft): "4STG"	RR	0.49(0.22,1.07)	NS
Murgier, 2020	Low	Graft Rupture / Failure	3 yrs.	Bone-Patellar Tendon-Bone: "BPB"	Hamstring (Quadrupled): AKA 4 strands semitendinosus ("4ST")	RR	0.69(0.26,1.80)	NS
Murgier, 2020	Low	Graft Rupture / Failure	3 yrs.	Bone-Patellar Tendon-Bone: "BPB"	Hamstring (5-6 strand semitendinosus and gracilis):"5-6 STG"	RD	0.03(0.01,0.05)	Hamstring (5-6 strand semitendinosus and gracilis)
Murgier, 2020	Low	Graft Rupture / Failure	3 yrs.	Bone-Patellar Tendon-Bone: "BPB"	Hamstring (7-8 strand	RR	0.60(0.13,2.71)	NS

Reference Title	Quality	Outcome Details	Duration	Treatment 1 (Details)	Treatment 2 (Details)	Effect Measure	Result (95% CI)	Favored Treatment
					semitendinosus and gracilis):"7-8 STG"			
Gupta, 2018(a)	Low	Suspected Infection	Postop .	Bone-Patellar Tendon-Bone: "BPTB"	Hamstring (semitendinosus-gracilis): "STG"	Author Reported - Logistic Regression	2.60(0.30,19.20)	NS
Rousseau,2019	Low	Joint Stiffness	2 yrs.	Bone-Patellar Tendon-Bone: "PT"	Hamstring (semitendinosus-gracilis): "STG"	RR	0.67(0.39,1.12)	NS
Rousseau,2019	Low	Secondary Meniscal Lesions	2 yrs.	Bone-Patellar Tendon-Bone: "PT"	Hamstring (semitendinosus-gracilis): "STG"	RR	0.61(0.34,1.11)	NS
Rousseau,2019	Low	Repeated Rupture of the Ligamentoplasty	2 yrs.	Bone-Patellar Tendon-Bone: "PT"	Hamstring (semitendinosus-gracilis): "STG"	RR	0.44(0.21,0.93)	Bone-Patellar Tendon-Bone
Rousseau,2019	Low	Contralateral ACL Rupture / Failure	2 yrs.	Bone-Patellar Tendon-Bone: "PT"	Hamstring (semitendinosus-gracilis): "STG"	RR	2.55(1.16,5.61)	Hamstring(semitendinosus-gracilis)
Rousseau,2019	Low	Fracture of the Patella	2 yrs.	Bone-Patellar Tendon-Bone: "PT"	Hamstring (semitendinosus-gracilis): "STG"	RD	0.01(-0.00,0.02)	NS
Rousseau,2019	Low	Infection/Thromboembolism	2 yrs.	Bone-Patellar Tendon-Bone: "PT"	Hamstring (semitendinosus-gracilis): "STG"	RR	1.44(0.81,2.56)	NS
Rousseau,2019	Low	Graft Rupture / Failure	2 yrs.	Bone-Patellar Tendon-Bone: "PT"	Hamstring (semitendinosus-gracilis): "STG"	Author Reported - Chi-Sq	N/A	BPTB
Mohtadi, 2019	High	Graft Rupture / Failure	5 yrs.	Bone-Patellar Tendon-Bone: "Patellar Tendon"	Hamstring (quadrupled ST-G, single bundle)	RR	0.25(0.09,0.74)	Bone-Patellar Tendon-Bone
Mohtadi, 2019	High	Contralateral ACL Rupture / Failure	5 yrs.	Bone-Patellar Tendon-Bone: "Patellar Tendon"	Hamstring (quadrupled ST-G, single bundle)	RR	1.13(0.48,2.67)	NS

Reference Title	Quality	Outcome Details	Duration	Treatment 1 (Details)	Treatment 2 (Details)	Effect Measure	Result (95% CI)	Favored Treatment
Mohtadi, 2019	High	Graft Rupture / Failure	5 yrs.	Bone-Patellar Tendon-Bone: "Patellar Tendon"	Hamstring (2 strand ST, 2 strand G, double bundle)	RR	0.24(0.09,0.70)	Bone-Patellar Tendon-Bone
Mohtadi, 2019	High	Contralateral ACL Rupture / Failure	5 yrs.	Bone-Patellar Tendon-Bone: "Patellar Tendon"	Hamstring (2 strand ST, 2 strand G, double bundle)	RR	1.15(0.49,2.72)	NS
Gupta, 2018(b)	Low	Graft Rupture / Failure	62 mos.	Bone-Patellar Tendon-Bone	Hamstring (STG w preserved insertions): "STGPI"	RR	1.06(0.07,16.70)	NS
Gupta, 2018(b)	Low	Medial Meniscus Tear	62 mos.	Bone-Patellar Tendon-Bone	Hamstring (STG w preserved insertions): "STGPI"	RR	1.06(0.15,7.36)	NS
Gupta, 2018(b)	Low	Lateral Meniscus Tear	62 mos.	Bone-Patellar Tendon-Bone	Hamstring (STG w preserved insertions): "STGPI"	RD	0.01(-0.01,0.04)	NS
Gupta, 2018(b)	Low	Contralateral ACL Rupture / Failure	62 mos.	Bone-Patellar Tendon-Bone	Hamstring (STG w preserved insertions): "STGPI"	RD	-0.01(-0.03,0.01)	NS
Gupta, 2018(b)	Low	Contralateral Medial Meniscus Tear	62 mos.	Bone-Patellar Tendon-Bone	Hamstring (STG w preserved insertions): "STGPI"	RD	0.01(-0.01,0.04)	NS
Gupta, 2018(b)	Low	Graft Rupture / Failure	62 mos.	Bone-Patellar Tendon-Bone	Hamstring (STG Free): "STGF"	RR	0.18(0.02,1.42)	NS
Gupta, 2018(b)	Low	Medial Meniscus Tear	62 mos.	Bone-Patellar Tendon-Bone	Hamstring (STG Free): "STGF"	RR	0.70(0.12,4.08)	NS
Gupta, 2018(b)	Low	Lateral Meniscus Tear	62 mos.	Bone-Patellar Tendon-Bone	Hamstring (STG Free): "STGF"	RR	0.53(0.05,5.68)	NS
Gupta, 2018(b)	Low	Contralateral ACL Rupture / Failure	62 mos.	Bone-Patellar Tendon-Bone	Hamstring (STG Free): "STGF"	RD	-0.02(-0.06,0.01)	NS

Reference Title	Quality	Outcome Details	Duration	Treatment 1 (Details)	Treatment 2 (Details)	Effect Measure	Result (95% CI)	Favored Treatment
Gupta, 2018(b)	Low	Contralateral Medial Meniscus Tear	62 mos.	Bone-Patellar Tendon-Bone	Hamstring (STG Free): "STGF"	RR	1.05(0.07,16.51)	NS
Mohtadi, 2016	High	Graft Rupture / Failure	2 yrs.	Bone-Patellar Tendon-Bone: "Patellar Tendon"	Hamstring (quadrupled ST-G, single bundle)	RR	1.12(0.98,1.29)	NS
Mohtadi, 2016	High	Contralateral ACL Rupture / Failure	2 yrs.	Bone-Patellar Tendon-Bone: "Patellar Tendon"	Hamstring (quadrupled ST-G, single bundle)	RR	1.00(0.33,3.01)	NS
Mohtadi, 2016	High	Graft Rupture / Failure	2 yrs.	Bone-Patellar Tendon-Bone: "Patellar Tendon"	Hamstring (2 strand ST, 2 strand G, double bundle)	RR	1.15(1.00,1.33)	NS
Mohtadi, 2016	High	Contralateral ACL Rupture / Failure	2 yrs.	Bone-Patellar Tendon-Bone: "Patellar Tendon"	Hamstring (2 strand ST, 2 strand G, double bundle)	RR	1.20(0.38,3.82)	NS
Razi, 2014	High	Infection (Deep)	3 yrs.	Bone-Patellar Tendon-Bone: "BPTB"	Hamstring (quadrupled ST-G)	RR	0.46(0.04,4.84)	NS
Razi, 2014	High	Infection (Wound)	3 yrs.	Bone-Patellar Tendon-Bone: "BPTB"	Hamstring (quadrupled ST-G)	RR	1.38(0.24,7.76)	NS
Razi, 2014	High	Patella Fracture	3 yrs.	Bone-Patellar Tendon-Bone: "BPTB"	Hamstring (quadrupled ST-G)	RD	0.03(-0.03,0.08)	NS
Andernord,2014	High	Revision ACL Surgery	2 yrs.	Bone-Patellar Tendon-Bone: "Patellar Tendon"	Hamstring (ST or STG)	Author Reported - multivariate analysis	1.38(0.83,2.29)	NS

Reference Title	Quality	Outcome Details	Duration	Treatment 1 (Details)	Treatment 2 (Details)	Effect Measure	Result (95% CI)	Favored Treatment
Sajovic 2018	Moderate	Graft Rupture / Failure	17 yrs.	Bone-Patellar Tendon-Bone: "PT"	Hamstring (Quadrupled, STG)	Author Reported - Kaplan Meier	N/A	NS
Drogset, 2010	High	Additional Surgery	2 yrs.	Bone-Patellar Tendon-Bone: "BPTB"	Hamstring (STG): double-looped SG (DLSG)	RR	0.47(0.17,1.27)	NS
Drogset, 2010	High	Revision ACL Surgery	2 yrs.	Bone-Patellar Tendon-Bone: "BPTB"	Hamstring (STG): double-looped SG (DLSG)	RR	0.94(0.06,14.60)	NS
Drogset, 2010	High	Meniscal Surgery	2 yrs.	Bone-Patellar Tendon-Bone: "BPTB"	Hamstring (STG): double-looped SG (DLSG)	RR	0.12(0.02,0.90)	Bone-Patellar Tendon-Bone
King, 2020	Low	Second ACL injury (Ipsilateral ACL injury)	2 yrs.	Bone-Patellar Tendon-Bone	Hamstring: unspecified	RR	0.16(0.09,0.31)	Bone-Patellar Tendon-Bone
King, 2020	Low	Second ACL injury (Contralateral ACL injury)	2 yrs.	Bone-Patellar Tendon-Bone	Hamstring: unspecified	RR	0.84(0.51,1.38)	NS
Rahardja,2020	Low	Revision ACL Surgery	23.5mos	Patellar tendon	Hamstring	Author Reported - cox Proportional Hazard Regression	2.51(1.55,4.06)	Patellar Bone
Rahardja,2020	Low	Contralateral ACL reconstruction	23.5mos	Patellar tendon	Hamstring	Author Reported - cox Proportional Hazard Regression	1.91(1.15,3.16)	Hamstring
Laboute, 2018	High	Graft Rupture / Failure (Odds Ratio)	.	Patellar tendon	Hamstring (semitendinosus-gracilis)	Author Reported - multivariate logistic regression analyses	3.64(1.55,10.66)	Patellar Bone
Laboute, 2018	High	Graft Rupture / Failure (Hazard Ratio)	.	Patellar tendon	Hamstring (semitendinosus-gracilis)	Author Reported - cox multivariate	3.50(1.53,10.11)	Patellar Bone
Dekker, 2017	High	Risk of Secondary ACL injury	48.3mos	Patellar tendon	Hamstring	Author Reported - multivariate analysis(cox regression model)	1.53(0.32,5.35)	NS
Nelson, 2016	Low	Aseptic Revision (Aseptic failure of a primary ACLR that required	2.9 yrs.	Bone-Patellar Tendon-	Hamstring	RR	0.73(0.23,2.32)	NS

Reference Title	Quality	Outcome Details	Duration	Treatment 1 (Details)	Treatment 2 (Details)	Effect Measure	Result (95% CI)	Favored Treatment
		the replacement of the previously implanted graft)		Bone: "BPTB"				
Nelson, 2016	Low	Reoperation (Non-revision operation(re-operation) on the same knee of the primary ACLR during the study period)	2.9 yrs.	Bone-Patellar Tendon-Bone: "BPTB"	Hamstring	RR	0.94(0.34,2.57)	NS
Maletis, 2016	Low	Aseptic Revision (Risk of Revisions)	2.2 yrs.	Bone-Patellar Tendon-Bone: "BPTB"	Hamstring	Author Reported - Cox proportional hazard model	1.43(1.13,1.80)	BPTB autograft
Webster, 2016	High	Graft Rupture / Failure	15.3 yrs.	Patellar Tendon: "PT"	Hamstring: "HS"	RR	0.38(0.04,3.38)	NS
Webster, 2016	High	Contralateral ACL tear	15.3 yrs.	Patellar Tendon: "PT"	Hamstring: "HS"	RR	2.27(0.46,11.23)	NS
Lord, 2020	Low	Screw removal	2 yrs.	Bone-Patellar Tendon-Bone: "BPTB"	Hamstring: "HT"	RR	0.44(0.22,0.88)	Bone-Patellar Tendon-Bone
Lord, 2020	Low	Meniscus procedures	2 yrs.	Bone-Patellar Tendon-Bone: "BPTB"	Hamstring: "HT"	RR	1.09(0.66,1.79)	NS
Lord, 2020	Low	Cyclops removal/notchplasty	2 yrs.	Bone-Patellar Tendon-Bone: "BPTB"	Hamstring: "HT"	RR	1.66(1.08,2.55)	Hamstring
Lord, 2020	Low	Graft Rupture / Failure	2 yrs.	Bone-Patellar Tendon-Bone: "BPTB"	Hamstring: "HT"	RR	0.43(0.16,1.14)	NS
Lord, 2020	Low	Cartilage procedures	2 yrs.	Bone-Patellar Tendon-Bone: "BPTB"	Hamstring: "HT"	RR	2.00(1.01,3.98)	Hamstring
Lord, 2020	Low	Septic arthritis	2 yrs.	Bone-Patellar Tendon-	Hamstring: "HT"	RD	-0.01(-0.01,-0.01)	Bone-Patellar Tendon-Bone

Reference Title	Quality	Outcome Details	Duration	Treatment 1 (Details)	Treatment 2 (Details)	Effect Measure	Result (95% CI)	Favored Treatment
				Bone: "BPTB"				
McCarthy,2017	High	Revision ACL Surgery	2 yrs.	Bone-Patellar Tendon-Bone: "BTB"	Hamstring	RR	1.01(0.69,1.47)	NS
McCarthy,2017	High	Subsequent Knee Procedure	2 yrs.	Bone-Patellar Tendon-Bone: "BTB"	Hamstring	RR	0.87(0.64,1.18)	NS
Schilaty, 2017	Low	Risk of Second ACL Injuries	8.1 yrs.	Bone-Patellar Tendon-Bone: "Patellar tendon"	Hamstring	Mean Difference	0.0164 (-0.15, 0.18)	NS
Brophy, 2015	Low	Infection (an infection was defined as an ACL reconstruction that required postoperative surgical irrigation and debridement.)	8.1 yrs.	Bone-Patellar Tendon-Bone: "BTB"	Hamstring	Author Reported - Multivariate logistic regression	4.60(1.20,17.90)	BTB

Table 114: PICO 8 – Autograft vs. Autograft: BPTB Autograft vs. HS Autograft – Composite

Reference Title	Quality	Outcome Details	Duration	Treatment 1 (Details)	Treatment 2 (Details)	Effect Measure	Result (95% CI)	Favored Treatment
Mohtadi, 2019	High	ACL-QOL	2 yrs.	Bone-Patellar Tendon-Bone: "Patellar Tendon"	Hamstring (quadrupled ST-G, single bundle)	Mean Difference	2.1 (-2.50, 6.70)	NS
Mohtadi, 2019	High	ACL-QOL	5 yrs.	Bone-Patellar Tendon-Bone: "Patellar Tendon"	Hamstring (quadrupled ST-G, single bundle)	Mean Difference	-1.4 (-6.31, 3.51)	NS
Mohtadi, 2019	High	ACL-QOL	2 yrs.	Bone-Patellar Tendon-Bone: "Patellar Tendon"	Hamstring (2 strand ST, 2 strand G, double bundle)	Mean Difference	2.2 (-2.37, 6.77)	NS
Mohtadi, 2019	High	ACL-QOL	5 yrs.	Bone-Patellar Tendon-Bone: "Patellar Tendon"	Hamstring (2 strand ST, 2 strand G, double bundle)	Mean Difference	1.4 (-3.63, 6.43)	NS
Lecoq, 2018	Low	KOOS	12 yrs.	Bone-Patellar Tendon-Bone	Hamstring (semitendinosus-gracilis, 2-3 strand)	Mean Difference	1.5 (-0.97, 3.97)	NS
HarmonSenorski, 2018	Low	KOOS	10 yrs.	Bone-Patellar Tendon-Bone	Hamstring	Author Reported -Univariate Proportional Odds Regression	N/A	NS
Barenius 2014	Moderate	KOOS	14 yrs.	Bone-Patellar Tendon-Bone	Hamstring (Quadrupled)	Author Reported -student t-test	N/A	NS
Sajovic 2018	Moderate	Lysholm Knee Score	17 yrs.	Bone-Patellar Tendon-Bone: "PT"	Hamstring (Quadrupled, STG)	Mean Difference	-1 (-5.99, 3.99)	NS
Drogset, 2010	High	Lysholm Knee Score	2 yrs.	Bone-Patellar Tendon-Bone: "BPTB"	Hamstring (STG): double-looped SG (DLSG)	Mean Difference	0 (-4.08, 4.08)	NS
Thompson,2016	Low	Lysholm Knee Score	20 yrs.	Bone-Patellar Tendon-Bone: "PT"-Ipsilateral middle third bone–patellar tendon-bone graft	Hamstring (semitendinosus-gracilis): 4-strand	Mean Difference	0 (-4.37, 4.37)	NS

Reference Title	Quality	Outcome Details	Duration	Treatment 1 (Details)	Treatment 2 (Details)	Effect Measure	Result (95% CI)	Favored Treatment
Soni, 2021	Low	Lysholm Knee Score	2 yrs.	Bone-Patellar Tendon-Bone: "BPTB"	STG (free)	Mean Difference	1 (-0.27, 2.27)	NS
Soni, 2021	Low	Lysholm Knee Score	2 yrs.	Bone-Patellar Tendon-Bone: "BPTB"	STG (preserved insertion)	Mean Difference	1.2 (-0.54, 2.94)	NS

Table 115: PICO 8 – Autograft vs. Autograft: BPTB Autograft vs. HS Autograft – Function

Reference Title	Quality	Outcome Details	Duration	Treatment 1 (Details)	Treatment 2 (Details)	Effect Measure	Result (95% CI)	Favored Treatment
Smith, 2020	High	Laxity Maximum (mm) (KT-1000)	2 yrs.	Bone-Patellar Tendon-Bone	Hamstring (Quadrupled): "quadrupled Semitendinosus"	Mean Difference	-0.3 (-0.67, 0.07)	NS
Smith, 2020	High	IKDC Subjective Score	2 yrs.	Bone-Patellar Tendon-Bone	Hamstring (Quadrupled): "quadrupled Semitendinosus"	Mean Difference	-5.4 (-9.28, -1.52)	Hamstring (Quadrupled)
Smith, 2020	High	KOOS (Function)	2 yrs.	Bone-Patellar Tendon-Bone	Hamstring (Quadrupled): "quadrupled Semitendinosus"	Mean Difference	-8 (-16.09, 0.09)	NS
Smith, 2020	High	KOOS (Symptoms)	2 yrs.	Bone-Patellar Tendon-Bone	Hamstring (Quadrupled): "quadrupled Semitendinosus"	Mean Difference	-3.1 (-8.42, 2.22)	NS
Smith, 2020	High	SF-12 (Physical)	2 yrs.	Bone-Patellar Tendon-Bone	Hamstring (Quadrupled): "quadrupled Semitendinosus"	Mean Difference	0.9 (-0.60, 2.40)	NS
Smith, 2020	High	MARX Activity Scale	2 yrs.	Bone-Patellar Tendon-Bone	Hamstring (Quadrupled): "quadrupled Semitendinosus"	Mean Difference	-0.2 (-2.38, 1.98)	NS
Smith, 2020	High	Laxity MCID (%) (>2.5mm KT-1000)	2 yrs.	Bone-Patellar Tendon-Bone	Hamstring (Quadrupled): "quadrupled Semitendinosus"	RD	-0.04(-0.11,0.03)	NS
Smith, 2020	High	KOOS (Function - Kneeling Question)	2 yrs.	Bone-Patellar Tendon-Bone	Hamstring (Quadrupled): "quadrupled Semitendinosus"	Author Reported -2-way repeated measures ANOVA	N/A	Hamstring (Quadrupled)
Smith, 2020	High	IKDC Subjective Score (Kneeling Question)	2 yrs.	Bone-Patellar Tendon-Bone	Hamstring (Quadrupled): "quadrupled Semitendinosus"	Author Reported -2-way repeated measures ANOVA	N/A	Hamstring (Quadrupled)

Reference Title	Quality	Outcome Details	Duration	Treatment 1 (Details)	Treatment 2 (Details)	Effect Measure	Result (95% CI)	Favored Treatment
Mohtadi, 2019	High	Pivot Shift Test Grade 0/1	2 yrs.	Bone-Patellar Tendon-Bone: "Patellar Tendon"	Hamstring (quadrupled ST-G, single bundle)	RR	1.06(0.94,1.19)	NS
Mohtadi, 2019	High	Pivot-Shift Test Grade 2/3	2 yrs.	Bone-Patellar Tendon-Bone: "Patellar Tendon"	Hamstring (quadrupled ST-G, single bundle)	RR	0.75(0.40,1.42)	NS
Mohtadi, 2019	High	Pivot Shift Test Grade 0/1	5 yrs.	Bone-Patellar Tendon-Bone: "Patellar Tendon"	Hamstring (quadrupled ST-G, single bundle)	RR	1.05(0.94,1.17)	NS
Mohtadi, 2019	High	Pivot-Shift Test Grade 2/3	5 yrs.	Bone-Patellar Tendon-Bone: "Patellar Tendon"	Hamstring (quadrupled ST-G, single bundle)	RR	0.75(0.37,1.50)	NS
Mohtadi, 2019	High	IKDC (Objective) A	2 yrs.	Bone-Patellar Tendon-Bone: "Patellar Tendon"	Hamstring (quadrupled ST-G, single bundle)	RR	1.07(0.91,1.26)	NS
Mohtadi, 2019	High	IKDC (Objective) B	2 yrs.	Bone-Patellar Tendon-Bone: "Patellar Tendon"	Hamstring (quadrupled ST-G, single bundle)	RR	0.82(0.52,1.31)	NS
Mohtadi, 2019	High	IKDC (Objective) A	5 yrs.	Bone-Patellar Tendon-Bone: "Patellar Tendon"	Hamstring (quadrupled ST-G, single bundle)	RR	1.06(0.94,1.20)	NS
Mohtadi, 2019	High	IKDC (Objective) B	5 yrs.	Bone-Patellar Tendon-Bone: "Patellar Tendon"	Hamstring (quadrupled ST-G, single bundle)	RR	0.73(0.38,1.41)	NS
Mohtadi, 2019	High	IKDC Subjective Score	2 yrs.	Bone-Patellar Tendon-Bone: "Patellar Tendon"	Hamstring (quadrupled ST-G, single bundle)	Mean Difference	-0.7 (-4.13, 2.73)	NS
Mohtadi, 2019	High	IKDC Subjective Score	5 yrs.	Bone-Patellar Tendon-Bone: "Patellar Tendon"	Hamstring (quadrupled ST-G, single bundle)	Mean Difference	-1.3 (-4.82, 2.22)	NS
Mohtadi, 2019	High	ROM: Passive Extension Deficit >3°	5 yrs.	Bone-Patellar Tendon-Bone: "Patellar Tendon"	Hamstring (quadrupled ST-G, single bundle)	RD	0.00(0.00,0.00)	NS
Mohtadi, 2019	High	ROM: Passive Flexion (°)	5 yrs.	Bone-Patellar Tendon-Bone: "Patellar Tendon"	Hamstring (quadrupled ST-G, single bundle)	Mean Difference	0.3 (-1.81, 2.41)	NS

Reference Title	Quality	Outcome Details	Duration	Treatment 1 (Details)	Treatment 2 (Details)	Effect Measure	Result (95% CI)	Favored Treatment
Mohtadi, 2019	High	Single Leg Hop (% of non-op side)	5 yrs.	Bone-Patellar Tendon-Bone: "Patellar Tendon"	Hamstring (quadrupled ST-G, single bundle)	Mean Difference	6.4 (-63.57, 76.37)	NS
Mohtadi, 2019	High	Cincinnati Occupational Rating	5 yrs.	Bone-Patellar Tendon-Bone: "Patellar Tendon"	Hamstring (quadrupled ST-G, single bundle)	Mean Difference	-0.7 (-6.48, 5.08)	NS
Mohtadi, 2019	High	Tegner Activity Scale (5+)	2 yrs.	Bone-Patellar Tendon-Bone: "Patellar Tendon"	Hamstring (quadrupled ST-G, single bundle)	RR	1.04(0.91,1.18)	NS
Mohtadi, 2019	High	Tegner Activity Scale (5+)	5 yrs.	Bone-Patellar Tendon-Bone: "Patellar Tendon"	Hamstring (quadrupled ST-G, single bundle)	RR	0.97(0.84,1.12)	NS
Mohtadi, 2019	High	Pivot Shift Test Grade 0/1	2 yrs.	Bone-Patellar Tendon-Bone: "Patellar Tendon"	Hamstring (2 strand ST, 2 strand G, double bundle)	RR	1.06(0.94,1.20)	NS
Mohtadi, 2019	High	Pivot-Shift Test Grade 2/3	2 yrs.	Bone-Patellar Tendon-Bone: "Patellar Tendon"	Hamstring (2 strand ST, 2 strand G, double bundle)	RR	0.73(0.39,1.37)	NS
Mohtadi, 2019	High	Pivot Shift Test Grade 0/1	5 yrs.	Bone-Patellar Tendon-Bone: "Patellar Tendon"	Hamstring (2 strand ST, 2 strand G, double bundle)	RR	1.13(1.00,1.28)	NS
Mohtadi, 2019	High	Pivot-Shift Test Grade 2/3	5 yrs.	Bone-Patellar Tendon-Bone: "Patellar Tendon"	Hamstring (2 strand ST, 2 strand G, double bundle)	RR	0.54(0.29,1.03)	NS
Mohtadi, 2019	High	IKDC (Objective) A/B	2 yrs.	Bone-Patellar Tendon-Bone: "Patellar Tendon"	Hamstring (2 strand ST, 2 strand G, double bundle)	RR	1.09(0.92,1.28)	NS
Mohtadi, 2019	High	IKDC (Objective) C/D	2 yrs.	Bone-Patellar Tendon-Bone: "Patellar Tendon"	Hamstring (2 strand ST, 2 strand G, double bundle)	RR	0.79(0.50,1.25)	NS
Mohtadi, 2019	High	IKDC (Objective) A	2 yrs.	Bone-Patellar Tendon-Bone: "Patellar Tendon"	Hamstring (2 strand ST, 2 strand G, double bundle)	RR	0.67(0.34,1.31)	NS
Mohtadi, 2019	High	IKDC (Objective) B	2 yrs.	Bone-Patellar Tendon-Bone: "Patellar Tendon"	Hamstring (2 strand ST, 2 strand G, double bundle)	RR	1.23(0.98,1.55)	NS

Reference Title	Quality	Outcome Details	Duration	Treatment 1 (Details)	Treatment 2 (Details)	Effect Measure	Result (95% CI)	Favored Treatment
Mohtadi, 2019	High	IKDC (Objective) C	2 yrs.	Bone-Patellar Tendon-Bone: "Patellar Tendon"	Hamstring (2 strand ST, 2 strand G, double bundle)	RR	0.81(0.51,1.30)	NS
Mohtadi, 2019	High	IKDC (Objective) D	2 yrs.	Bone-Patellar Tendon-Bone: "Patellar Tendon"	Hamstring (2 strand ST, 2 strand G, double bundle)	RR	0.53(0.05,5.75)	NS
Mohtadi, 2019	High	IKDC (Objective) A/B	5 yrs.	Bone-Patellar Tendon-Bone: "Patellar Tendon"	Hamstring (2 strand ST, 2 strand G, double bundle)	RR	1.16(1.01,1.33)	Bone-Patellar Tendon-Bone
Mohtadi, 2019	High	IKDC (Objective) C/D	5 yrs.	Bone-Patellar Tendon-Bone: "Patellar Tendon"	Hamstring (2 strand ST, 2 strand G, double bundle)	RR	0.53(0.29,0.96)	Bone-Patellar Tendon-Bone
Mohtadi, 2019	High	IKDC Subjective Score	2 yrs.	Bone-Patellar Tendon-Bone: "Patellar Tendon"	Hamstring (2 strand ST, 2 strand G, double bundle)	Mean Difference	0.4 (-3.06, 3.86)	NS
Mohtadi, 2019	High	IKDC Subjective Score	5 yrs.	Bone-Patellar Tendon-Bone: "Patellar Tendon"	Hamstring (2 strand ST, 2 strand G, double bundle)	Mean Difference	-0.4 (-3.96, 3.16)	NS
Mohtadi, 2019	High	ROM: Passive Extension Deficit >3°	5 yrs.	Bone-Patellar Tendon-Bone: "Patellar Tendon"	Hamstring (2 strand ST, 2 strand G, double bundle)	RD	0.00(0.00,0.00)	NS
Mohtadi, 2019	High	ROM: Passive Flexion (°)	5 yrs.	Bone-Patellar Tendon-Bone: "Patellar Tendon"	Hamstring (2 strand ST, 2 strand G, double bundle)	Mean Difference	1.6 (-0.49, 3.69)	NS
Mohtadi, 2019	High	Single Leg Hop (% of non-op side)	5 yrs.	Bone-Patellar Tendon-Bone: "Patellar Tendon"	Hamstring (2 strand ST, 2 strand G, double bundle)	Mean Difference	5.8 (-0.98, 12.58)	NS
Mohtadi, 2019	High	Cincinnati Occupational Rating	5 yrs.	Bone-Patellar Tendon-Bone: "Patellar Tendon"	Hamstring (2 strand ST, 2 strand G, double bundle)	Mean Difference	-1.9 (-7.70, 3.90)	NS
Mohtadi, 2019	High	Tegner Activity Scale (5+)	2 yrs.	Bone-Patellar Tendon-Bone: "Patellar Tendon"	Hamstring (2 strand ST, 2 strand G, double bundle)	RR	1.01(0.89,1.14)	NS
Mohtadi, 2019	High	Tegner Activity Scale (5+)	5 yrs.	Bone-Patellar Tendon-Bone: "Patellar Tendon"	Hamstring (2 strand ST, 2 strand G, double bundle)	RR	0.97(0.84,1.11)	NS

Reference Title	Quality	Outcome Details	Duration	Treatment 1 (Details)	Treatment 2 (Details)	Effect Measure	Result (95% CI)	Favored Treatment
Lecoq, 2018	Low	IKDC Postop Activity C/D	12 yrs.	Bone-Patellar Tendon-Bone	Hamstring (semitendinosus-gracilis, 2-3 strand)	RR	1.12(1.00,1.25)	Hamstring(semitendinosus-gracilis,2-3 strand)
Lecoq, 2018	Low	IKDC Subjective Score	12 yrs.	Bone-Patellar Tendon-Bone	Hamstring (semitendinosus-gracilis, 2-3 strand)	Mean Difference	1.6 (-0.27, 3.47)	NS
Lecoq, 2018	Low	KOOS (Symptoms)	12 yrs.	Bone-Patellar Tendon-Bone	Hamstring (semitendinosus-gracilis, 2-3 strand)	Mean Difference	-0.5 (-2.75, 1.75)	NS
Lecoq, 2018	Low	KOOS (ADL)	12 yrs.	Bone-Patellar Tendon-Bone	Hamstring (semitendinosus-gracilis, 2-3 strand)	Mean Difference	1.4 (-0.07, 2.87)	NS
Lecoq, 2018	Low	KOOS (Sports)	12 yrs.	Bone-Patellar Tendon-Bone	Hamstring (semitendinosus-gracilis, 2-3 strand)	Mean Difference	0.1 (-3.50, 3.70)	NS
Gupta, 2018(b)	Low	Anterior Drawer Test	62 mos.	Bone-Patellar Tendon-Bone	Hamstring (STG w preserved insertions): "STGPI"	Mean Difference	-0.1 (-0.27, 0.07)	NS
Gupta, 2018(b)	Low	Lachman Test	62 mos.	Bone-Patellar Tendon-Bone	Hamstring (STG w preserved insertions): "STGPI"	Mean Difference	0 (-0.15, 0.15)	NS
Gupta, 2018(b)	Low	Pivot Shift Test (mean)	62 mos.	Bone-Patellar Tendon-Bone	Hamstring (STG w preserved insertions): "STGPI"	Mean Difference	0 (-0.11, 0.11)	NS
Gupta, 2018(b)	Low	IKDC Subjective Score	62 mos.	Bone-Patellar Tendon-Bone	Hamstring (STG w preserved insertions): "STGPI"	Mean Difference	-1.49 (-4.01, 1.03)	NS
Gupta, 2018(b)	Low	Tegner Activity Scale	62 mos.	Bone-Patellar Tendon-Bone	Hamstring (STG w preserved insertions): "STGPI"	Author Reported -one-way ANOVA	N/A	NS
Gupta, 2018(b)	Low	Anterior Drawer Test	62 mos.	Bone-Patellar Tendon-Bone	Hamstring (STG Free): "STGF"	Mean Difference	-0.2 (-0.35, -0.05)	Bone-Patellar Tendon-Bone
Gupta, 2018(b)	Low	Lachman Test	62 mos.	Bone-Patellar Tendon-Bone	Hamstring (STG Free): "STGF"	Mean Difference	-0.2 (-0.34, -0.06)	Bone-Patellar Tendon-Bone
Gupta, 2018(b)	Low	Pivot Shift Test (mean)	62 mos.	Bone-Patellar Tendon-Bone	Hamstring (STG Free): "STGF"	Mean Difference	-0.1 (-0.10, -0.10)	Bone-Patellar Tendon-Bone

Reference Title	Quality	Outcome Details	Duration	Treatment 1 (Details)	Treatment 2 (Details)	Effect Measure	Result (95% CI)	Favored Treatment
Gupta, 2018(b)	Low	IKDC Subjective Score	62 mos.	Bone-Patellar Tendon-Bone	Hamstring (STG Free): "STGF"	Mean Difference	1.01 (-1.98, 4.00)	NS
Gupta, 2018(b)	Low	Tegner Activity Scale	62 mos.	Bone-Patellar Tendon-Bone	Hamstring (STG Free): "STGF"	Author Reported -one-way ANOVA	N/A	NS
Engelen van Melick, 2017	Low	IKDC Subjective Score	50 mos.	Bone-Patellar Tendon-Bone: "BPTB"	Hamstring (semitendinosus-gracilis): "STG"	Mean Difference	1.1 (-4.42, 6.62)	NS
Engelen van Melick, 2017	Low	Tegner Activity Scale	50 mos.	Bone-Patellar Tendon-Bone: "BPTB"	Hamstring (semitendinosus-gracilis): "STG"	Mean Difference	0.4 (-0.47, 1.27)	NS
Engelen van Melick, 2017	Low	Vertical Jump (m)	50 mos.	Bone-Patellar Tendon-Bone: "BPTB"	Hamstring (semitendinosus-gracilis): "STG"	Mean Difference	0 (-0.02, 0.02)	NS
Engelen van Melick, 2017	Low	Hop for Distance (m)	50 mos.	Bone-Patellar Tendon-Bone: "BPTB"	Hamstring (semitendinosus-gracilis): "STG"	Mean Difference	0.07 (-0.06, 0.20)	NS
Engelen van Melick, 2017	Low	IKDC Subjective Score	58 mos.	Bone-Patellar Tendon-Bone: "BPTB"	Hamstring (semitendinosus-gracilis): "STG"	Mean Difference	-1.2 (-6.04, 3.64)	NS
Engelen van Melick, 2017	Low	Tegner Activity Scale	58 mos.	Bone-Patellar Tendon-Bone: "BPTB"	Hamstring (semitendinosus-gracilis): "STG"	Mean Difference	0 (-0.93, 0.93)	NS
Engelen van Melick, 2017	Low	Vertical Jump (m)	58 mos.	Bone-Patellar Tendon-Bone: "BPTB"	Hamstring (semitendinosus-gracilis): "STG"	Mean Difference	0.01 (-0.01, 0.03)	NS
Engelen van Melick, 2017	Low	Hop for Distance (m)	58 mos.	Bone-Patellar Tendon-Bone: "BPTB"	Hamstring (semitendinosus-gracilis): "STG"	Mean Difference	0.03 (-0.11, 0.17)	NS
Mohtadi, 2015	High	Side to Side Difference (mm)(KT-1000)	2 yrs.	Bone-Patellar Tendon-Bone: "Patellar Tendon"	Hamstring (quadrupled ST-G, single bundle)	Mean Difference	-1.1 (-1.73, -0.47)	Bone-Patellar Tendon-Bone
Mohtadi, 2015	High	ROM: Passive Extension Deficit >3°	2 yrs.	Bone-Patellar Tendon-Bone: "Patellar Tendon"	Hamstring (quadrupled ST-G, single bundle)	RR	2.24(0.81,6.23)	NS

Reference Title	Quality	Outcome Details	Duration	Treatment 1 (Details)	Treatment 2 (Details)	Effect Measure	Result (95% CI)	Favored Treatment
Mohtadi, 2015	High	ROM: Passive Flexion (°)	2 yrs.	Bone-Patellar Tendon-Bone: "Patellar Tendon"	Hamstring (quadrupled ST-G, single bundle)	Mean Difference	0.1 (-1.63, 1.83)	NS
Mohtadi, 2015	High	Cincinnati Occupational Rating	2 yrs.	Bone-Patellar Tendon-Bone: "Patellar Tendon"	Hamstring (quadrupled ST-G, single bundle)	Mean Difference	2.4 (-3.21, 8.01)	NS
Mohtadi, 2015	High	Tegner Activity Scale	2 yrs.	Bone-Patellar Tendon-Bone: "Patellar Tendon"	Hamstring (quadrupled ST-G, single bundle)	Mean Difference	0.1 (-0.41, 0.61)	NS
Mohtadi, 2015	High	Single Leg Hop (% of non-op side)	2 yrs.	Bone-Patellar Tendon-Bone: "Patellar Tendon"	Hamstring (quadrupled ST-G, single bundle)	Mean Difference	-0.9 (-6.47, 4.67)	NS
Mohtadi, 2015	High	Side to Side Difference (mm)(KT-1000)	2 yrs.	Bone-Patellar Tendon-Bone: "Patellar Tendon"	Hamstring (2 strand ST, 2 strand G, double bundle)	Mean Difference	-0.8 (-1.46, -0.14)	Bone-Patellar Tendon-Bone
Mohtadi, 2015	High	ROM: Passive Extension Deficit >3°	2 yrs.	Bone-Patellar Tendon-Bone: "Patellar Tendon"	Hamstring (2 strand ST, 2 strand G, double bundle)	RR	1.65(0.66,4.09)	NS
Mohtadi, 2015	High	ROM: Passive Flexion (°)	2 yrs.	Bone-Patellar Tendon-Bone: "Patellar Tendon"	Hamstring (2 strand ST, 2 strand G, double bundle)	Mean Difference	1 (-0.67, 2.67)	NS
Mohtadi, 2015	High	Cincinnati Occupational Rating	2 yrs.	Bone-Patellar Tendon-Bone: "Patellar Tendon"	Hamstring (2 strand ST, 2 strand G, double bundle)	Mean Difference	-1.2 (-6.86, 4.46)	NS
Mohtadi, 2015	High	Tegner Activity Scale	2 yrs.	Bone-Patellar Tendon-Bone: "Patellar Tendon"	Hamstring (2 strand ST, 2 strand G, double bundle)	Mean Difference	0.1 (-0.40, 0.60)	NS
Mohtadi, 2015	High	Single Leg Hop (% of non-op side)	2 yrs.	Bone-Patellar Tendon-Bone: "Patellar Tendon"	Hamstring (2 strand ST, 2 strand G, double bundle)	Mean Difference	1 (-2.28, 4.28)	NS
Razi, 2014	High	IKDC (Objective) A/B	3 yrs.	Bone-Patellar Tendon-Bone: "BPTB"	Hamstring (quadrupled ST-G)	RR	0.79(0.59,1.05)	NS
Razi, 2014	High	IKDC (Objective) C/D	3 yrs.	Bone-Patellar Tendon-Bone: "BPTB"	Hamstring (quadrupled ST-G)	RR	0.46(0.12,1.69)	NS

Reference Title	Quality	Outcome Details	Duration	Treatment 1 (Details)	Treatment 2 (Details)	Effect Measure	Result (95% CI)	Favored Treatment
Razi, 2014	High	Lachman Test Grade 0/1	3 yrs.	Bone-Patellar Tendon-Bone: "BPTB"	Hamstring (quadrupled ST-G)	RR	1.08(0.91,1.28)	NS
Razi, 2014	High	Lachman Test Grade 2/3	3 yrs.	Bone-Patellar Tendon-Bone: "BPTB"	Hamstring (quadrupled ST-G)	RR	0.55(0.14,2.13)	NS
Razi, 2014	High	Pivot Shift Test Grade 0/1	3 yrs.	Bone-Patellar Tendon-Bone: "BPTB"	Hamstring (quadrupled ST-G)	RR	1.19(0.99,1.44)	NS
Razi, 2014	High	Pivot-Shift Test Grade 2/3	3 yrs.	Bone-Patellar Tendon-Bone: "BPTB"	Hamstring (quadrupled ST-G)	RR	0.26(0.06,1.18)	NS
Barenius 2014	Moderate	KOOS (Symptoms)	14 yrs.	Bone-Patellar Tendon-Bone	Hamstring (Quadrupled)	Author Reported -student t-test	N/A	NS
Barenius 2014	Moderate	KOOS (ADL)	14 yrs.	Bone-Patellar Tendon-Bone	Hamstring (Quadrupled)	Author Reported -student t-test	N/A	NS
Barenius 2014	Moderate	KOOS (Sports)	14 yrs.	Bone-Patellar Tendon-Bone	Hamstring (Quadrupled)	Author Reported -student t-test	N/A	NS
Sajovic 2018	Moderate	Tegner Activity Scale (7+)	17 yrs.	Bone-Patellar Tendon-Bone: "PT"	Hamstring (Quadrupled, STG)	RR	0.57(0.19,1.70)	NS
Sajovic 2018	Moderate	Hop (90+% of contralateral leg)	17 yrs.	Bone-Patellar Tendon-Bone: "PT"	Hamstring (Quadrupled, STG)	RR	0.75(0.52,1.07)	NS
Sajovic 2018	Moderate	Lachman Test Grade 0/1	17 yrs.	Bone-Patellar Tendon-Bone: "PT"	Hamstring (Quadrupled, STG)	RR	0.00(0.00,0.00)	NS
Sajovic 2018	Moderate	Lachman Test Grade 2/3	17 yrs.	Bone-Patellar Tendon-Bone: "PT"	Hamstring (Quadrupled, STG)	RD	0.00(0.00,0.00)	NS
Sajovic 2018	Moderate	Pivot Shift Test Grade 0/1	17 yrs.	Bone-Patellar Tendon-Bone: "PT"	Hamstring (Quadrupled, STG)	RR	0.00(0.00,0.00)	NS
Sajovic 2018	Moderate	Pivot-Shift Test Grade 2/3	17 yrs.	Bone-Patellar Tendon-Bone: "PT"	Hamstring (Quadrupled, STG)	RD	0.00(0.00,0.00)	NS
Sajovic 2018	Moderate	IKDC (Objective) A/B	17 yrs.	Bone-Patellar Tendon-Bone: "PT"	Hamstring (Quadrupled, STG)	RR	0.00(0.00,0.00)	NS
Sajovic 2018	Moderate	IKDC (Objective) C/D	17 yrs.	Bone-Patellar Tendon-Bone: "PT"	Hamstring (Quadrupled, STG)	RD	0.00(0.00,0.00)	NS

Reference Title	Quality	Outcome Details	Duration	Treatment 1 (Details)	Treatment 2 (Details)	Effect Measure	Result (95% CI)	Favored Treatment
Drogset, 2010	High	Tegner Activity Scale	2 yrs.	Bone-Patellar Tendon-Bone: "BPTB"	Hamstring (STG): double-looped SG (DLSG)	Author Reported -MW U Test	N/A	NS
Drogset, 2010	High	Side to Side Difference (mm)(KT-1000)	2 yrs.	Bone-Patellar Tendon-Bone: "BPTB"	Hamstring (STG): double-looped SG (DLSG)	Author Reported -MW U Test	N/A	NS
Drogset, 2010	High	Lachman Test Grade 2/3	2 yrs.	Bone-Patellar Tendon-Bone: "BPTB"	Hamstring (STG): double-looped SG (DLSG)	RR	1.25(0.30,5.31)	NS
Drogset, 2010	High	Pivot-Shift Test (+)	2 yrs.	Bone-Patellar Tendon-Bone: "BPTB"	Hamstring (STG): double-looped SG (DLSG)	RR	1.18(0.34,4.11)	NS
Drogset, 2010	High	Stairs Hopple Test (side to side diff)	2 yrs.	Bone-Patellar Tendon-Bone: "BPTB"	Hamstring (STG): double-looped SG (DLSG)	Mean Difference	-1 (-9.49, 7.49)	NS
Drogset, 2010	High	Strength: Hamstring Work (N/m)((reduction compared to contralateral knee))	2 yrs.	Bone-Patellar Tendon-Bone: "BPTB"	Hamstring (STG): double-looped SG (DLSG)	Mean Difference	-42 (-73.85, -10.15)	Bone-Patellar Tendon-Bone
Drogset, 2010	High	Strength: Hamstring Torque (N/m)((reduction compared to contralateral knee))	2 yrs.	Bone-Patellar Tendon-Bone: "BPTB"	Hamstring (STG): double-looped SG (DLSG)	Mean Difference	-5 (-9.99, -0.01)	Bone-Patellar Tendon-Bone
King, 2020	Low	Return to sport	2 yrs.	Bone-Patellar Tendon-Bone	Hamstring: unspecified	RR	0.98(0.93,1.04)	NS
King, 2020	Low	IKDC Score < 80 (<80)	2 yrs.	Bone-Patellar Tendon-Bone	Hamstring: unspecified	RR	1.55(1.08,2.21)	Hamstring
King, 2020	Low	IKDC Score > 90 (>90)	2 yrs.	Bone-Patellar Tendon-Bone	Hamstring: unspecified	RR	0.91(0.86,0.97)	Hamstring
Cristiani, 2020	Low	KOOS (Symptoms) > 57.9 ("PASS “Threshold)	2 yrs.	Bone-Patellar Tendon-Bone: BPTB	Hamstring: "single-bundle autologous hamstring tendon (HT)"	Author Reported -Multivariate logistic regression analyses	1.35(0.66,2.78)	NS
Cristiani, 2020	Low	KOOS (ADL) > 100 ("PASS “Threshold)	2 yrs.	Bone-Patellar Tendon-Bone: BPTB	Hamstring: "single-bundle autologous hamstring tendon (HT)"	Author Reported -Multivariate logistic regression analyses	1.01(0.66,1.55)	NS

Reference Title	Quality	Outcome Details	Duration	Treatment 1 (Details)	Treatment 2 (Details)	Effect Measure	Result (95% CI)	Favored Treatment
Cristiani, 2020	Low	KOOS (Sports) > 75.0 ("PASS “Threshold)	2 yrs.	Bone-Patellar Tendon-Bone: BPTB	Hamstring: "single-bundle autologous hamstring tendon (HT)"	Author Reported -Multivariate logistic regression analyses	2.02(1.31,3.10)	Hamstring
Cristiani, 2020	Low	KOOS (QoL) > 62.5 ("PASS “Threshold)	2 yrs.	Bone-Patellar Tendon-Bone: BPTB	Hamstring: "single-bundle autologous hamstring tendon (HT)"	Author Reported -Multivariate logistic regression analyses	1.29(0.82,2.01)	NS
Cristiani, 2020	Low	KOOS (Symptoms)	2 yrs.	Bone-Patellar Tendon-Bone: BPTB	Hamstring: "single-bundle autologous hamstring tendon (HT)"	Mean Difference	1.3 (-1.10, 3.70)	NS
Cristiani, 2020	Low	KOOS (ADL)	2 yrs.	Bone-Patellar Tendon-Bone: BPTB	Hamstring: "single-bundle autologous hamstring tendon (HT)"	Mean Difference	1.4 (-0.39, 3.19)	NS
Cristiani, 2020	Low	KOOS (Sports)	2 yrs.	Bone-Patellar Tendon-Bone: BPTB	Hamstring: "single-bundle autologous hamstring tendon (HT)"	Mean Difference	5.7 (1.97, 9.43)	Bone-Patellar Tendon-Bone
Cristiani, 2020	Low	KOOS (QoL)	2 yrs.	Bone-Patellar Tendon-Bone: BPTB	Hamstring: "single-bundle autologous hamstring tendon (HT)"	Mean Difference	3.5 (0.06, 6.94)	Bone-Patellar Tendon-Bone
Senorski, 2019	Low	IKDC > 75.9 ("PASS" Threshold)	16.4 yrs.	Bone-Patellar Tendon-Bone: BPTB	Hamstring	Author Reported -univariate logistic regression	1.60(0.78,3.29)	NS
Senorski, 2019	Low	OA (KL > 2) ("PASS" Threshold)	16.4 yrs.	Bone-Patellar Tendon-Bone: BPTB	Hamstring	Author Reported -univariate logistic regression	0.97(0.47,2.00)	NS
Gudas, 2018	Low	Lachman Test Grade 0/1	2 Yrs.	Bone-Patellar Tendon-Bone: 10mmBPTB	Hamstring: 8mm HT (doubled semitendinosus)	RR	1.15(1.03,1.28)	Bone-Patellar Tendon-Bone
Gudas, 2018	Low	Lachman Test Grade 2/3	2 Yrs.	Bone-Patellar Tendon-Bone: 10mmBPTB	Hamstring: 8mm HT (doubled semitendinosus)	RR	0.32(0.12,0.82)	Bone-Patellar Tendon-Bone

Reference Title	Quality	Outcome Details	Duration	Treatment 1 (Details)	Treatment 2 (Details)	Effect Measure	Result (95% CI)	Favored Treatment
Gudas, 2018	Low	Pivot Shift Test Grade 0/1	2 Yrs.	Bone-Patellar Tendon-Bone: 10mmBPTB	Hamstring: 8mm HT (doubled semitendinosus)	RR	1.21(1.07,1.38)	Bone-Patellar Tendon-Bone
Gudas, 2018	Low	Pivot-Shift Test Grade 2/3	2 Yrs.	Bone-Patellar Tendon-Bone: 10mmBPTB	Hamstring: 8mm HT (doubled semitendinosus)	RR	0.49(0.18,1.36)	NS
Gudas, 2018	Low	IKDC Subjective Score	2 Yrs.	Bone-Patellar Tendon-Bone: 10mmBPTB	Hamstring: 8mm HT (doubled semitendinosus)	Mean Difference	0.79 (0.02, 1.56)	Bone-Patellar Tendon-Bone
Gudas, 2018	Low	Tegner Activity Scale	2 Yrs.	Bone-Patellar Tendon-Bone: 10mmBPTB	Hamstring: 8mm HT (doubled semitendinosus)	Mean Difference	0.7 (0.38, 1.02)	Bone-Patellar Tendon-Bone
Gudas, 2018	Low	Return to pre-injury sport activity	2 Yrs.	Bone-Patellar Tendon-Bone: 10mmBPTB	Hamstring: 8mm HT (doubled semitendinosus)	RR	1.30(1.14,1.48)	Bone-Patellar Tendon-Bone
Gudas, 2018	Low	Revision ACL Surgery	2 Yrs.	Bone-Patellar Tendon-Bone: 10mmBPTB	Hamstring: 8mm HT (doubled semitendinosus)	RR	0.15(0.04,0.66)	Bone-Patellar Tendon-Bone
Laboute, 2018	High	Return to Sport	.	Patellar tendon	Hamstring (semitendinosus-gracilis)	RR	1.12(1.02,1.22)	Patellar tendon
Laboute, 2018	High	Time to return to competition (months)	.	Patellar tendon	Hamstring (semitendinosus-gracilis)	Mean Difference	0.4 (-0.12, 0.92)	NS
Jones, 2017	Low	IKDC Subjective Score	6 yrs.	Bone-Patellar Tendon-Bone: BTB	Hamstring	Author Reported -Multivariable modeling	N/A	NS
Jones, 2017	Low	KOOS (Symptoms)	6 yrs.	Bone-Patellar Tendon-Bone: BTB	Hamstring	Author Reported -Multivariable modeling	N/A	NS
Jones, 2017	Low	KOOS (ADL)	6 yrs.	Bone-Patellar Tendon-Bone: BTB	Hamstring	Author Reported -Multivariable modeling	N/A	NS
Jones, 2017	Low	KOOS (Sports)	6 yrs.	Bone-Patellar Tendon-Bone: BTB	Hamstring	Author Reported -Multivariable modeling	1.28(1.02,1.60)	BTB

Reference Title	Quality	Outcome Details	Duration	Treatment 1 (Details)	Treatment 2 (Details)	Effect Measure	Result (95% CI)	Favored Treatment
Jones, 2017	Low	KOOS (QoL)	6 yrs.	Bone-Patellar Tendon-Bone: BTB	Hamstring	Author Reported -Multivariable modeling	N/A	NS
Jones, 2017	Low	MARX Activity Scale	6 yrs.	Bone-Patellar Tendon-Bone: BTB	Hamstring	Author Reported -Multivariable modeling	N/A	NS
Thompson,2016	Low	IKDC Subjective Score	20 yrs.	Bone-Patellar Tendon-Bone: "PT"-Ipsilateral middle third bone–patellar tendon-bone graft	Hamstring (semitendinosus-gracilis): 4-strand	Mean Difference	-3 (-7.45, 1.45)	NS
Thompson,2016	Low	Lachman Test Grade 0/1	20 yrs.	Bone-Patellar Tendon-Bone: "PT"-Ipsilateral middle third bone–patellar tendon-bone graft	Hamstring (semitendinosus-gracilis): 4-strand	RR	0.12(0.03,0.21)	Bone-Patellar Tendon-Bone
Thompson,2016	Low	Lachman Test Grade 2/3	20 yrs.	Bone-Patellar Tendon-Bone: "PT"-Ipsilateral middle third bone–patellar tendon-bone graft	Hamstring (semitendinosus-gracilis): 4-strand	RD	0.00(0.00,0.00)	NS
Thompson,2016	Low	Pivot Shift Test Grade 0/1	20 yrs.	Bone-Patellar Tendon-Bone: "PT"-Ipsilateral middle third bone–patellar tendon-bone graft	Hamstring (semitendinosus-gracilis): 4-strand	RR	0.00(0.00,0.00)	NS
Thompson,2016	Low	Pivot-Shift Test Grade 2/3	20 yrs.	Bone-Patellar Tendon-Bone: "PT"-Ipsilateral middle third bone–patellar tendon-bone graft	Hamstring (semitendinosus-gracilis): 4-strand	RD	0.02(-0.02,0.07)	NS
Thompson,2016	Low	Side to side difference (KT-1000maximal Manual Side-to-Side Differences)	20 yrs.	Bone-Patellar Tendon-Bone: "PT"-Ipsilateral middle third bone–	Hamstring (semitendinosus-gracilis): 4-strand	Mean Difference	-0.6 (-1.27, 0.07)	NS

Reference Title	Quality	Outcome Details	Duration	Treatment 1 (Details)	Treatment 2 (Details)	Effect Measure	Result (95% CI)	Favored Treatment
				patellar tendon-bone graft				
Thompson,2016	Low	Side to side difference	20 yrs.	Bone-Patellar Tendon-Bone: "PT"-Ipsilateral middle third bone–patellar tendon-bone graft	Hamstring (semitendinosus-gracilis): 4-strand	RR	0.92(0.80,1.05)	NS
Thompson,2016	Low	Range of Movement - 3–5-degree loss of extension	20 yrs.	Bone-Patellar Tendon-Bone: "PT"-Ipsilateral middle third bone–patellar tendon-bone graft	Hamstring (semitendinosus-gracilis): 4-strand	RR	1.52(0.36,6.41)	NS
Thompson,2016	Low	Range of Movement - >5-degree loss of extension	20 yrs.	Bone-Patellar Tendon-Bone: "PT"-Ipsilateral middle third bone–patellar tendon-bone graft	Hamstring (semitendinosus-gracilis): 4-strand	RD	0.05(-0.02,0.11)	NS
Thompson,2016	Low	Range of Movement - flexion deficit >5degree	20 yrs.	Bone-Patellar Tendon-Bone: "PT"-Ipsilateral middle third bone–patellar tendon-bone graft	Hamstring (semitendinosus-gracilis): 4-strand	RR	1.14(0.07,17.67)	NS
Thompson,2016	Low	Single-Legged Hop Test (Grade A)(Grade A hop equates to a distance>90% than the contralateral limb)	20 yrs.	Bone-Patellar Tendon-Bone: "PT"-Ipsilateral middle third bone–patellar tendon-bone graft	Hamstring (semitendinosus-gracilis): 4-strand	RR	1.21(0.95,1.54)	NS
Thompson,2016	Low	Single-Legged Hop Test (Grade B)(Grade B hop equates to a distance75% - 89% than the contralateral limb)	20 yrs.	Bone-Patellar Tendon-Bone: "PT"-Ipsilateral middle third bone–patellar tendon-bone graft	Hamstring (semitendinosus-gracilis): 4-strand	RR	0.68(0.27,1.73)	NS
Thompson,2016	Low	Single-Legged Hop Test (Grade C)(Grade C hop	20 yrs.	Bone-Patellar Tendon-Bone: "PT"-Ipsilateral middle third bone–	Hamstring (semitendinosus-gracilis): 4-strand	RD	0.00(0.00,0.00)	NS

Reference Title	Quality	Outcome Details	Duration	Treatment 1 (Details)	Treatment 2 (Details)	Effect Measure	Result (95% CI)	Favored Treatment
		equates to a distance<75% than the contralateral limb)		patellar tendon-bone graft				
Thompson,2016	Low	Overall IKDC Ligament Evaluation	20 yrs.	Bone-Patellar Tendon-Bone: "PT"-Ipsilateral middle third bone–patellar tendon-bone graft	Hamstring (semitendinosus-gracilis): 4-strand	RR	1.04(0.85,1.28)	NS
Thompson,2016	Low	IKDC (Objective) A	20 yrs.	Bone-Patellar Tendon-Bone: "PT"-Ipsilateral middle third bone–patellar tendon-bone graft	Hamstring (semitendinosus-gracilis): 4-strand	RR	0.92(0.79,1.08)	NS
Webster, 2016	High	Flexion Deficit	15 yrs.	Patellar Tendon: "PT"	Hamstring: "HS"	Mean Difference	-1.5 (-4.18, 1.18)	NS
Webster, 2016	High	Mild effusion	15 yrs.	Patellar Tendon: "PT"	Hamstring: "HS"	RR	0.55(0.22,1.34)	NS
Webster, 2016	High	Side to side difference (Anterior Knee Laxity, side to side difference <2mm at15yrs)	15 yrs.	Patellar Tendon: "PT"	Hamstring: "HS"	Mean Difference	-0.6 (-1.43, 0.23)	NS
Webster, 2016	High	Cincinnati Knee Score	15 yrs.	Patellar Tendon: "PT"	Hamstring: "HS"	Mean Difference	3.4 (-4.25, 11.05)	NS
Webster, 2016	High	IKDC Subjective Score	15 yrs.	Patellar Tendon: "PT"	Hamstring: "HS"	Mean Difference	3.7 (-3.68, 11.08)	NS
Webster, 2016	High	VR-12 component (Mental) (Veterans rand 12-Item)	15 yrs.	Patellar Tendon: "PT"	Hamstring: "HS"	Mean Difference	-1.5 (-4.63, 1.63)	NS
Webster, 2016	High	VR-12 component (Physical)(Veteran's RAND 12-Item)	15 yrs.	Patellar Tendon: "PT"	Hamstring: "HS"	Mean Difference	-2.5 (-6.95, 1.95)	NS
Webster, 2016	High	Frequency 1 (4-7 d/wk.)	15 yrs.	Patellar Tendon: "PT"	Hamstring: "HS"	RR	0.23(0.03,1.80)	NS
Webster, 2016	High	Frequency 2 (1-3 d/wk.)	15 yrs.	Patellar Tendon: "PT"	Hamstring: "HS"	RR	2.44(1.22,4.86)	Patellar Tendon
Webster, 2016	High	Frequency 3 (1-3 times/mo.)	15 yrs.	Patellar Tendon: "PT"	Hamstring: "HS"	RR	0.45(0.10,2.11)	NS

Reference Title	Quality	Outcome Details	Duration	Treatment 1 (Details)	Treatment 2 (Details)	Effect Measure	Result (95% CI)	Favored Treatment
Webster, 2016	High	Frequency 4 (no sport)	15 yrs.	Patellar Tendon: "PT"	Hamstring: "HS"	RR	0.57(0.20,1.63)	NS
Webster, 2016	High	Type of sport 1 (jumping, hard pivoting)	15 yrs.	Patellar Tendon: "PT"	Hamstring: "HS"	RR	2.84(1.04,7.79)	Patellar Tendon
Webster, 2016	High	Type of sport 2 (running, twisting)	15 yrs.	Patellar Tendon: "PT"	Hamstring: "HS"	RR	0.76(0.43,1.32)	NS
Webster, 2016	High	Type of sport 3 (no running)	15 yrs.	Patellar Tendon: "PT"	Hamstring: "HS"	RR	0.38(0.09,1.69)	NS
Rosso, 2018	Low	IKDC C-D	44.1mos	Bone-Patellar Tendon-Bone: "BPTB"	Quadrupled Hamstring: "QH"	Author Reported -multiple logistic regression	1.84(0.82,4.15)	NS
Rosso, 2018	Low	Anterior compartment crepitus B-C-D	44.1mos	Bone-Patellar Tendon-Bone: "BPTB"	Quadrupled Hamstring: "QH"	Author Reported -multiple logistic regression	0.34(1.15,0.76)	NS

Reference Title	Quality	Outcome Details	Duration	Treatment 1 (Details)	Treatment 2 (Details)	Effect Measure	Result (95% CI)	Favored Treatment
Fleming,2021	Moderate	KOOS (Sports)	7 yrs.	Bone-Patellar Tendon-Bone: “BTB”	Hamstring	Author Reported - chi square test	11.90(2.50,21.40)	NS
Fleming,2021	Moderate	KOOS (ADL)	7 yrs.	Bone-Patellar Tendon-Bone: “BTB”	Hamstring	Author Reported - chi square test	6.90(1.50,12.30)	NS
Fleming,2021	Moderate	KOOS (Symptoms)	7 yrs.	Bone-Patellar Tendon-Bone: “BTB”	Hamstring	Author Reported - chi square test	13.80(5.10,22.60)	NS
Soni, 2021	Low	KT-1000 (mechanical stability)	2 yrs.	Bone-Patellar Tendon-Bone: “BPTB”	STG (free)	Mean Difference	-0.92 (-1.03, -0.81)	STG (free)
Soni, 2021	Low	Thigh Circumference Difference	2 yrs.	Bone-Patellar Tendon-Bone: “BPTB”	STG (free)	Mean Difference	-0.5 (-0.58, -0.42)	Bone-Patellar Tendon-Bone
Soni, 2021	Low	KT-1000 (mechanical stability)	2 yrs.	Bone-Patellar Tendon-Bone: “BPTB”	STG (preserved insertion)	Mean Difference	-0.72 (-0.84, -0.60)	STG (preserved insertion)
Soni, 2021	Low	Thigh Circumference Difference	2 yrs.	Bone-Patellar Tendon-Bone: “BPTB”	STG (preserved insertion)	Mean Difference	-0.2 (-0.45, 0.05)	NS
Soni, 2021	Low	Tegner Activity Scale	2 yrs.	Bone-Patellar Tendon-Bone: “BPTB”	STG (free)	Mean Difference	0.6 (-0.47, 1.67)	NS

Reference Title	Quality	Outcome Details	Duration	Treatment 1 (Details)	Treatment 2 (Details)	Effect Measure	Result (95% CI)	Favored Treatment
Soni, 2021	Low	Tegner Activity Scale	2 yrs.	Bone-Patellar Tendon-Bone: “BPTB”	STG (preserved insertion)	Mean Difference	0.02 (-0.93, 0.97)	NS

Table 116: PICO 8 – Autograft vs. Autograft: BPTB Autograft vs. HS Autograft – OA Progression

Reference Title	Quality	Outcome Details	Duration	Treatment 1 (Details)	Treatment 2 (Details)	Effect Measure	Result (95% CI)	Favored Treatment
Lecoq, 2018	Low	IKDC OA Stage C/D	12 yrs.	Bone-Patellar Tendon-Bone	Hamstring (semitendinosus-gracilis, 2-3 strand)	RR	0.80(0.56,1.13)	NS
Barenius 2014	Moderate	Osteoarthritis (%)	14 yrs.	Bone-Patellar Tendon-Bone	Hamstring (Quadrupled)	Author Reported - logistic regression	N/A	NS
Barenius 2014	Moderate	Osteoarthritis - Lateral or Medial (%)	14 yrs.	Bone-Patellar Tendon-Bone	Hamstring (Quadrupled)	Author Reported - logistic regression	N/A	NS
Barenius 2014	Moderate	Osteoarthritis - Lateral (%)	14 yrs.	Bone-Patellar Tendon-Bone	Hamstring (Quadrupled)	Author Reported - logistic regression	N/A	BPTB
Barenius 2014	Moderate	Osteoarthritis - Medial (%)	14 yrs.	Bone-Patellar Tendon-Bone	Hamstring (Quadrupled)	Author Reported - logistic regression	N/A	NS
Barenius 2014	Moderate	Osteoarthritis - Patellofemoral (%)	14 yrs.	Bone-Patellar Tendon-Bone	Hamstring (Quadrupled)	Author Reported - logistic regression	N/A	NS
Sajovic 2018	Moderate	IKDC Radiological Score (Grade A/B)	17 yrs.	Bone-Patellar Tendon-Bone: "PT"	Hamstring (Quadrupled, STG)	RR	1.19(0.84,1.68)	NS
Sajovic 2018	Moderate	IKDC Radiological Score (Grade C/D)	17 yrs.	Bone-Patellar Tendon-Bone: "PT"	Hamstring (Quadrupled, STG)	RR	0.63(0.24,1.64)	NS
Moon Knee Group, 2019	Low	Higher OARSI Grade	2 yrs.	Bone-Patellar Tendon-Bone: "BPTB"	Hamstring	Author Reported - multivariable logistic regression	1.08(0.74,1.58)	NS
Thompson,2016	Low	IKDC Radiological Score (Grade A/B)	2 yrs.	Bone-Patellar Tendon-Bone: "PT"-Ipsilateral middle third bone–patellar tendon-bone graft	Hamstring (semitendinosus-gracilis): 4-strand	RR	0.00(0.00,0.00)	NS
Thompson,2016	Low	IKDC Radiological Score (Grade C/D)	2 yrs.	Bone-Patellar Tendon-Bone: "PT"-Ipsilateral middle third bone–patellar tendon-bone graft	Hamstring (semitendinosus-gracilis): 4-strand	RD	0.00(0.00,0.00)	NS
Thompson,2016	Low	IKDC Radiological Score (Grade A/B)	5 yrs.	Bone-Patellar Tendon-Bone: "PT"-Ipsilateral middle third bone–patellar tendon-bone graft	Hamstring (semitendinosus-gracilis): 4-strand	RR	0.00(0.00,0.00)	NS

Reference Title	Quality	Outcome Details	Duration	Treatment 1 (Details)	Treatment 2 (Details)	Effect Measure	Result (95% CI)	Favored Treatment
Thompson,2016	Low	IKDC Radiological Score (Grade C/D)	5 yrs.	Bone-Patellar Tendon-Bone: "PT"-Ipsilateral middle third bone–patellar tendon-bone graft	Hamstring (semitendinosus-gracilis): 4-strand	RD	0.00(0.00,0.00)	NS
Thompson,2016	Low	IKDC Radiological Score (Grade A/B)	7 yrs.	Bone-Patellar Tendon-Bone: "PT"-Ipsilateral middle third bone–patellar tendon-bone graft	Hamstring (semitendinosus-gracilis): 4-strand	RR	1.00(0.96,1.05)	NS
Thompson,2016	Low	IKDC Radiological Score (Grade C/D)	7 yrs.	Bone-Patellar Tendon-Bone: "PT"-Ipsilateral middle third bone–patellar tendon-bone graft	Hamstring (semitendinosus-gracilis): 4-strand	RR	1.00(0.06,15.63)	NS
Thompson,2016	Low	IKDC Radiological Score (Grade A/B)	10 yrs.	Bone-Patellar Tendon-Bone: "PT"-Ipsilateral middle third bone–patellar tendon-bone graft	Hamstring (semitendinosus-gracilis): 4-strand	RR	0.98(0.93,1.04)	NS
Thompson,2016	Low	IKDC Radiological Score (Grade C/D)	10 yrs.	Bone-Patellar Tendon-Bone: "PT"-Ipsilateral middle third bone–patellar tendon-bone graft	Hamstring (semitendinosus-gracilis): 4-strand	RR	2.00(0.19,21.48)	NS
Thompson,2016	Low	IKDC Radiological Score (Grade A/B)	15 yrs.	Bone-Patellar Tendon-Bone: "PT"-Ipsilateral middle third bone–patellar tendon-bone graft	Hamstring (semitendinosus-gracilis): 4-strand	RR	0.68(0.48,0.97)	Hamstring(semitendinosus-gracilis)
Thompson,2016	Low	IKDC Radiological Score (Grade C/D)	15 yrs.	Bone-Patellar Tendon-Bone: "PT"-Ipsilateral middle third bone–patellar tendon-bone graft	Hamstring (semitendinosus-gracilis): 4-strand	RR	1.38(0.89,2.13)	NS
Thompson,2016	Low	IKDC Radiological Score (Grade A/B)	20 yrs.	Bone-Patellar Tendon-Bone: "PT"-Ipsilateral middle third bone–patellar tendon-bone graft	Hamstring (semitendinosus-gracilis): 4-strand	RR	0.92(0.79,1.08)	NS
Thompson,2016	Low	IKDC Radiological Score (Grade C/D)	20 yrs.	Bone-Patellar Tendon-Bone: "PT"-Ipsilateral middle third bone–patellar tendon-bone graft	Hamstring (semitendinosus-gracilis): 4-strand	RR	1.50(0.66,3.41)	NS
Webster, 2016	High	Kellgren-Lawrence Grade 0-1	15 yrs.	Patellar Tendon: "PT"	Hamstring: "HS"	RR	1.08(0.72,1.62)	NS

Reference Title	Quality	Outcome Details	Duration	Treatment 1 (Details)	Treatment 2 (Details)	Effect Measure	Result (95% CI)	Favored Treatment
Webster, 2016	High	Kellgren-Lawrence Grade 2-3	15 yrs.	Patellar Tendon: "PT"	Hamstring: "HS"	RR	0.83(0.31,2.27)	NS

Reference Title	Quality	Outcome Details	Duration	Treatment 1 (Details)	Treatment 2 (Details)	Effect Measure	Result (95% CI)	Favored Treatment
Soni, 2021	Low	Kellgren-Lawrence Grade 0-1	2 yrs.	Bone-Patellar Tendon-Bone: “BPTB”	STG (free)	RR	0.06(-0.02,0.15)	NS
Soni, 2021	Low	Kellgren-Lawrence Grade 0-1	2 yrs.	Bone-Patellar Tendon-Bone: “BPTB”	STG (preserved insertion)	RR	0.00(0.00,0.00)	NS

Table 117: PICO 8 – Autograft vs. Autograft: BPTB Autograft vs. HS Autograft – Pain

Reference Title	Quality	Outcome Details	Duration	Treatment 1 (Details)	Treatment 2 (Details)	Effect Measure	Result (95% CI)	Favored Treatment
Smith, 2020	High	VAS Pain	2 yrs.	Bone-Patellar Tendon-Bone	Hamstring (Quadrupled): "quadrupled Semitendinosus"	Mean Difference	0.2 (-0.03, 0.43)	NS
Rousseau,2019	Low	Anterior Knee pain	2 yrs.	Bone-Patellar Tendon-Bone: "PT"	Hamstring (semitendinosus-gracilis): "STG"	RR	1.82(1.33,2.49)	Hamstring(semitendinosus-gracilis)
Rousseau,2019	Low	Persistent Pain	2 yrs.	Bone-Patellar Tendon-Bone: "PT"	Hamstring (semitendinosus-gracilis): "STG"	RR	1.23(0.52,2.90)	NS
Rousseau,2019	Low	Pain around Fixation Material	2 yrs.	Bone-Patellar Tendon-Bone: "PT"	Hamstring (semitendinosus-gracilis): "STG"	RR	0.06(0.01,0.23)	Bone-Patellar Tendon-Bone
Mohtadi, 2019	High	Pain While Kneeling (%) (Moderate or Severe)	2 yrs.	Bone-Patellar Tendon-Bone: "Patellar Tendon"	Hamstring (quadrupled ST-G, single bundle)	RR	1.99(0.93,4.24)	NS
Mohtadi, 2019	High	Pain While Kneeling (%) (Moderate or Severe)	5 yrs.	Bone-Patellar Tendon-Bone: "Patellar Tendon"	Hamstring (quadrupled ST-G, single bundle)	RR	2.50(0.81,7.70)	NS
Mohtadi, 2019	High	Pain While Kneeling (%) (Moderate or Severe)	2 yrs.	Bone-Patellar Tendon-Bone: "Patellar Tendon"	Hamstring (2 strand ST, 2 strand G, double bundle)	RR	4.51(1.57,12.94)	Hamstring (2 strand ST,2 strand G, double bundle)
Mohtadi, 2019	High	Pain While Kneeling (%) (Moderate or Severe)	5 yrs.	Bone-Patellar Tendon-Bone: "Patellar Tendon"	Hamstring (2 strand ST, 2 strand G, double bundle)	RR	5.15(1.16,22.92)	Hamstring (2 strand ST,2 strand G, double bundle)
Lecoq, 2018	Low	KOOS (Pain)	12 yrs.	Bone-Patellar Tendon-Bone	Hamstring (semitendinosus-gracilis, 2-3 strand)	Mean Difference	1.9 (-0.16, 3.96)	NS
Barenius 2014	Moderate	KOOS (Pain)	14 yrs.	Bone-Patellar Tendon-Bone	Hamstring (Quadrupled)	Author Reported - student t-test	N/A	NS
Cristiani, 2020	Low	KOOS (Pain) > 88.9 ("PASS "Threshold)	2 yrs.	Bone-Patellar Tendon-Bone: BPTB	Hamstring: "single-bundle autologous hamstring tendon (HT)"	Author Reported - Multivariate logistic regression analyses	1.34(0.88,2.05)	NS

Reference Title	Quality	Outcome Details	Duration	Treatment 1 (Details)	Treatment 2 (Details)	Effect Measure	Result (95% CI)	Favored Treatment
Cristiani, 2020	Low	KOOS (Pain)	2 yrs.	Bone-Patellar Tendon-Bone: BPTB	Hamstring: "single-bundle autologous hamstring tendon (HT)"	Mean Difference	1.7 (-0.42, 3.82)	NS
Jones, 2017	Low	KOOS (Pain)	6 yrs.	Bone-Patellar Tendon-Bone: BTB	Hamstring	Author Reported - Multivariable modeling	N/A	NS
Thompson,2016	Low	No Kneeling Pain (no to mild difficulty with kneeling)	20 yrs.	Bone-Patellar Tendon-Bone: "PT"-Ipsilateral middle third bone–patellar tendon-bone graft	Hamstring (semitendinosus-gracilis): 4-strand	RR	0.77(0.62,0.96)	Hamstring(semitendinosus-gracilis)
Webster, 2016	High	Anterior Knee pain	15.3 yrs.	Patellar Tendon: "PT"	Hamstring: "HS"	Mean Difference	0.3 (-1.06, 1.66)	NS
Webster, 2016	High	Kneeling pain	15.3 yrs.	Patellar Tendon: "PT"	Hamstring: "HS"	Mean Difference	0.7 (-0.65, 2.05)	NS
Webster, 2016	High	Anterior Knee pain	2 yrs.	Patellar Tendon: "PT"	Hamstring: "HS"	RR	3.01(1.13,8.02)	Hamstring
Webster, 2016	High	Anterior Knee pain	3 yrs.	Patellar Tendon: "PT"	Hamstring: "HS"	RR	1.23(0.58,2.60)	NS
Webster, 2016	High	Kneeling pain	2 yrs.	Patellar Tendon: "PT"	Hamstring: "HS"	RR	1.92(1.01,3.62)	Hamstring
Webster, 2016	High	Kneeling pain	3 yrs.	Patellar Tendon: "PT"	Hamstring: "HS"	RR	2.56(1.21,5.42)	Hamstring

Reference Title	Quality	Outcome Details	Duration	Treatment 1 (Details)	Treatment 2 (Details)	Effect Measure	Result (95% CI)	Favored Treatment
Fleming,2021	Moderate	KOOS (Pain)	7 yrs.	Bone-Patellar Tendon-Bone: “BTB”	Hamstring	Author Reported – chi square test	13.00(2.80,23.20)	NS
Marques,2020	Low	Anterior Knee Pain	2 yrs.	Bone-Patellar Tendon-Bone: “BTB”	Hamstring	Author Reported -Logistic Regression Model	3.40(1.30,8.76)	BPTB autograft

Table 118: PICO 8 – Autograft vs. Autograft: BPTB Autograft vs. HS Autograft – QOL

Reference Title	Quality	Outcome Details	Duration	Treatment 1 (Details)	Treatment 2 (Details)	Effect Measure	Result (95% CI)	Favored Treatment
Smith, 2020	High	KOOS (Quality of Life)	2 yrs.	Bone-Patellar Tendon-Bone	Hamstring (Quadrupled): "quadrupled Semitendinosus"	Mean Difference	-0.9 (-10.41, 8.61)	NS
Smith, 2020	High	SF-12 (Mental)	2 yrs.	Bone-Patellar Tendon-Bone	Hamstring (Quadrupled): "quadrupled Semitendinosus"	Mean Difference	0.7 (-0.79, 2.19)	NS
Lecoq, 2018	Low	KOOs (QoL)	12 yrs.	Bone-Patellar Tendon-Bone	Hamstring (semitendinosus-gracilis, 2-3 strand)	Mean Difference	1 (-2.91, 4.91)	NS
Barenius 2014	Moderate	KOOs (QoL)	14 yrs.	Bone-Patellar Tendon-Bone	Hamstring (Quadrupled)	Author Reported - student t-test	N/A	NS

Table 119: PICO 8 – Autograft vs. Autograft: BPTB Autograft vs. HS Autograft – Return to Activity

Reference Title	Quality	Outcome Details	Duration	Treatment 1 (Details)	Treatment 2 (Details)	Effect Measure	Result (95% CI)	Favored Treatment
Mohtadi, 2019	High	Return to Preinjury Quality of Exercise(Tegner Activity Level)	2 yrs.	Bone-Patellar Tendon-Bone: "Patellar Tendon"	Hamstring (quadrupled ST-G, single bundle)	RR	1.04(0.76,1.44)	NS
Mohtadi, 2019	High	Return to Preinjury Quality of Exercise(Tegner Activity Level)	5 yrs.	Bone-Patellar Tendon-Bone: "Patellar Tendon"	Hamstring (quadrupled ST-G, single bundle)	RR	0.87(0.61,1.25)	NS
Mohtadi, 2019	High	Return to Preinjury Quality of Exercise(Tegner Activity Level)	2 yrs.	Bone-Patellar Tendon-Bone: "Patellar Tendon"	Hamstring (2 strand ST, 2 strand G, double bundle)	RR	1.25(0.88,1.77)	NS
Mohtadi, 2019	High	Return to Preinjury Quality of Exercise(Tegner Activity Level)	5 yrs.	Bone-Patellar Tendon-Bone: "Patellar Tendon"	Hamstring (2 strand ST, 2 strand G, double bundle)	RR	0.89(0.62,1.27)	NS
Gupta, 2018(b)	Low	Return to Preinjury Quality of Exercise	62 mos.	Bone-Patellar Tendon-Bone	Hamstring (STG w preserved insertions): "STGPI"	RR	1.17(0.79,1.75)	NS
Gupta, 2018(b)	Low	Return to Sport	62 mos.	Bone-Patellar Tendon-Bone	Hamstring (STG w preserved insertions): "STGPI"	RR	0.97(0.83,1.13)	NS
Gupta, 2018(b)	Low	Return to Preinjury Quality of Exercise	62 mos.	Bone-Patellar Tendon-Bone	Hamstring (STG Free): "STGF"	RR	1.24(0.83,1.88)	NS
Gupta, 2018(b)	Low	Return to Sport	62 mos.	Bone-Patellar Tendon-Bone	Hamstring (STG Free): "STGF"	RR	1.03(0.88,1.22)	NS
Sajovic 2018	Moderate	Return to Preinjury Quality of Exercise	17 yrs.	Bone-Patellar Tendon-Bone: "PT"	Hamstring (Quadrupled, STG)	RR	0.67(0.38,1.17)	NS

Table 120: PICO 8 – Autograft vs. Autograft: BPTB Autograft vs. Quadriceps – Adverse Events

Reference Title	Quality	Outcome Details	Duration	Treatment 1 (Details)	Treatment 2 (Details)	Effect Measure	Result (95% CI)	Favored Treatment
Lund, 2014	High	Graft Rupture / Failure	Postop .	Patellar Tendon: "BPTB"	Quadriceps Tendon: "QTB"	RD	0.04(-0.04,0.12)	NS
Lund, 2014	High	Removal of tibial graft fixation screw	2 yrs.	Patellar Tendon: "BPTB"	Quadriceps Tendon: "QTB"	RR	1.04(0.07,15.74)	NS
Lund, 2014	High	Meniscal injury	2 yrs.	Patellar Tendon: "BPTB"	Quadriceps Tendon: "QTB"	RD	0.04(-0.04,0.12)	NS

Table 121: PICO 8 – Autograft vs. Autograft: BPTB Autograft vs. Quadriceps – Composite

Reference Title	Quality	Outcome Details	Duration	Treatment 1 (Details)	Treatment 2 (Details)	Effect Measure	Result (95% CI)	Favored Treatment
Barie, 2020	Moderate	Lysholm Knee Score	10 yrs.	Bone-Patellar Tendon-Bone	Quadriceps Tendon-Patellar Bone	Mean Difference	-0.4 (-4.73, 3.93)	NS
Lund, 2014	High	KOOS (Average of 4 KOOS subscores: symptoms, pain, sports/recreation, and quality of life)	2 yrs.	Patellar Tendon: "BPTB"	Quadriceps Tendon: "QTB"	Mean Difference	-10 (-20.28, 0.28)	NS

Table 122: PICO 8 – Autograft vs. Autograft: BPTB Autograft vs. Quadriceps – Function

Reference Title	Quality	Outcome Details	Duration	Treatment 1 (Details)	Treatment 2 (Details)	Effect Measure	Result (95% CI)	Favored Treatment
Barie, 2020	Moderate	Tegner Activity Scale ((median, range only))	10 yrs.	Bone-Patellar Tendon-Bone	Quadriceps Tendon-Patellar Bone	Author Reported -Mann-Whitney U Test	N/A	NS
Barie, 2020	Moderate	IKDC Subjective Score	10 yrs.	Bone-Patellar Tendon-Bone	Quadriceps Tendon-Patellar Bone	Mean Difference	0 (-5.79, 5.79)	NS
Barie, 2020	Moderate	KT-1000 ((median, range only))	10 yrs.	Bone-Patellar Tendon-Bone	Quadriceps Tendon-Patellar Bone	Mean Difference	0.05 (-0.69, 0.79)	NS
Lund, 2014	High	KOOS (Symptoms)	2 yrs.	Patellar Tendon: "BPTB"	Quadriceps Tendon: "QTB"	Mean Difference	-2 (-9.72, 5.72)	NS
Lund, 2014	High	KOOS (ADL)	2 yrs.	Patellar Tendon: "BPTB"	Quadriceps Tendon: "QTB"	Mean Difference	-8 (-13.59, -2.41)	Quadriceps Tendon
Lund, 2014	High	KOOS (Sports) (Sports/Recreation)	2 yrs.	Patellar Tendon: "BPTB"	Quadriceps Tendon: "QTB"	Mean Difference	-16 (-27.60, -4.40)	Quadriceps Tendon
Lund, 2014	High	KOOS (QoL)	2 yrs.	Patellar Tendon: "BPTB"	Quadriceps Tendon: "QTB"	Mean Difference	-15 (-25.75, -4.25)	Quadriceps Tendon
Lund, 2014	High	IKDC Subjective Score	2 yrs.	Patellar Tendon: "BPTB"	Quadriceps Tendon: "QTB"	Mean Difference	-14 (-22.02, -5.98)	Quadriceps Tendon
Lund, 2014	High	Sensitivity Loss	Postop .	Patellar Tendon: "BPTB"	Quadriceps Tendon: "QTB"	RR	1.56(0.96,2.53)	NS
Lund, 2014	High	Side to side difference (KT-1000,anteroposterior knee laxity)	Postop .	Patellar Tendon: "BPTB"	Quadriceps Tendon: "QTB"	Mean Difference	-0.3 (-1.16, 0.56)	NS
Lund, 2014	High	Anteroposterior laxity (2mm or less)	Postop .	Patellar Tendon: "BPTB"	Quadriceps Tendon: "QTB"	RR	0.99(0.73,1.34)	NS
Lund, 2014	High	Anteroposterior laxity (3-4mm)	Postop .	Patellar Tendon: "BPTB"	Quadriceps Tendon: "QTB"	RR	0.83(0.25,2.75)	NS
Lund, 2014	High	Anteroposterior laxity (5mm or greater)	Postop .	Patellar Tendon: "BPTB"	Quadriceps Tendon: "QTB"	RR	2.08(0.20,21.53)	NS

Table 123: PICO 8 – Autograft vs. Autograft: BPTB Autograft vs. Quadriceps – Pain

Reference Title	Quality	Outcome Details	Duration	Treatment 1 (Details)	Treatment 2 (Details)	Effect Measure	Result (95% CI)	Favored Treatment
Barie, 2020	Moderate	Pain While Kneeling (%)	10 yrs.	Bone-Patellar Tendon-Bone	Quadriceps Tendon-Patellar Bone	RR	1.91(0.96,3.78)	NS
Barie, 2020	Moderate	Pain While Squatting (%)	10 yrs.	Bone-Patellar Tendon-Bone	Quadriceps Tendon-Patellar Bone	RR	1.91(0.88,4.15)	NS
Lund, 2014	High	KOOS (Pain)	2 yrs.	Patellar Tendon: "BPTB"	Quadriceps Tendon: "QTB"	Mean Difference	-6 (-12.70, 0.70)	NS
Lund, 2014	High	Kneeling pain (impossible or difficult)(knee walking ability test)	Postop .	Patellar Tendon: "BPTB"	Quadriceps Tendon: "QTB"	RR	9.36(1.28,68.59)	Quadriceps Tendon
Lund, 2014	High	Medial pain (due to inflamed medial plica)	2 yrs.	Patellar Tendon: "BPTB"	Quadriceps Tendon: "QTB"	RD	-0.04(-0.11,0.04)	NS

Table 124: PICO 8 – Autograft vs. Autograft: Bone Patellar Tendon Bone Autograft vs. Bone Tendon Autograft – Adverse Events

Reference Title	Quality	Outcome Details	Duration	Treatment 1 (Details)	Treatment 2 (Details)	Effect Measure	Result (95% CI)	Favored Treatment
Cruz, 2020	Low	Graft Rupture /Failure	30 mos.	Bone-Patellar Tendon-Bone: "BTB"	Bone Tendon Autograft: "BTA"	RR	1.04(0.15,7.10)	NS

Table 125: PICO 8 – Autograft vs. Autograft: Bone Patellar Tendon Bone Autograft vs. Bone Tendon Autograft – Composite

Reference Title	Quality	Outcome Details	Duration	Treatment 1 (Details)	Treatment 2 (Details)	Effect Measure	Result (95% CI)	Favored Treatment
Cruz, 2020	Low	Lysholm Knee Score	30 mos.	Bone-Patellar Tendon-Bone: "BTB"	Bone Tendon Autograft: "BTA"	Mean Difference	-4.47 (-11.09, 2.15)	NS

Table 126: PICO 8 – Autograft vs. Autograft: Bone Patellar Tendon Bone Autograft vs. Bone Tendon Autograft – Function

Reference Title	Quality	Outcome Details	Duration	Treatment 1 (Details)	Treatment 2 (Details)	Effect Measure	Result (95% CI)	Favored Treatment
Cruz, 2020	Low	Single Assessment Numeric Evaluation(SANE)	30 mos.	Bone-Patellar Tendon-Bone: "BTB"	Bone Tendon Autograft: "BTA"	Mean Difference	-2.97 (-8.64, 2.70)	NS
Cruz, 2020	Low	IKDC Subjective Score	30 mos.	Bone-Patellar Tendon-Bone: "BTB"	Bone Tendon Autograft: "BTA"	Mean Difference	-4.1 (-10.68, 2.48)	NS

Table 127: PICO 8 – Autograft vs. Autograft: Bone Patellar Tendon Bone Autograft vs. Bone Tendon Autograft - Pain

Reference Title	Quality	Outcome Details	Duration	Treatment 1 (Details)	Treatment 2 (Details)	Effect Measure	Result (95% CI)	Favored Treatment
Cruz, 2020	Low	Anterior Knee Pain	30 mos.	Bone-Patellar Tendon-Bone: "BTB"	Bone Tendon Autograft: "BTA"	RR	2.08(1.03,4.19)	Bone Tendon Autograft
Cruz, 2020	Low	Pain when Kneeling	30 mos.	Bone-Patellar Tendon-Bone: "BTB"	Bone Tendon Autograft: "BTA"	RR	2.27(1.25,4.13)	Bone Tendon Autograft

Table 128: PICO 8 – Autograft vs. Autograft: HS (Preserved Insertions) vs. HS (Free) – Composite

Reference Title	Quality	Outcome Details	Duration	Treatment 1 (Details)	Treatment 2 (Details)	Effect Measure	Result (95% CI)	Favored Treatment
Soni, 2021	Low	Lysholm Knee Score	2 yrs.	STG Autograft(preserved insertion)	STG (free)	Mean Difference	-0.2 (-2.02, 1.62)	NS

Table 129: PICO 8 – Autograft vs. Autograft: HS (Preserved Insertions) vs. HS (Free) – Adverse Events

Reference Title	Quality	Outcome Details	Duration	Treatment 1 (Details)	Treatment 2 (Details)	Effect Measure	Result (95% CI)	Favored Treatment
Gupta, 2018(b)	Low	Graft Rupture / Failure	62 mos.	Hamstring (STG w/ preserved insertions):"STGPI"	Hamstring (STG Free): "STGF"	RR	0.16(0.02,1.34)	NS
Gupta, 2018(b)	Low	Medial Meniscus Tear	62 mos.	Hamstring (STG w/ preserved insertions):"STGPI"	Hamstring (STG Free): "STGF"	RR	0.66(0.11,3.84)	NS
Gupta, 2018(b)	Low	Lateral Meniscus Tear	62 mos.	Hamstring (STG w/ preserved insertions):"STGPI"	Hamstring (STG Free): "STGF"	RD	-0.02(-0.06,0.01)	NS
Gupta, 2018(b)	Low	Contralateral ACL Rupture / Failure	62 mos.	Hamstring (STG w/ preserved insertions):"STGPI"	Hamstring (STG Free): "STGF"	RR	0.49(0.05,5.35)	NS
Gupta, 2018(b)	Low	Contralateral Medial Meniscus Tear	62 mos.	Hamstring (STG w/ preserved insertions):"STGPI"	Hamstring (STG Free): "STGF"	RD	-0.01(-0.04,0.01)	NS

Table 130: PICO 8 – Autograft vs. Autograft: HS (Preserved Insertions) vs. HS (Free) – Function

Reference Title	Quality	Outcome Details	Duration	Treatment 1 (Details)	Treatment 2 (Details)	Effect Measure	Result (95% CI)	Favored Treatment
Gupta, 2018(b)	Low	Anterior Drawer Test	62 mos.	Hamstring (STG w/ preserved insertions):"STGPI"	Hamstring (STG Free): "STGF"	Mean Difference	-0.1 (-0.27, 0.07)	NS
Gupta, 2018(b)	Low	Lachman Test	62 mos.	Hamstring (STG w/ preserved insertions):"STGPI"	Hamstring (STG Free): "STGF"	Mean Difference	-0.2 (-0.37, -0.03)	Hamstring (STG w/ preserved insertions)
Gupta, 2018(b)	Low	Pivot Shift Test (mean)	62 mos.	Hamstring (STG w/ preserved insertions):"STGPI"	Hamstring (STG Free): "STGF"	Mean Difference	-0.1 (-0.21, 0.01)	NS
Gupta, 2018(b)	Low	IKDC Subjective Score	62 mos.	Hamstring (STG w/ preserved insertions):"STGPI"	Hamstring (STG Free): "STGF"	Mean Difference	2.5 (-0.25, 5.25)	NS
Gupta, 2018(b)	Low	Tegner Activity Scale	62 mos.	Hamstring (STG w/ preserved insertions):"STGPI"	Hamstring (STG Free): "STGF"	Author Reported - one-way ANOVA	N/A	NS
Gupta, 2017	High	Lachman Test Grade 0/1	34 mos.	Hamstring (STG w/ preserved insertions):"STGPI"	Hamstring (STG Free): "STGF"	RR	1.02(0.95,1.09)	NS
Gupta, 2017	High	Lachman Test Grade 2/3	35 mos.	Hamstring (STG w/ preserved insertions):"STGPI"	Hamstring (STG Free): "STGF"	RR	0.50(0.05,5.34)	NS
Gupta, 2017	High	Anterior Drawer Test Grade 0/1	38 mos.	Hamstring (STG w/ preserved insertions):"STGPI"	Hamstring (STG Free): "STGF"	RR	1.02(0.95,1.09)	NS
Gupta, 2017	High	Anterior Drawer Test Grade 2/3	39 mos.	Hamstring (STG w/ preserved insertions):"STGPI"	Hamstring (STG Free): "STGF"	RR	0.50(0.05,5.34)	NS
Gupta, 2017	High	Pivot Shift Test Grade 0/1	42 mos.	Hamstring (STG w/ preserved insertions):"STGPI"	Hamstring (STG Free): "STGF"	RR	1.02(0.95,1.09)	NS
Gupta, 2017	High	Pivot-Shift Test Grade 2/3	43 mos.	Hamstring (STG w/ preserved insertions):"STGPI"	Hamstring (STG Free): "STGF"	RR	0.50(0.05,5.34)	NS
Gupta, 2017	High	Pivot Shift Test Grade 0	42 mos.	Hamstring (STG w/ preserved insertions):"STGPI"	Hamstring (STG Free): "STGF"	RR	1.02(0.95,1.09)	NS
Gupta, 2017	High	Pivot-Shift Test Grade 1	43 mos.	Hamstring (STG w/ preserved insertions):"STGPI"	Hamstring (STG Free): "STGF"	RD	0.00(0.00,0.00)	NS
Gupta, 2017	High	Pivot-Shift Test Grade 2	44 mos.	Hamstring (STG w/ preserved insertions):"STGPI"	Hamstring (STG Free): "STGF"	RD	0.00(0.00,0.00)	NS
Gupta, 2017	High	Pivot-Shift Test Grade 3	45 mos.	Hamstring (STG w/ preserved insertions):"STGPI"	Hamstring (STG Free): "STGF"	RR	0.50(0.05,5.34)	NS
Gupta, 2017	High	Knee Displacement (mm)(KT-1000)	36 mos.	Hamstring (STG w/ preserved insertions):"STGPI"	Hamstring (STG Free): "STGF"	Mean Difference	-0.8 (-1.15, -0.45)	Hamstring (STG w/ preserved insertions)

Reference Title	Quality	Outcome Details	Duration	Treatment 1 (Details)	Treatment 2 (Details)	Effect Measure	Result (95% CI)	Favored Treatment
Gupta, 2017	High	Cincinnati Knee Rating System (ADL and Sports Subscales)	36 mos.	Hamstring (STG w/ preserved insertions):"STGPI"	Hamstring (STG Free): "STGF"	Mean Difference	11.7 (6.15, 17.25)	Hamstring (STG w/ preserved insertions)
Gupta, 2017	High	Tegner Activity Scale	24 mos.	Hamstring (STG w/ preserved insertions):"STGPI"	Hamstring (STG Free): "STGF"	Mean Difference	1.2 (0.34, 2.06)	Hamstring (STG w/ preserved insertions)

Reference Title	Quality	Outcome Details	Duration	Treatment 1 (Details)	Treatment 2 (Details)	Effect Measure	Result (95% CI)	Favored Treatment
Soni, 2021	Low	KT-1000 (mechanical stability)	2 yrs.	STG Autograft(preserved insertion)	STG (free)	Mean Difference	-0.2 (-0.30, -0.10)	STG (free)
Soni, 2021	Low	Thigh Circumference Difference	2 yrs.	STG Autograft(preserved insertion)	STG (free)	Mean Difference	-0.3 (-0.54, -0.06)	STG Autograft(preserved insertion)
Soni, 2021	Low	Tegner Activity Scale	2 yrs.	STG Autograft(preserved insertion)	STG (free)	Mean Difference	0.58 (-0.59, 1.75)	NS

Table 131: PICO 8 – Autograft vs. Autograft: HS (Preserved Insertions) vs. HS (Free) – Return to Activity

Reference Title		Quality	Outcome Details	Duration	Treatment 1 (Details)	Treatment 2 (Details)	Effect Measure	Result (95% CI)	Favored Treatment
Gupta, 2018(b)		Low	Return to Preinjury Quality of Exercise	62 mos.	Hamstring (STG w/ preserved insertions):"STGPI"	Hamstring (STG Free): "STGF"	RR	1.06(0.69,1.63)	NS
Gupta, 2018(b)		Low	Return to Sport	62 mos.	Hamstring (STG w/ preserved insertions):"STGPI"	Hamstring (STG Free): "STGF"	RR	1.07(0.91,1.25)	NS

Table 132: PICO 8 – Autograft vs. Autograft: HS (Preserved Insertions) vs. HS (Free) – OA Progression

Reference Title	Quality	Outcome Details	Duration	Treatment 1 (Details)	Treatment 2 (Details)	Effect Measure	Result (95% CI)	Favored Treatment
Soni, 2021	Low	Kellgren-Lawrence Grade 0-1	2 yrs.	STG Autograft(preserved insertion)	STG (free)	RR	-0.06(-0.15,0.02)	NS

Table 133: PICO 8 – Autograft vs. Autograft: HS (Quadrupled vs. 5-6 Strand) – Adverse Events

Reference Title	Quality	Outcome Details	Duration	Treatment 1 (Details)	Treatment 2 (Details)	Effect Measure	Result (95% CI)	Favored Treatment
Murgier, 2020	Low	Graft Rupture / Failure	3 yrs.	Hamstring (Quadrupled):AKA 4 strands semitendinosus ("4ST")	Hamstring (5-6 strand semitendinosus and gracilis):"5-6 STG"	RD	0.04(0.01,0.07)	Hamstring (5-6 strand semitendinosus andgracilis)

Table 134: PICO 8 – Autograft vs. Autograft: HS (Quadrupled vs. 7-8 Strand) – Adverse Events

Reference Title	Quality	Outcome Details	Duration	Treatment 1 (Details)	Treatment 2 (Details)	Effect Measure	Result (95% CI)	Favored Treatment
Murgier, 2020	Low	Graft Rupture / Failure	3 yrs.	Hamstring (Quadrupled):AKA 4 strands semitendinosus ("4ST")	Hamstring (7-8 strand semitendinosus and gracilis):"7-8 STG"	RR	0.87(0.19,3.92)	NS

Table 135: PICO 8 – Autograft vs. Autograft: HS (4 Strand vs. Quadrupled) – Adverse Events

Reference Title	Quality	Outcome Details	Duration	Treatment 1 (Details)	Treatment 2 (Details)	Effect Measure	Result (95% CI)	Favored Treatment
Murgier, 2020	Low	Graft Rupture / Failure	3 yrs.	Hamstring (4 strand HS two-tendon doubled graft)	Hamstring (5-6 strand semitendinosus and gracilis):"5-6 STG"	RD	0.06(0.04,0.09)	Hamstring (5-6 strand semitendinosus andgracilis)

Table 136: PICO 8 – Autograft vs. Autograft: HS (4 Strand vs. 5-6 Strand) – Adverse Events

Reference Title	Quality	Outcome Details	Duration	Treatment 1 (Details)	Treatment 2 (Details)	Effect Measure	Result (95% CI)	Favored Treatment
Murgier, 2020	Low	Graft Rupture / Failure	3 yrs.	Hamstring (4 strand HS two-tendon doubled graft)	Hamstring (5-6 strand semitendinosus and gracilis):"5-6 STG"	RD	0.06(0.04,0.09)	Hamstring (5-6 strand semitendinosus andgracilis)

Table 137: PICO 8 – Autograft vs. Autograft: HS (4 Strand vs. 7-8 Strand) – Adverse Events

Reference Title	Quality	Outcome Details	Duration	Treatment 1 (Details)	Treatment 2 (Details)	Effect Measure	Result (95% CI)	Favored Treatment
Murgier, 2020	Low	Graft Rupture / Failure	3 yrs.	Hamstring (4 strand HS two-tendon doubled graft)	Hamstring (5-6 strand semitendinosus and gracilis):"5-6 STG"	RD	0.06(0.04,0.09)	Hamstring (5-6 strand semitendinosus andgracilis)

Table 138: PICO 8 – Autograft vs. Autograft: HS (5 Strand vs. 4 Strand) – Adverse Events

Reference Title	Quality	Outcome Details	Duration	Treatment 1 (Details)	Treatment 2 (Details)	Effect Measure	Result (95% CI)	Favored Treatment
Perkins, 2020	Low	Graft Rupture / Failure	26 mos.	Hamstring (5-STG):5-strand tripled semitendinosus and doubled gracilis autograft(5-STG)	Hamstring (4-STG): 4-strand doubled semitendinosus and gracilis autograft (4-STG)	Author Reported - Multivariate logistic regression analyses	1.20(0.50,2.70)	NS

Table 139: PICO 8 – Autograft vs. Autograft: HS (5-6 Strand vs. 7-8 Strand) – Adverse Events

Reference Title	Quality	Outcome Details	Duration	Treatment 1 (Details)	Treatment 2 (Details)	Effect Measure	Result (95% CI)	Favored Treatment
Murgier, 2020	Low	Graft Rupture / Failure	3 yrs.	Hamstring (5-6 strand semitendinosus andgracilis): "5-6 STG"	Hamstring (7-8 strand semitendinosus and gracilis):"7-8 STG"	RD	-0.05(-0.12,0.02)	NS

Table 140: PICO 8 – Autograft vs. Autograft: HS (ST vs. STG) – Adverse Events

Reference Title	Quality	Outcome Details	Duration	Treatment 1 (Details)	Treatment 2 (Details)	Effect Measure	Result (95% CI)	Favored Treatment
Andernord,2014	High	Revision ACL Surgery	2 yrs.	Hamstring (ST)	Hamstring (STG)	Author Reported -multivariate analysis	1.48(0.68,3.25)	NS

Table 141: PICO 8 – Autograft vs. Autograft: HS (ST vs. STG) – Composite

Reference Title	Quality	Outcome Details	Duration	Treatment 1 (Details)	Treatment 2 (Details)	Effect Measure	Result (95% CI)	Favored Treatment
Kouloumentas,2019	High	Lysholm Knee Score	2 yrs.	Hamstring (Quadrupled):Quadrupled ST	Hamstring (semitendinosus-gracilis): "STG"	Mean Difference	1.1 (0.19, 2.01)	Hamstring (Quadrupled)
Kouloumentas,2019	High	KOOS	2 yrs.	Hamstring (Quadrupled):Quadrupled ST	Hamstring (semitendinosus-gracilis): "STG"	Mean Difference	-0.5 (-2.06, 1.06)	NS
Kouloumentas,2019	High	KSS	2 yrs.	Hamstring (Quadrupled):Quadrupled ST	Hamstring (semitendinosus-gracilis): "STG"	Mean Difference	-2.7 (-6.29, 0.89)	NS

Table 142: PICO 8 – Autograft vs. Autograft: HS (ST vs. STG) – Function

Reference Title	Quality	Outcome Details	Duration	Treatment 1 (Details)	Treatment 2 (Details)	Effect Measure	Result (95% CI)	Favored Treatment
Kouloumentas,2019	High	IKDC Subjective Score	2 yrs.	Hamstring (Quadrupled):Quadrupled ST	Hamstring (semitendinosus-gracilis): "STG"	Mean Difference	5.1 (1.25, 8.95)	Hamstring (Quadrupled)
Kouloumentas,2019	High	Laxity - IKDC (Ordinal) A	2 yrs.	Hamstring (Quadrupled):Quadrupled ST	Hamstring (semitendinosus-gracilis): "STG"	RR	1.07(0.88,1.29)	NS

Table 143: PICO 8 – Autograft vs. Autograft: ***HS vs. Quadriceps – Adverse Events

Reference Title	Quality	Outcome Details	Duration	Treatment 1 (Details)	Treatment 2 (Details)	Effect Measure	Result (95% CI)	Favored Treatment
Todor, 2019	Low	Graft Rupture / Failure	34 mos.	Hamstring (quadrupled ST-G, single bundle)	Quadriceps: Free	RD	-0.03(-0.08,0.02)	NS
Pennock, 2019	Low	Graft Rupture / Failure	2 yrs.	Hamstring (quadrupled ST-G)	Quadriceps	RR	5.79(0.79,42.23)	NS
Pennock, 2019	Low	Contralateral ACL Rupture / Failure	2 yrs.	Hamstring (quadrupled ST-G)	Quadriceps	RR	0.48(0.15,1.52)	NS

Table 144: PICO 8 – Autograft vs. Autograft: ***HS vs. Quadriceps – Composite

Reference Title	Quality	Outcome Details	Duration	Treatment 1 (Details)	Treatment 2 (Details)	Effect Measure	Result (95% CI)	Favored Treatment
Todor, 2019	Low	Lysholm Knee Score	34 mos.	Hamstring (quadrupled ST-G, single bundle)	Quadriceps: Free	Mean Difference	2.13 (-1.74, 6.00)	NS
Todor, 2019	Low	SF-36	34 mos.	Hamstring (quadrupled ST-G, single bundle)	Quadriceps: Free	Mean Difference	1.87 (-4.80, 8.54)	NS
Pennock, 2019	Low	Lysholm Knee Score	2 yrs.	Hamstring (quadrupled ST-G)	Quadriceps	Mean Difference	-2 (-5.40, 1.40)	NS

Table 145: PICO 8 – Autograft vs. Autograft: ***HS vs. Quadriceps – Function

Reference Title	Quality	Outcome Details	Duration	Treatment 1 (Details)	Treatment 2 (Details)	Effect Measure	Result (95% CI)	Favored Treatment
Todor, 2019	Low	Cincinnati Occupational Rating	34 mos.	Hamstring (quadrupled ST-G, single bundle)	Quadriceps: Free	Mean Difference	0.85 (-2.90, 4.60)	NS
Todor, 2019	Low	ROM: Flexion (°) (side to side difference))	34 mos.	Hamstring (quadrupled ST-G, single bundle)	Quadriceps: Free	Author Reported -MW U Test	N/A	NS
Todor, 2019	Low	ROM: Extension (°) (side to side difference))	34 mos.	Hamstring (quadrupled ST-G, single bundle)	Quadriceps: Free	Mean Difference	0.48 (-0.63, 1.59)	NS
Todor, 2019	Low	Lachman (mm) (side to side difference))	34 mos.	Hamstring (quadrupled ST-G, single bundle)	Quadriceps: Free	Author Reported -MW U Test	N/A	NS
Pennock, 2019	Low	Single Assessment Numeric Evaluation	2 yrs.	Hamstring (quadrupled ST-G)	Quadriceps	Mean Difference	-4 (-8.45, 0.45)	NS
Pennock, 2019	Low	Tegner Activity Scale	2 yrs.	Hamstring (quadrupled ST-G)	Quadriceps	Mean Difference	0.5 (-0.30, 1.30)	NS

Table 146: PICO 8 – Autograft vs. Autograft: ***HS vs. Quadriceps – Pain

Reference Title	Quality	Outcome Details	Duration	Treatment 1 (Details)	Treatment 2 (Details)	Effect Measure	Result (95% CI)	Favored Treatment
Pennock, 2019	Low	VAS Pain	2 yrs.	Hamstring (quadrupled ST-G)	Quadriceps	Mean Difference	0.3 (-0.36, 0.96)	NS

Table 147: PICO 8 – Autograft vs. Hybrid – Adverse Events

Reference Title	Quality	Outcome Details	Duration	Treatment 1 (Details)	Treatment 2 (Details)	Effect Measure	Result (95% CI)	Favored Treatment
Rao, 2020	Low	Reoperation	2 yrs.	Hamstring (Quadrupled)	Hybrid (hamstring + augmentation)	RR	0.86(0.51,1.46)	NS
Rao, 2020	Low	Revision ACL Surgery	2 yrs.	Hamstring (Quadrupled)	Hybrid (hamstring + augmentation)	RR	1.58(0.69,3.63)	NS
Rao, 2020	Low	Number of Additional Surgeries((median))	2 yrs.	Hamstring (Quadrupled)	Hybrid (hamstring + augmentation)	Author Reported -Wilcoxon 2-SampleTest	N/A	NS
Leo, 2016	Low	Revision ACL Surgery	2 yrs.	Autograft: Hamstring	Hybrid: HS + Anterior/Posterior Tibialis: pts augmented if autograft <8mm	RR	1.35(0.16,11.51)	NS
Darnley, 2016	Low	Revision ACL Surgery	2 yrs.	Autograft: Hamstring(quadrupled ST-G)	Hybrid: auto ST + allo ST	RR	0.40(0.08,1.89)	NS
Dekker, 2017	High	Risk of Secondary ACL injury	48.3mos	Autograft: Hamstring	Hybrid: Hamstring autograft and allograft hybrid	Author Reported -multivariate analysis(cox regression model)	1.75(0.39,5.72)	NS
Jacobs, 2017	Low	Reoperation for Arthrofibrosis	38.95mos	Autograft: Hamstring(semitendinosus-gracilis)	Hybrid: Gracilis and semitendinosus autograft combined with a semitendinosus allograft	RR	0.91(0.13,6.20)	NS
Jacobs, 2017	Low	Graft Rupture / Failure	38.95mos	Autograft: Hamstring(semitendinosus-gracilis)	Hybrid: Gracilis and semitendinosus autograft combined with a semitendinosus allograft	RR	2.37(0.92,6.09)	NS
Jacobs, 2017	Low	Time between surgery and retear(months)	38.95mos	Autograft: Hamstring(semitendinosus-gracilis)	Hybrid: Gracilis and semitendinosus autograft combined with a semitendinosus allograft	Mean Difference	3.3 (-2.50, 9.10)	NS
Pennock, 2017	Low	Graft Rupture / Failure	3 yrs.	Autograft: Hamstring(semitendinosus-gracilis):Quadrupled	Hybrid: hamstring autograft with semitendinosus allograft or tibialis anterior allograft: hamstring autograft with semitendinosus allograft in 35% of patients and with tibialis anterior allograft in 65% of patients	RR	6.00(0.79,45.42)	NS
Pennock, 2017	Low	Need for second surgery	3 yrs.	Autograft: Hamstring(semitendinosus-gracilis):Quadrupled	Hybrid: hamstring autograft with semitendinosus allograft or tibialis anterior allograft: hamstring autograft with semitendinosus allograft in 35% of patients and	RR	7.00(0.95,51.80)	NS

Reference Title	Quality	Outcome Details	Duration	Treatment 1 (Details)	Treatment 2 (Details)	Effect Measure	Result (95% CI)	Favored Treatment
					with tibialis anterior allograft in 65% of patients			
Pennock, 2017	Low	Contralateral ACL tear	3 yrs.	Autograft: Hamstring(semitendinosus-gracilis):Quadrupled	Hybrid: hamstring autograft with semitendinosus allograft or tibialis anterior allograft: hamstring autograft with semitendinosus allograft in 35% of patients and with tibialis anterior allograft in 65% of patients	RR	2.00(0.41,9.71)	NS
Burrus, 2015	Low	Graft Rupture / Failure (Failed ACL reconstructions)	46.2mos	Autograft: Hamstring	Hybrid: hamstring (either semitendinosus or gracilis)autograft combined with semitendinosus or tibialis anterior allograft: controls	RR	0.25(0.03,2.10)	NS
Burrus, 2015	Low	Compromised ACL reconstructions	46.2mos	Autograft: Hamstring	Hybrid: hamstring (either semitendinosus or gracilis)autograft combined with semitendinosus or tibialis anterior allograft: controls	RR	0.14(0.02,1.09)	NS
Burrus, 2015	Low	Failed + compromised ACL reconstructions	46.2mos	Autograft: Hamstring	Hybrid: hamstring (either semitendinosus or gracilis)autograft combined with semitendinosus or tibialis anterior allograft: controls	RR	0.18(0.04,0.75)	Autograft: Hamstring
Burrus, 2015	Low	Meniscectomies	46.2mos	Autograft: Hamstring	Hybrid: hamstring (either semitendinosus or gracilis)autograft combined with semitendinosus or tibialis anterior allograft: controls	RR	0.13(0.02,0.94)	Autograft: Hamstring
Burrus, 2015	Low	Failed + compromised ACL reconstructions + Meniscectomies	46.2mos	Autograft: Hamstring	Hybrid: hamstring (either semitendinosus or gracilis)autograft combined with semitendinosus or tibialis anterior allograft: controls	RR	0.16(0.05,0.48)	Autograft: Hamstring
Burrus, 2015	Low	Additional Surgery	46.2mos	Autograft: Hamstring	Hybrid: hamstring (either semitendinosus or gracilis)autograft combined with semitendinosus or tibialis anterior allograft: controls	RR	0.21(0.07,0.67)	Autograft: Hamstring
Burrus, 2015	Low	Revision ACL Surgery (subdivision of additional surgery)	46.2mos	Autograft: Hamstring	Hybrid: hamstring (either semitendinosus or gracilis)autograft combined with semitendinosus or tibialis anterior allograft: controls	RR	0.33(0.04,3.02)	NS
Burrus, 2015	Low	ACL Debridement (subdivision of additional surgery)	46.2mos	Autograft: Hamstring	Hybrid: hamstring (either semitendinosus or gracilis)autograft	RR	0.14(0.02,1.09)	NS

Reference Title	Quality	Outcome Details	Duration	Treatment 1 (Details)	Treatment 2 (Details)	Effect Measure	Result (95% CI)	Favored Treatment
					combined with semitendinosus or tibialis anterior allograft: controls			
Burrus, 2015	Low	Arthroscopic meniscectomy(subdivision of additional surgery)	46.2mos	Autograft: Hamstring	Hybrid: hamstring (either semitendinosus or gracilis)autograft combined with semitendinosus or tibialis anterior allograft: controls	RR	0.13(0.02,0.94)	Autograft: Hamstring
Burrus, 2015	Low	Tibial plateau shaving chondroplasty(subdivision of additional surgery)	46.2mos	Autograft: Hamstring	Hybrid: hamstring (either semitendinosus or gracilis)autograft combined with semitendinosus or tibialis anterior allograft: controls	RR	0.20(0.02,1.61)	NS

Reference Title	Quality	Outcome Details	Duration	Treatment 1 (Details)	Treatment 2 (Details)	Effect Measure	Result (95% CI)	Favored Treatment
Heyworth,2021	Low	Graft Rupture /Failure	2 yrs.	Hamstring Autograft	Hybrid: Hamstring Autograft with Allograft Augmentation	RR	1.47(0.47,4.59)	NS
Heyworth,2021	Low	Any Revision Surgery	2 yrs.	Hamstring Autograft	Hybrid: Hamstring Autograft with Allograft Augmentation	RR	0.92(0.54,1.57)	NS
Heyworth,2021	Low	Revision ACL Surgery	2 yrs.	Hamstring Autograft	Hybrid: Hamstring Autograft with Allograft Augmentation	RR	1.71(0.47,6.28)	NS
Heyworth,2021	Low	Contralateral ACL tear	2 yrs.	Hamstring Autograft	Hybrid: Hamstring Autograft with Allograft Augmentation	RR	0.73(0.19,2.79)	NS
Heyworth,2021	Low	Removal of Hardware	2 yrs.	Hamstring Autograft	Hybrid: Hamstring Autograft with Allograft Augmentation	RR	0.73(0.05,11.44)	NS
Heyworth,2021	Low	Meniscal Surgery	2 yrs.	Hamstring Autograft	Hybrid: Hamstring Autograft with Allograft Augmentation	RR	1.47(0.54,4.01)	NS
Heyworth,2021	Low	Lysis of Adhesions	2 yrs.	Hamstring Autograft	Hybrid: Hamstring Autograft with Allograft Augmentation	RR	0.24(0.03,2.28)	NS
Heyworth,2021	Low	Incision and Drainage	2 yrs.	Hamstring Autograft	Hybrid: Hamstring Autograft with Allograft Augmentation	RD	0.02(-0.01,0.05)	NS
Heyworth,2021	Low	Any Second Revision Surgery	2 yrs.	Hamstring Autograft	Hybrid: Hamstring Autograft with Allograft Augmentation	RR	2.19(0.77,6.18)	NS

Table 148: PICO 8 – Autograft vs. Hybrid – Composite

Reference Title	Quality	Outcome Details	Duration	Treatment 1 (Details)	Treatment 2 (Details)	Effect Measure	Result (95% CI)	Favored Treatment
Xu, 2018	Low	Lysholm Knee Score	27 mos.	Hamstring: STG	Hybrid Graft: pts augmented if autograft <8mm	Mean Difference	-1.83 (-4.68, 1.02)	NS
Li, 2015	Moderate	Lysholm Knee Score	5 yrs.	Autograft: Hamstring(STG)	Hybrid: HS (ST) Auto + Ant. Tibialis Allo	Mean Difference	0.8 (-4.56, 6.16)	NS
Wang, 2018	Low	Lysholm Knee Score	3 yrs.	Autograft: Hamstring(semitendinosus-gracilis)	Hybrid: gracilis and semitendinosus tendon autograft plus a soft tissue allograft	Mean Difference	8.6 (4.52, 12.68)	Autograft: Hamstring(semitendinosus-gracilis)
Xu, 2017	Low	Lysholm Knee Score	28.35mos	Autograft: Hamstring: 4stranded autogenous	Hybrid: hamstring with tibialis anterior tendon autograft	Mean Difference	-0.9 (-3.77, 1.97)	NS
Pennock, 2017	Low	Lysholm Knee Score	3 yrs.	Autograft: Hamstring(semitendinosus-gracilis):Quadrupled	Hybrid: hamstring autograft with semitendinosus allograft or tibialis anterior allograft: hamstring autograft with semitendinosus allograft in 35% of patients and with tibialis anterior allograft in 65% of patients	Mean Difference	-4 (-8.04, 0.04)	NS
Burrus, 2015	Low	Lysholm Knee Score	46.2mos	Autograft: Hamstring	Hybrid: hamstring (either semitendinosus or gracilis)autograft combined with semitendinosus or tibialis anterior allograft: controls	Mean Difference	10.1 (4.07, 16.13)	Autograft: Hamstring

Table 149: PICO 8 – Autograft vs. Hybrid – Function

Reference Title	Quality	Outcome Details	Duration	Treatment 1 (Details)	Treatment 2 (Details)	Effect Measure	Result (95% CI)	Favored Treatment
Rao, 2020	Low	Tegner Activity Scale ((median, range only))	4 yrs.	Hamstring (Quadrupled)	Hybrid (hamstring + augmentation)	Author Reported - Wilcoxon 2-SampleTest	N/A	NS
Rao, 2020	Low	IKDC Subjective Score	4 yrs.	Hamstring (Quadrupled)	Hybrid (hamstring + augmentation)	Author Reported - Wilcoxon 2-SampleTest	N/A	NS
Rao, 2020	Low	IKDC Subjective Score (Function)	4 yrs.	Hamstring (Quadrupled)	Hybrid (hamstring + augmentation)	Author Reported - Wilcoxon 2-SampleTest	N/A	NS
Rao, 2020	Low	Single Assessment Numeric Evaluation	4 yrs.	Hamstring (Quadrupled)	Hybrid (hamstring + augmentation)	Author Reported - Wilcoxon 2-SampleTest	N/A	NS
Xu, 2018	Low	Tegner Activity Scale	27 mos.	Hamstring: STG	Hybrid Graft: pts augmented if autograft <8mm	Mean Difference	-0.28 (-0.86, 0.30)	NS
Xu, 2018	Low	IKDC Subjective Score	27 mos.	Hamstring: STG	Hybrid Graft: pts augmented if autograft <8mm	Mean Difference	-0.47 (-3.24, 2.30)	NS
Xu, 2018	Low	KT-1000	27 mos.	Hamstring: STG	Hybrid Graft: pts augmented if autograft <8mm	Mean Difference	0.23 (-0.27, 0.73)	NS
Kraeutler,2018	Low	KOOS (Symptoms)	4 yrs.	Hamstring (double stranded STG)	Hamstring (single strand ST) + Peroneus longus orbitalis posterior allograft	Mean Difference	-6.2 (-10.82, -1.58)	Hamstring (single strand ST) + Peroneus longusor tibialis posterior allograft
Kraeutler,2018	Low	KOOS (Stiffness)	4 yrs.	Hamstring (double stranded STG)	Hamstring (single strand ST) + Peroneus longus orbitalis posterior allograft	Mean Difference	-2.8 (-7.20, 1.60)	NS
Kraeutler,2018	Low	KOOS (ADL)	4 yrs.	Hamstring (double stranded STG)	Hamstring (single strand ST) + Peroneus longus orbitalis posterior allograft	Mean Difference	-2.6 (-5.12, -0.08)	Hamstring (single strand ST) + Peroneus longusor tibialis posterior allograft
Kraeutler,2018	Low	KOOS (Sports)	4 yrs.	Hamstring (double stranded STG)	Hamstring (single strand ST) + Peroneus longus orbitalis posterior allograft	Mean Difference	-8.1 (-14.15, -2.05)	Hamstring (single strand ST) + Peroneus longusor tibialis posterior allograft

Reference Title	Quality	Outcome Details	Duration	Treatment 1 (Details)	Treatment 2 (Details)	Effect Measure	Result (95% CI)	Favored Treatment
Kraeutler,2018	Low	Single Assessment Numeric Evaluation	4 yrs.	Hamstring (double stranded STG)	Hamstring (single strand ST) + Peroneus longus orbitalis posterior allograft	Mean Difference	-8.2 (-12.44, -3.96)	Hamstring (single strand ST) + Peroneus longusor tibialis posterior allograft
Kraeutler,2018	Low	SF-12 (Physical)	4 yrs.	Hamstring (double stranded STG)	Hamstring (single strand ST) + Peroneus longus orbitalis posterior allograft	Mean Difference	-1.3 (-3.90, 1.30)	NS
Kraeutler,2018	Low	IKDC Subjective Score	4 yrs.	Hamstring (double stranded STG)	Hamstring (single strand ST) + Peroneus longus orbitalis posterior allograft	Mean Difference	-7.1 (-11.30, -2.90)	Hamstring (single strand ST) + Peroneus longusor tibialis posterior allograft
Leo, 2016	Low	IKDC Subjective Score	2 yrs.	Autograft: Hamstring	Hybrid: HS + Anterior/Posterior Tibialis: pts augmented if autograft <8mm	Mean Difference	-2 (-4.52, 0.52)	NS
Darnley, 2016	Low	IKDC Subjective Score	2 yrs.	Autograft: Hamstring(quadrupled ST-G)	Hybrid: auto ST + allo ST	Mean Difference	1.2 (-6.51, 8.91)	NS
Darnley, 2016	Low	KOOS (ADL)	2 yrs.	Autograft: Hamstring(quadrupled ST-G)	Hybrid: auto ST + allo ST	Mean Difference	1.1 (-3.01, 5.21)	NS
Darnley, 2016	Low	KOOS (Sports)	2 yrs.	Autograft: Hamstring(quadrupled ST-G)	Hybrid: auto ST + allo ST	Mean Difference	0.8 (-10.11, 11.71)	NS
Darnley, 2016	Low	KOOS (Symptoms)	2 yrs.	Autograft: Hamstring(quadrupled ST-G)	Hybrid: auto ST + allo ST	Mean Difference	9.8 (3.10, 16.50)	Autograft: Hamstring(quadrupled ST-G)
Darnley, 2016	Low	MARX Activity Scale	2 yrs.	Autograft: Hamstring(quadrupled ST-G)	Hybrid: auto ST + allo ST	Author Reported - Wilcoxon Signed-Ranks test	N/A	NS
Li, 2015	Moderate	IKDC (Objective) A/B	5 yrs.	Autograft: Hamstring(STG)	Hybrid: HS (ST) Auto + Ant. Tibialis Allo	RR	1.00(0.85,1.18)	NS
Li, 2015	Moderate	IKDC (Objective) C/D	5 yrs.	Autograft: Hamstring(STG)	Hybrid: HS (ST) Auto + Ant. Tibialis Allo	RR	0.97(0.21,4.44)	NS
Li, 2015	Moderate	Pivot Shift Test Grade 0/1	5 yrs.	Autograft: Hamstring(STG)	Hybrid: HS (ST) Auto + Ant. Tibialis Allo	RR	-0.03(-0.18,0.13)	NS
Li, 2015	Moderate	Pivot-Shift Test Grade 2/3	5 yrs.	Autograft: Hamstring(STG)	Hybrid: HS (ST) Auto + Ant. Tibialis Allo	RR	0.03(-0.13,0.18)	NS
Li, 2015	Moderate	Lachman Test Grade 0/1	5 yrs.	Autograft: Hamstring(STG)	Hybrid: HS (ST) Auto + Ant. Tibialis Allo	RR	0.97(0.87,1.08)	NS

Reference Title	Quality	Outcome Details	Duration	Treatment 1 (Details)	Treatment 2 (Details)	Effect Measure	Result (95% CI)	Favored Treatment
Li, 2015	Moderate	Lachman Test Grade 2/3	5 yrs.	Autograft: Hamstring(STG)	Hybrid: HS (ST) Auto + Ant. Tibialis Allo	RR	1.94(0.18,20.30)	NS
Li, 2015	Moderate	Knee Laxity (mm) (KT-1000)	5 yrs.	Autograft: Hamstring(STG)	Hybrid: HS (ST) Auto + Ant. Tibialis Allo	Mean Difference	0.1 (-0.67, 0.87)	NS
Li, 2015	Moderate	Tegner Activity Scale	5 yrs.	Autograft: Hamstring(STG)	Hybrid: HS (ST) Auto + Ant. Tibialis Allo	Mean Difference	-0.2 (-0.89, 0.49)	NS
Li, 2015	Moderate	IKDC Subjective Score	5 yrs.	Autograft: Hamstring(STG)	Hybrid: HS (ST) Auto + Ant. Tibialis Allo	Mean Difference	-2.3 (-4.59, -0.01)	Hybrid: HS (ST) Auto +Ant. Tibialis Allo
Wang, 2018	Low	Side to side difference (KT-1000Maximal Manual Side-to-Side Differences)	3 yrs.	Autograft: Hamstring(semitendinosus-gracilis)	Hybrid: gracilis and semitendinosus tendon autograft plus a soft tissue allograft	Mean Difference	-1 (-1.83, -0.17)	Autograft: Hamstring(semitendinosus-gracilis)
Wang, 2018	Low	IKDC (Objective) A/B	3 yrs.	Autograft: Hamstring(semitendinosus-gracilis)	Hybrid: gracilis and semitendinosus tendon autograft plus a soft tissue allograft	RR	1.30(1.01,1.68)	Autograft: Hamstring(semitendinosus-gracilis)
Wang, 2018	Low	IKDC (Objective) C/D	3 yrs.	Autograft: Hamstring(semitendinosus-gracilis)	Hybrid: gracilis and semitendinosus tendon autograft plus a soft tissue allograft	RR	0.24(0.06,1.04)	NS
Wang, 2018	Low	Pivot Shift Test Grade 0/1	3 yrs.	Autograft: Hamstring(semitendinosus-gracilis)	Hybrid: gracilis and semitendinosus tendon autograft plus a soft tissue allograft	RR	0.14(0.01,0.27)	Autograft: Hamstring(semitendinosus-gracilis)
Wang, 2018	Low	Pivot-Shift Test Grade 2/3	3 yrs.	Autograft: Hamstring(semitendinosus-gracilis)	Hybrid: gracilis and semitendinosus tendon autograft plus a soft tissue allograft	RD	-0.14(-0.27,-0.01)	Autograft: Hamstring(semitendinosus-gracilis)
Wang, 2018	Low	Lachman Test Grade 0/1	3 yrs.	Autograft: Hamstring(semitendinosus-gracilis)	Hybrid: gracilis and semitendinosus tendon autograft plus a soft tissue allograft	RR	1.13(0.95,1.33)	NS
Wang, 2018	Low	Lachman Test Grade 2/3	3 yrs.	Autograft: Hamstring(semitendinosus-gracilis)	Hybrid: gracilis and semitendinosus tendon autograft plus a soft tissue allograft	RR	0.24(0.03,2.03)	NS

Reference Title	Quality	Outcome Details	Duration	Treatment 1 (Details)	Treatment 2 (Details)	Effect Measure	Result (95% CI)	Favored Treatment
Wang, 2018	Low	Graft Rupture / Failure	3 yrs.	Autograft: Hamstring(semitendinosus-gracilis)	Hybrid: gracilis and semitendinosus tendon autograft plus a soft tissue allograft	RR	0.24(0.03,2.03)	NS
Wang, 2018	Low	Tegner Activity Scale	3 yrs.	Autograft: Hamstring(semitendinosus-gracilis)	Hybrid: gracilis and semitendinosus tendon autograft plus a soft tissue allograft	Mean Difference	0.1 (-0.27, 0.47)	NS
Wang, 2018	Low	IKDC Subjective Score	3 yrs.	Autograft: Hamstring(semitendinosus-gracilis)	Hybrid: gracilis and semitendinosus tendon autograft plus a soft tissue allograft	Mean Difference	4.1 (1.32, 6.88)	Autograft: Hamstring(semitendinosus-gracilis)
Xu, 2017	Low	Graft continuity (Good)	28.35mos	Autograft: Hamstring: 4stranded autogenous	Hybrid: hamstring with tibialis anterior tendon autograft	RR	1.06(0.81,1.39)	NS
Xu, 2017	Low	Graft continuity (Fair)	28.35mos	Autograft: Hamstring: 4stranded autogenous	Hybrid: hamstring with tibialis anterior tendon autograft	RR	0.90(0.35,2.30)	NS
Xu, 2017	Low	Graft continuity (Damaged)	28.35mos	Autograft: Hamstring: 4stranded autogenous	Hybrid: hamstring with tibialis anterior tendon autograft	RR	0.60(0.06,6.27)	NS
Xu, 2017	Low	Tension (Taut)	28.35mos	Autograft: Hamstring: 4stranded autogenous	Hybrid: hamstring with tibialis anterior tendon autograft	RR	1.19(0.54,2.63)	NS
Xu, 2017	Low	Tension (Mildly lax)	28.35mos	Autograft: Hamstring: 4stranded autogenous	Hybrid: hamstring with tibialis anterior tendon autograft	RR	1.02(0.68,1.54)	NS
Xu, 2017	Low	Tension (Lax)	28.35mos	Autograft: Hamstring: 4stranded autogenous	Hybrid: hamstring with tibialis anterior tendon autograft	RR	0.68(0.22,2.12)	NS
Xu, 2017	Low	Tegner Activity Scale	28.35mos	Autograft: Hamstring: 4stranded autogenous	Hybrid: hamstring with tibialis anterior tendon autograft	Mean Difference	-0.1 (-0.67, 0.47)	NS
Xu, 2017	Low	IKDC Subjective Score	28.35mos	Autograft: Hamstring: 4stranded autogenous	Hybrid: hamstring with tibialis anterior tendon autograft	Mean Difference	-1.2 (-4.02, 1.62)	NS

Reference Title	Quality	Outcome Details	Duration	Treatment 1 (Details)	Treatment 2 (Details)	Effect Measure	Result (95% CI)	Favored Treatment
Xu, 2017	Low	Anterior Translation (side to side diff.mm) (KT-1000)	28.35mos	Autograft: Hamstring: 4stranded autogenous	Hybrid: hamstring with tibialis anterior tendon autograft	Mean Difference	-0.2 (-0.46, 0.06)	NS
Pennock, 2017	Low	Single Assessment Numeric Evaluation	3 yrs.	Autograft: Hamstring(semitendinosus-gracilis):Quadrupled	Hybrid: hamstring autograft with semitendinosus allograft or tibialis anterior allograft: hamstring autograft with semitendinosus allograft in 35% of patients and with tibialis anterior allograft in 65% of patients	Mean Difference	0 (-7.44, 7.44)	NS
Pennock, 2017	Low	Patient Satisfaction	3 yrs.	Autograft: Hamstring(semitendinosus-gracilis):Quadrupled	Hybrid: hamstring autograft with semitendinosus allograft or tibialis anterior allograft: hamstring autograft with semitendinosus allograft in 35% of patients and with tibialis anterior allograft in 65% of patients	Mean Difference	-0.5 (-1.32, 0.32)	NS
Pennock, 2017	Low	Tegner Activity Scale	3 yrs.	Autograft: Hamstring(semitendinosus-gracilis):Quadrupled	Hybrid: hamstring autograft with semitendinosus allograft or tibialis anterior allograft: hamstring autograft with semitendinosus allograft in 35% of patients and with tibialis anterior allograft in 65% of patients	Mean Difference	0.1 (-1.24, 1.44)	NS
Pennock, 2017	Low	Return to pre-injury sport activity	3 yrs.	Autograft: Hamstring(semitendinosus-gracilis):Quadrupled	Hybrid: hamstring autograft with semitendinosus allograft or tibialis anterior allograft: hamstring autograft with semitendinosus allograft in 35% of patients and with tibialis anterior allograft in 65% of patients	RR	0.90(0.47,1.73)	NS
Burrus, 2015	Low	IKDC Subjective Score	46.2mos	Autograft: Hamstring	Hybrid: hamstring (either semitendinosus or gracilis)autograft combined with semitendinosus or tibialis anterior allograft: controls	Mean Difference	14.8 (6.27, 23.33)	Autograft: Hamstring

Table 150: PICO 8 – Autograft vs. Hybrid – OA Progression

Reference Title	Quality	Outcome Details	Duration	Treatment 1 (Details)	Treatment 2 (Details)	Effect Measure	Result (95% CI)	Favored Treatment
Xu, 2017	Low	Kellgren-Lawrence Grade 0-1	28.35mos	Autograft: Hamstring: 4stranded autogenous	Hybrid: hamstring with tibialis anterior tendon autograft	RR	1.02(0.93,1.13)	NS
Xu, 2017	Low	Kellgren-Lawrence Grade 2-3	28.35mos	Autograft: Hamstring: 4stranded autogenous	Hybrid: hamstring with tibialis anterior tendon autograft	RR	0.60(0.06,6.27)	NS

Table 151: PICO 8 – Autograft vs. Hybrid – Other

Reference Title	Quality	Outcome Details	Duration	Treatment 1 (Details)	Treatment 2 (Details)	Effect Measure	Result (95% CI)	Favored Treatment
Xu, 2017	Low	Synovial coverage (75%)	28.35mos	Autograft: Hamstring: 4stranded autogenous	Hybrid: hamstring with tibialis anterior tendon autograft	RR	1.09(0.56,2.13)	NS
Xu, 2017	Low	Synovial coverage (50-75%)	28.35mos	Autograft: Hamstring: 4stranded autogenous	Hybrid: hamstring with tibialis anterior tendon autograft	RR	1.19(0.54,2.63)	NS
Xu, 2017	Low	Synovial coverage (25-50%)	28.35mos	Autograft: Hamstring: 4stranded autogenous	Hybrid: hamstring with tibialis anterior tendon autograft	RR	0.85(0.30,2.42)	NS
Xu, 2017	Low	Synovial coverage (25%)	28.35mos	Autograft: Hamstring: 4stranded autogenous	Hybrid: hamstring with tibialis anterior tendon autograft	RR	0.80(0.32,1.99)	NS

Table 152: PICO 8 – Autograft vs. Hybrid – Pain

Reference Title	Quality	Outcome Details	Duration	Treatment 1 (Details)	Treatment 2 (Details)	Effect Measure	Result (95% CI)	Favored Treatment
Rao, 2020	Low	VAS Pain	4 yrs.	Hamstring (Quadrupled)	Hybrid (hamstring + augmentation)	Author Reported - Wilcoxon 2-SampleTest	N/A	NS
Leo, 2016	Low	VAS Pain	2 yrs.	Autograft: Hamstring	Hybrid: HS + Anterior/Posterior Tibialis: pts augmented if autograft <8mm	Mean Difference	0.3 (-0.80, 1.40)	NS
Darnley, 2016	Low	KOOS (Pain)	2 yrs.	Autograft: Hamstring(quadrupled ST-G)	Hybrid: auto ST + allo ST	Mean Difference	-0.2 (-5.40, 5.00)	NS
Pennock, 2017	Low	VAS Pain	3 yrs.	Autograft: Hamstring(semitendinosus-gracilis):Quadrupled	Hybrid: hamstring autograft with semitendinosus allograft or tibialis anterior allograft: hamstring autograft with semitendinosus allograft in 35% of patients and with tibialis anterior allograft in 65% of patients	Mean Difference	0.6 (-0.52, 1.72)	NS

Table 153: PICO 8 – Autograft vs. Hybrid – QOL

Reference Title	Quality	Outcome Details	Duration	Treatment 1 (Details)	Treatment 2 (Details)	Effect Measure	Result (95% CI)	Favored Treatment
Kraeutler,2018	Low	KOOs (QoL)	4 yrs.	Hamstring (double stranded STG)	Hamstring (single strand ST) + Peroneus longus orbitalis posterior allograft	Mean Difference	-9.6 (-16.36, -2.84)	Hamstring (single strand ST) + Peroneus longusor tibialis posterior allograft
Kraeutler,2018	Low	SF-12 (Mental)	4 yrs.	Hamstring (double stranded STG)	Hamstring (single strand ST) + Peroneus longus orbitalis posterior allograft	Mean Difference	-1.6 (-4.83, 1.63)	NS
Darnley, 2016	Low	KOOs (QoL)	2 yrs.	Autograft: Hamstring(quadrupled ST-G)	Hybrid: auto ST + allo ST	Mean Difference	-4.2 (-15.00, 6.60)	NS

Table 154: PICO 9 – Postoperative Bracing – Adverse Events

Reference Title	Quality	Outcome Details	Duration	Treatment 1 (Details)	Treatment 2 (Details)	Effect Measure	Result (95% CI)	Favored Treatment
Lindstrom,2015	High	Joint Effusion	3 mos.	Postoperative Brace: Hypex light knee-brace3 wk. duration	No Brace: otherwise ,same postop management	Author Reported -stepwise multivariable regression	N/A	NS
Mayr, 2014	High	Graft Rupture /Failure	4 yrs.	Postoperative Brace: 6 wk. duration	No Brace: otherwise ,same postop management	RR	0.93(0.06,14.03)	NS
Mayr, 2014	High	Medial Meniscus Injury (within study period)	4 yrs.	Postoperative Brace: 6 wk. duration	No Brace: otherwise ,same postop management	RR	0.93(0.06,14.03)	NS
Mayr, 2014	High	Chondral Injury(within study period)	4 yrs.	Postoperative Brace: 6 wk. duration	No Brace: otherwise ,same postop management	RD	-0.04(-0.12,0.04)	NS
Mayr, 2014	High	Arthroscopic Revision(within study period)	4 yrs.	Postoperative Brace: 6 wk. duration	No Brace: otherwise ,same postop management	RD	0.07(-0.02,0.17)	NS
Mayr, 2014	High	Joint Effusion	4 yrs.	Postoperative Brace: 6 wk. duration	No Brace: otherwise ,same postop management	Author Reported - chi sq	N/A	NS
Mayr, 2014	High	Femur Tunnel Widening	4 yrs.	Postoperative Brace: 6 wk. duration	No Brace: otherwise ,same postop management	Author Reported - chi sq	N/A	NS
Mayr, 2014	High	Tibia Tunnel Widening	4 yrs.	Postoperative Brace: 6 wk. duration	No Brace: otherwise ,same postop management	Author Reported - chi sq	N/A	NS

Table 155: PICO 9 – Postoperative Bracing – Function

Reference Title	Quality	Outcome Details	Duration	Treatment 1 (Details)	Treatment 2 (Details)	Effect Measure	Result (95% CI)	Favored Treatment
Mayr, 2014	High	Lachman Test	4 yrs.	Postoperative Brace: 6 wk. duration	No Brace: otherwise ,same postop management	Author Reported - chi sq	N/A	NS
Mayr, 2014	High	Pivot-Shift Test	4 yrs.	Postoperative Brace: 6 wk. duration	No Brace: otherwise ,same postop management	Author Reported - chi sq	N/A	NS
Mayr, 2014	High	Muscle Circumference	4 yrs.	Postoperative Brace: 6 wk. duration	No Brace: otherwise ,same postop management	Author Reported – t test	N/A	NS
Mayr, 2014	High	Range of Motion	4 yrs.	Postoperative Brace: 6 wk. duration	No Brace: otherwise ,same postop management	Author Reported – t test	N/A	NS
Mayr, 2014	High	IKDC Subjective Score	4 yrs.	Postoperative Brace: 6 wk. duration	No Brace: otherwise ,same postop management	Mean Difference	-2.8 (-6.95, 1.35)	NS
Mayr, 2014	High	IKDC (Objective) A/B	4 yrs.	Postoperative Brace: 6 wk. duration	No Brace: otherwise ,same postop management	RR	1.06(0.83,1.37)	NS
Mayr, 2014	High	IKDC (Objective) C/D	4 yrs.	Postoperative Brace: 6 wk. duration	No Brace: otherwise ,same postop management	RR	0.74(0.22,2.45)	NS
Mayr, 2014	High	Anterior Translation(mm) (KT-1000)	4 yrs.	Postoperative Brace: 6 wk. duration	No Brace: otherwise ,same postop management	Mean Difference	-1.3 (-2.91, 0.31)	NS

Table 156: PICO 9 – Postoperative Bracing – OA Progression

Reference Title	Quality	Outcome Details	Duration	Treatment 1 (Details)	Treatment 2 (Details)	Effect Measure	Result (95% CI)	Favored Treatment
Mayr, 2014	High	OA Progression(IKDC 2000)	4 yrs.	Postoperative Brace: 6 wk. duration	No Brace: otherwise ,same postop management	Author Reported - chi sq	N/A	NS

Table 157: PICO 9 – Postoperative Bracing – Pain

Reference Title	Quality	Outcome Details	Duration	Treatment 1 (Details)	Treatment 2 (Details)	Effect Measure	Result (95% CI)	Favored Treatment
Mayr, 2014	High	VAS Pain (at rest)	4 yrs.	Postoperative Brace: 6 wk. duration	No Brace: otherwise ,same postop management	Mean Difference	0.1 (-0.28, 0.48)	NS
Mayr, 2014	High	VAS Pain (ADL)	4 yrs.	Postoperative Brace: 6 wk. duration	No Brace: otherwise ,same postop management	Mean Difference	0.5 (-0.04, 1.04)	NS
Mayr, 2014	High	VAS Pain (Slight Physical Exertion)	4 yrs.	Postoperative Brace: 6 wk. duration	No Brace: otherwise ,same postop management	Mean Difference	0.5 (0.02, 0.98)	No Brace
Mayr, 2014	High	VAS Pain (Sports /Heavy Physical Work)	4 yrs.	Postoperative Brace: 6 wk. duration	No Brace: otherwise ,same postop management	Mean Difference	0.9 (0.19, 1.61)	No Brace

Table 158: PICO 11 – Training vs. No Training – Adverse Events

Reference Title	Quality	Outcome Details	Duration	Treatment 1 (Details)	Treatment 2 (Details)	Effect Measure	Result (95% CI)	Favored Treatment
Johnson,2020	High	Second ACL injury	2 yrs.	SAPP Training with Perturbation intervention: "SAPP: strengthening, agility, plyometrics, and prevention training with perturbation intervention"	SAPP Training without Perturbation intervention	RR	0.84(0.27,2.67)	NS
Johnson,2020	High	Contralateral ACL tear(Side of second ACL Injury)	2 yrs.	SAPP Training with Perturbation intervention: "SAPP: strengthening, agility, plyometrics, and prevention training with perturbation intervention"	SAPP Training without Perturbation intervention	RR	0.26(0.03,2.15)	NS
Johnson,2020	High	Graft Rupture / Failure(Side of second ACL Injury)	2 yrs.	SAPP Training with Perturbation intervention: "SAPP: strengthening, agility, plyometrics, and prevention training with perturbation intervention"	SAPP Training without Perturbation intervention	RR	3.16(0.36,27.78)	NS
Johnson,2020	High	Noncontact injury(Mechanism of second ACL injury)	2 yrs.	SAPP Training with Perturbation intervention: "SAPP: strengthening, agility, plyometrics, and prevention training with perturbation intervention"	SAPP Training without Perturbation intervention	RR	1.40(0.36,5.46)	NS
Johnson,2020	High	Direct contact injury(contralateral)(Mechanism of second ACL injury)	2 yrs.	SAPP Training with Perturbation intervention: "SAPP: strengthening, agility, plyometrics, and prevention training with perturbation intervention"	SAPP Training without Perturbation intervention	RD	-0.05(-0.15,0.05)	NS
Johnson,2020	High	Contact to body(contralateral)(Mechanism of second ACL injury)	2 yrs.	SAPP Training with Perturbation intervention: "SAPP: strengthening, agility, plyometrics, and prevention training with perturbation intervention"	SAPP Training without Perturbation intervention	RD	-0.05(-0.15,0.05)	NS
Johnson,2020	High	Time from passing RTS criteria to second ACL Injury, wk.	2 yrs.	SAPP Training with Perturbation intervention: "SAPP: strengthening, agility, plyometrics, and	SAPP Training without Perturbation intervention	Mean Difference	21.5 (10.22, 32.78)	**SAPP Training with Perturbation intervention**

Reference Title	Quality	Outcome Details	Duration	Treatment 1 (Details)	Treatment 2 (Details)	Effect Measure	Result (95% CI)	Favored Treatment
				prevention training with perturbation intervention"				
Walden,2012	Moderate	ACL Injury	Postop .	Neuromuscular Warm-up Program	Control group: No training	Author Reported - Cox regression analysis	0.36(0.85,)	**Training group**
Walden,2012	Moderate	Rates of severe knee injury	Postop .	Neuromuscular Warm-up Program	Control group: No training	Author Reported - Cox regression analysis	0.70(1.18,)	NS
Walden,2012	Moderate	Any acute injury	Postop .	Neuromuscular Warm-up Program	Control group: No training	Author Reported - Cox regression analysis	0.92(1.40,)	NS
Walden,2012	Moderate	ACL Injury	Postop .	Neuromuscular Warm-up Program	Control group: No training	Author Reported - Shared frailty Cox regression model	0.17(0.57,)	**Training group**
Walden,2012	Moderate	Rates of severe knee injury	Postop .	Neuromuscular Warm-up Program	Control group: No training	Author Reported - Shared frailty Cox regression model	0.18(0.45,)	**Training group**
Walden,2012	Moderate	Any acute injury	Postop .	Neuromuscular Warm-up Program	Control group: No training	Author Reported - Shared frailty Cox regression model	0.53(0.94,)	**Training group**
Pfeiffer, 2006	Low	Incidence of non-contact injuries per 1000exposures	2 yrs.	Knee Ligament Injury Prevention (KLIP) program-plyometric-based exercise program	Control group: no KLIP training	Author Reported - logistic regression	2.05(0.21,21.69)	NS
Krutsch,2020	Low	Traumatic Injuries	Postop .	Preventive Training Modules: "Postural stability, mobilization of lower extremity joints, leg and trunk stabilization, jumping, and landing exercises as well as agility movements"	Control group: "Standard training program"	RR	0.99(0.90,1.09)	NS
Krutsch,2020	Low	Overuse injuries	Postop .	Preventive Training Modules: "Postural stability, mobilization of lower extremity joints, leg and trunk stabilization, jumping, and landing exercises as	Control group: "Standard training program"	RR	1.01(0.76,1.35)	NS

Reference Title	Quality	Outcome Details	Duration	Treatment 1 (Details)	Treatment 2 (Details)	Effect Measure	Result (95% CI)	Favored Treatment
				well as agility movements"				
Krutsch,2020	Low	Undefined injury type	Postop .	Preventive Training Modules: "Postural stability, mobilization of lower extremity joints, leg and trunk stabilization, jumping, and landing exercises as well as agility movements"	Control group: "Standard training program"	RR	1.14(0.82,1.58)	NS
Krutsch,2020	Low	Thigh injuries	Postop .	Preventive Training Modules: "Postural stability, mobilization of lower extremity joints, leg and trunk stabilization, jumping, and landing exercises as well as agility movements"	Control group: "Standard training program"	RR	2.09(1.77,2.48)	**Control group**
Krutsch,2020	Low	Severe thigh injuries	Postop .	Preventive Training Modules: "Postural stability, mobilization of lower extremity joints, leg and trunk stabilization, jumping, and landing exercises as well as agility movements"	Control group: "Standard training program"	RR	1.07(0.81,1.42)	NS
Krutsch,2020	Low	Ankle injuries	Postop .	Preventive Training Modules: "Postural stability, mobilization of lower extremity joints, leg and trunk stabilization, jumping, and landing exercises as well as agility movements"	Control group: "Standard training program"	RR	1.04(0.82,1.33)	NS
Krutsch,2020	Low	Severe ankle injuries	Postop .	Preventive Training Modules: "Postural stability, mobilization of lower extremity joints, leg and trunk	Control group: "Standard training program"	RR	0.87(0.65,1.17)	NS

Reference Title	Quality	Outcome Details	Duration	Treatment 1 (Details)	Treatment 2 (Details)	Effect Measure	Result (95% CI)	Favored Treatment
				stabilization, jumping, and landing exercises as well as agility movements"				
Krutsch,2020	Low	Knee injuries	Postop .	Preventive Training Modules: "Postural stability, mobilization of lower extremity joints, leg and trunk stabilization, jumping, and landing exercises as well as agility movements"	Control group: "Standard training program"	RR	0.66(0.52,0.84)	**Preventive Training Modules**
Krutsch,2020	Low	Overall injuries	Postop .	Preventive Training Modules: "Postural stability, mobilization of lower extremity joints, leg and trunk stabilization, jumping, and landing exercises as well as agility movements"	Control group: "Standard training program"	RR	1.01(0.96,1.06)	NS
Krutsch,2020	Low	Overall severe knee injuries	Postop .	Preventive Training Modules: "Postural stability, mobilization of lower extremity joints, leg and trunk stabilization, jumping, and landing exercises as well as agility movements"	Control group: "Standard training program"	RR	0.55(0.40,0.75)	**Preventive Training Modules**
Krutsch,2020	Low	ACL/PCL	Postop .	Preventive Training Modules: "Postural stability, mobilization of lower extremity joints, leg and trunk stabilization, jumping, and landing exercises as well as agility movements"	Control group: "Standard training program"	RR	0.61(0.33,1.13)	NS
Krutsch,2020	Low	MCL/LCL	Postop .	Preventive Training Modules: "Postural stability, mobilization of	Control group: "Standard training program"	RR	0.34(0.19,0.61)	**Preventive Training Modules**

Reference Title	Quality	Outcome Details	Duration	Treatment 1 (Details)	Treatment 2 (Details)	Effect Measure	Result (95% CI)	Favored Treatment
				lower extremity joints, leg and trunk stabilization, jumping, and landing exercises as well as agility movements"				
Krutsch,2020	Low	Meniscal injury	Postop .	Preventive Training Modules: "Postural stability, mobilization of lower extremity joints, leg and trunk stabilization, jumping, and landing exercises as well as agility movements"	Control group: "Standard training program"	RR	0.86(0.48,1.55)	NS
Krutsch,2020	Low	Traumatic Cartilage injuries	Postop .	Preventive Training Modules: "Postural stability, mobilization of lower extremity joints, leg and trunk stabilization, jumping, and landing exercises as well as agility movements"	Control group: "Standard training program"	RR	0.76(0.21,2.67)	NS
Krutsch,2020	Low	Fracture	Postop .	Preventive Training Modules: "Postural stability, mobilization of lower extremity joints, leg and trunk stabilization, jumping, and landing exercises as well as agility movements"	Control group: "Standard training program"	RD	-0.00(-0.00,0.00)	NS
Krutsch,2020	Low	Patella dislocation	Postop .	Preventive Training Modules: "Postural stability, mobilization of lower extremity joints, leg and trunk stabilization, jumping, and landing exercises as well as agility movements"	Control group: "Standard training program"	RD	0.00(0.00,0.00)	NS

Reference Title	Quality	Outcome Details	Duration	Treatment 1 (Details)	Treatment 2 (Details)	Effect Measure	Result (95% CI)	Favored Treatment
Yarsiasat,2019	High	Overall injury	6 mos.	Prevent Injury Enhance Performance Program'(PEP)	Control group: "nonspecialized program"	RR	-0.88(-1.01,-0.76)	**Prevent Injury Enhance Performance Program' (PEP)**
Yarsiasat,2019	High	Number of Injury- Match	6 mos.	Prevent Injury Enhance Performance Program'(PEP)	Control group: "nonspecialized program"	RD	-0.22(-0.49,0.05)	NS
Yarsiasat,2019	High	Number of Injury-Training	6 mos.	Prevent Injury Enhance Performance Program'(PEP)	Control group: "nonspecialized program"	RR	0.15(0.05,0.45)	**Prevent Injury Enhance Performance Program' (PEP)**
Yarsiasat,2019	High	Complete tear of ACL	6 mos.	Prevent Injury Enhance Performance Program'(PEP)	Control group: "nonspecialized program"	RD	-0.33(-0.64,-0.03)	**Prevent Injury Enhance Performance Program' (PEP)**
Yarsiasat,2019	High	Partial tear of ACL	6 mos.	Prevent Injury Enhance Performance Program'(PEP)	Control group: "nonspecialized program"	RD	0.04(-0.04,0.11)	NS
Yarsiasat,2019	High	Chondromalacia patella	6 mos.	Prevent Injury Enhance Performance Program'(PEP)	Control group: "nonspecialized program"	RR	0.12(0.01,0.97)	**Prevent Injury Enhance Performance Program' (PEP)**
Yarsiasat,2019	High	MCL	6 mos.	Prevent Injury Enhance Performance Program'(PEP)	Control group: "nonspecialized program"	RD	0.00(0.00,0.00)	NS
Yarsiasat,2019	High	PCL	6 mos.	Prevent Injury Enhance Performance Program'(PEP)	Control group: "nonspecialized program"	RD	0.00(0.00,0.00)	NS
Yarsiasat,2019	High	Muscle Soreness	6 mos.	Prevent Injury Enhance Performance Program'(PEP)	Control group: "nonspecialized program"	RR	0.17(0.02,1.69)	NS
Yarsiasat,2019	High	Muscle Strain	6 mos.	Prevent Injury Enhance Performance Program'(PEP)	Control group: "nonspecialized program"	RD	-0.11(-0.32,0.09)	NS

Reference Title	Quality	Outcome Details	Duration	Treatment 1 (Details)	Treatment 2 (Details)	Effect Measure	Result (95% CI)	Favored Treatment
Yarsiasat,2019	High	Position of injury-Server	6 mos.	Prevent Injury Enhance Performance Program'(PEP)	Control group: "nonspecialized program"	RD	-0.33(-0.64,-0.03)	**Prevent Injury Enhance Performance Program' (PEP)**
Yarsiasat,2019	High	Position of injury-Feeder	6 mos.	Prevent Injury Enhance Performance Program'(PEP)	Control group: "nonspecialized program"	RR	0.35(0.02,4.98)	NS
Yarsiasat,2019	High	Position of injury- Killer	6 mos.	Prevent Injury Enhance Performance Program'(PEP)	Control group: "nonspecialized program"	RR	0.17(0.04,0.79)	**Prevent Injury Enhance Performance Program' (PEP)**
Yarsiasat,2019	High	Cause of injury-Overused	6 mos.	Prevent Injury Enhance Performance Program'(PEP)	Control group: "nonspecialized program"	RR	0.12(0.03,0.47)	**Prevent Injury Enhance Performance Program' (PEP)**
Yarsiasat,2019	High	Cause of injury- Trauma	6 mos.	Prevent Injury Enhance Performance Program'(PEP)	Control group: "nonspecialized program"	RR	0.12(0.01,0.97)	**Prevent Injury Enhance Performance Program' (PEP)**
Yarsiasat,2019	High	Mechanism of injury-Hyperextension	6 mos.	Prevent Injury Enhance Performance Program'(PEP)	Control group: "nonspecialized program"	RR	0.12(0.03,0.47)	**Prevent Injury Enhance Performance Program' (PEP)**
Omi, 2018	Low	ACL Failure Rate	4 yrs.	hip-focused injury prevention program: "intervention group 1"	Control group: "observation group-followed their routine basketball regimen, training program,"	RR	0.43(0.17,1.09)	NS
Omi, 2018	Low	Noncontact injury	4 yrs.	hip-focused injury prevention program: "intervention group 1"	Control group: "observation group-followed their routine basketball regimen, training program,"	RR	0.44(0.16,1.23)	NS

Reference Title	Quality	Outcome Details	Duration	Treatment 1 (Details)	Treatment 2 (Details)	Effect Measure	Result (95% CI)	Favored Treatment
Omi, 2018	Low	ACL Injury	4 yrs.	hip-focused injury prevention program: "intervention group 1"	Control group: "observation group-followed their routine basketball regimen, training program,"	Author Reported -chi-square analysis	0.43(0.17,1.10)	NS
Omi, 2018	Low	Noncontact ACL injury	4 yrs.	hip-focused injury prevention program: "intervention group 1"	Control group: "observation group-followed their routine basketball regimen, training program,"	Author Reported -chi-square analysis	0.44(0.16,1.24)	NS
Omi, 2018	Low	ACL Failure Rate	4 yrs.	hip-focused injury prevention program: "2.intervention group 2"	Control group: "observation group-followed their routine basketball regimen, training program,"	RR	0.32(0.10,1.09)	NS
Omi, 2018	Low	Noncontact injury	4 yrs.	hip-focused injury prevention program: "2.intervention group 2"	Control group: "observation group-followed their routine basketball regimen, training program,"	RR	0.40(0.11,1.37)	NS
Omi, 2018	Low	ACL Injury	4 yrs.	hip-focused injury prevention program: "2.intervention group 2"	Control group: "observation group-followed their routine basketball regimen, training program,"	Author Reported - unknown	0.32(0.09,1.09)	NS
Omi, 2018	Low	Noncontact ACL injury	4 yrs.	hip-focused injury prevention program: "2.intervention group 2"	Control group: "observation group-followed their routine basketball regimen, training program,"	Author Reported -chi-square analysis	0.39(0.11,1.37)	NS
Omi, 2018	Low	ACL Failure Rate	4 yrs.	hip-focused injury prevention program: combination of intervention group 1 and 1	Control group: "observation group-followed their routine basketball regimen, training program,"	RR	0.39(0.17,0.87)	**hip-focused injury prevention program**

Reference Title	Quality	Outcome Details	Duration	Treatment 1 (Details)	Treatment 2 (Details)	Effect Measure	Result (95% CI)	Favored Treatment
Omi, 2018	Low	Noncontact injury	4 yrs.	hip-focused injury prevention program: combination of intervention group 1 and 2	Control group: "observation group-followed their routine basketball regimen, training program,"	RR	0.42(0.18,1.01)	NS
Omi, 2018	Low	ACL Injury	4 yrs.	hip-focused injury prevention program: combination of intervention group 1 and 4	Control group: "observation group-followed their routine basketball regimen, training program,"	Author Reported -chi-square analysis	0.38(0.17,0.87)	NS
Omi, 2018	Low	Noncontact ACL injury	4 yrs.	hip-focused injury prevention program: combination of intervention group 1 and 5	Control group: "observation group-followed their routine basketball regimen, training program,"	Author Reported -chi-square analysis	0.37(0.15,0.92)	**Training group**
Granelli,2017	Moderate	ACL Injury	Postop .	FIFA 11+ injury prevention program	Control group	Author Reported -logistic linear regression(Poisson) analysis	0.54(0.49,0.59)	**Training group**
Granelli,2017	Moderate	ACL injuries- Game	Postop .	FIFA 11+ injury prevention program	Control group	Author Reported -logistic linear regression(Poisson) analysis	0.59(0.52,0.68)	**Training group**
Granelli,2017	Moderate	ACL injuries- Practice	Postop .	FIFA 11+ injury prevention program	Control group	Author Reported -logistic linear regression(Poisson) analysis	0.46(0.38,0.57)	**Training group**
Granelli,2017	Moderate	Knee injuries	Postop .	FIFA 11+ injury prevention program	Control group	Author Reported -logistic linear regression(Poisson) analysis	0.42(0.29,0.61)	**Training group**
Granelli,2017	Moderate	Mechanism of ACL-Total	Postop .	FIFA 11+ injury prevention program	Control group	Author Reported -logistic linear regression(Poisson) analysis	0.24(0.07,0.81)	**Training group**
Granelli,2017	Moderate	Mechanism of ACL-Contact	Postop .	FIFA 11+ injury prevention program	Control group	Author Reported -logistic linear	0.21(0.03,1.74)	NS

Reference Title	Quality	Outcome Details	Duration	Treatment 1 (Details)	Treatment 2 (Details)	Effect Measure	Result (95% CI)	Favored Treatment
						regression(Poisson) analysis		
Granelli,2017	Moderate	Mechanism of ACL-Non-contact	Postop .	FIFA 11+ injury prevention program	Control group	Author Reported - logistic linear regression(Poisson) analysis	0.25(0.06,1.15)	**Training group**
Granelli,2017	Moderate	ACLs game versus practice- Game	Postop .	FIFA 11+ injury prevention program	Control group	Author Reported - logistic linear regression(Poisson) analysis	0.31(0.09,1.11)	NS
Granelli,2017	Moderate	ACLs game versus practice- Practice	Postop .	FIFA 11+ injury prevention program	Control group	Author Reported - logistic linear regression(Poisson) analysis	0.14(0.01,2.59)	NS
Granelli,2017	Moderate	ACLs incurred by position- Defender	Postop .	FIFA 11+ injury prevention program	Control group	Author Reported - logistic linear regression(Poisson) analysis	0.25(0.03,2.15)	NS
Granelli,2017	Moderate	ACLs incurred by position- Forward	Postop .	FIFA 11+ injury prevention program	Control group	Author Reported - logistic linear regression(Poisson) analysis	0.11(0.01,2.07)	NS
Granelli,2017	Moderate	ACLs incurred by position- Midfielder	Postop .	FIFA 11+ injury prevention program	Control group	Author Reported - logistic linear regression(Poisson) analysis	0.42(0.06,2.07)	NS
Granelli,2017	Moderate	ACLs incurred by position- Goalkeeper	Postop .	FIFA 11+ injury prevention program	Control group	Author Reported - logistic linear regression(Poisson) analysis	1.26(0.03,63.36)	NS
Granelli,2017	Moderate	ACLs by division-Division I	Postop .	FIFA 11+ injury prevention program	Control group	Author Reported - logistic linear regression(Poisson) analysis	0.30(0.06,1.45)	NS
Granelli,2017	Moderate	ACLs by division-Division II	Postop .	FIFA 11+ injury prevention program	Control group	Author Reported - logistic linear regression(Poisson) analysis	0.12(0.02,0.93)	**Training group**

Reference Title	Quality	Outcome Details	Duration	Treatment 1 (Details)	Treatment 2 (Details)	Effect Measure	Result (95% CI)	Favored Treatment
Granelli,2017	Moderate	ACL injury by Field type- Grass (total)	Postop .	FIFA 11+ injury prevention program	Control group	Author Reported - logistic linear regression(Poisson) analysis	0.36(0.08,1.73)	NS
Granelli,2017	Moderate	ACL injury by Field type- Grass (Noncontact)	Postop .	FIFA 11+ injury prevention program	Control group	Author Reported - logistic linear regression(Poisson) analysis	0.63(0.12,3.48)	NS
Granelli,2017	Moderate	ACL injury by Field type- Grass (contact)	Postop .	FIFA 11+ injury prevention program	Control group	Author Reported - logistic linear regression(Poisson) analysis	0.18(0.01,3.58)	NS
Granelli,2017	Moderate	ACL injury by Field type- Turf total	Postop .	FIFA 11+ injury prevention program	Control group	Author Reported - logistic linear regression(Poisson) analysis	0.14(0.02,1.10)	**Training group**
Granelli,2017	Moderate	ACL injury by Field type- Noncontact	Postop .	FIFA 11+ injury prevention program	Control group	Author Reported - logistic linear regression(Poisson) analysis	0.10(0.01,1.72)	NS
Granelli,2017	Moderate	ACL injury by Field type- contact	Postop .	FIFA 11+ injury prevention program	Control group	Author Reported - logistic linear regression(Poisson) analysis	0.18(0.01,3.48)	NS
Murray, 2017	Low	Significant Predictors of School ACL Experience	Postop .	NMT Intervention- Strength training: football	Control group: No Strength training	Author Reported - General Estimating Equations	-2.43(.,.)	**Training group**
Murray, 2017	Low	Significant Predictors of School ACL Experience	Postop .	NMT Intervention- with trainer: Boys' soccer	Control group: No NM training	Author Reported - General Estimating Equations	-0.38(.,.)	**Training group**
Murray, 2017	Low	Significant Predictors of School ACL Experience	Postop .	NMT Intervention- In-season plyometric: Boys soccer	Control group: No in-season plyometric	Author Reported - General Estimating Equations	-0.40(.,.)	**Training group**
Murray, 2017	Low	Significant Predictors of School ACL Experience	Postop .	NMT Intervention- any plyometric: Boys' soccer	Control group: No plyometric training	Author Reported - General Estimating Equations	-0.56(.,.)	**Training group**
Murray, 2017	Low	Significant Predictors of School ACL Experience	Postop .	NMT Intervention: Girl's Soccer- Rural schools	Control group: Girl's Soccer-Metro schools	Author Reported - General Estimating Equations	-1.03(.,.)	**Training group(Rural setting)**

Reference Title	Quality	Outcome Details	Duration	Treatment 1 (Details)	Treatment 2 (Details)	Effect Measure	Result (95% CI)	Favored Treatment
Murray, 2017	Low	Significant Predictors of School ACL Experience	Postop .	NMT Intervention- Any (plyometrics, aerobics, body mechanics, and strength training) preseason NMT: Volleyball	Control group: No preseason NMT	Author Reported - General Estimating Equations	0.38(.,.)	**Training group**
Murray, 2017	Low	Significant Predictors of School ACL Experience	Postop .	NMT Intervention- All (plyometrics, aerobics, body mechanics, and strength training) preseason NMT: Volleyball	Control group: No preseason NMT	Author Reported - General Estimating Equations	0.41(.,.)	**Training group**
Murray, 2017	Low	ACL Injury	Postop .	NMT Intervention- Strength training: football (Boys)	Control group: No Strength training	Author Reported - unknown	0.09(0.01,0.61)	**Training group**
Murray, 2017	Low	ACL Injury	Postop .	NMT intervention with licensed athletic trainer: Boys' soccer	Control group: No NM training	Author Reported - unknown	0.68(0.54,0.87)	**Training group**
Murray, 2017	Low	ACL Injury	Postop .	NMT intervention- plyometric exercises: Boy's soccer	Control group: No NM training	Author Reported - unknown	0.57(0.37,0.89)	**Training group**
Murray, 2017	Low	ACL Injury	Postop .	NMT intervention- in-season plyometrics: Boy's soccer	Control group: No NM training	Author Reported - unknown	0.67(0.49,0.91)	**Training group**
Murray, 2017	Low	ACL Injury	Postop .	NMT Intervention: Girls' Soccer- Rural schools	Control group: No NM training	Author Reported - unknown	0.36(0.22,0.60)	**Training group(Rural setting)**
Murray, 2017	Low	ACL Injury	Postop .	NMT Intervention- Any (plyometrics, aerobics, body mechanics, and strength training) preseason NMT: Volleyball	Control group: No preseason NMT	Author Reported - unknown	1.31(0.82,2.10)	No training
Murray, 2017	Low	ACL Injury	Postop .	NMT Intervention- All (plyometrics, aerobics, body mechanics, and strength training) preseason NMT: Volleyball	Control group: No preseason NMT	Author Reported - unknown	1.50(1.27,1.78)	No training

Reference Title	Quality	Outcome Details	Duration	Treatment 1 (Details)	Treatment 2 (Details)	Effect Measure	Result (95% CI)	Favored Treatment
Westin, 2020	Low	ACL Injury	Postop	Core Stability and Neuromuscular Control	No Training	Hazard Ratio	0.56 (0.29, 1.08)	**Training**

Table 159: PICO 11 – Training vs. No Training – Function

Reference Title	Quality	Outcome Details	Duration	Treatment 1 (Details)	Treatment 2 (Details)	Effect Measure	Result (95% CI)	Favored Treatment
Lim, 2009	Low	Hip abduction; Peak torque (NM/BW)(Muscle strength)	8 wks.	Prevention Training Program	Control group: "regular training program"	Mean Difference	0.29 (-0.01, 0.59)	NS
Lim, 2009	Low	Hip abduction; Average power (W/BW) (Muscle strength)	8 wks.	Prevention Training Program	Control group: "regular training program"	Mean Difference	0.09 (-0.03, 0.21)	NS
Lim, 2009	Low	Hip extension; Peak torque (NM/BW)(Muscle strength)	8 wks.	Prevention Training Program	Control group: "regular training program"	Mean Difference	1.48 (0.69, 2.27)	Prevention Training Program
Lim, 2009	Low	Hip extension; Average power (W/BW) (Muscle strength)	8 wks.	Prevention Training Program	Control group: "regular training program"	Mean Difference	0.66 (0.30, 1.02)	Prevention Training Program
Lim, 2009	Low	Knee flexion; Peak torque (NM/BW)(Muscle strength)	8 wks.	Prevention Training Program	Control group: "regular training program"	Mean Difference	0.26 (0.13, 0.39)	Prevention Training Program
Lim, 2009	Low	Knee flexion; Average power (W/BW) (Muscle strength)	8 wks.	Prevention Training Program	Control group: "regular training program"	Mean Difference	0.14 (0.03, 0.25)	Prevention Training Program
Lim, 2009	Low	Hip flexion (deg)(Flexibility)	8 wks.	Prevention Training Program	Control group: "regular training program"	Mean Difference	10.23 (4.66, 15.80)	Prevention Training Program
Lim, 2009	Low	Knee flexion (deg)(Flexibility)	8 wks.	Prevention Training Program	Control group: "regular training program"	Mean Difference	4.32 (0.81, 7.83)	Prevention Training Program
Lim, 2009	Low	Ankle dorsiflexion (deg)(Flexibility)	8 wks.	Prevention Training Program	Control group: "regular training program"	Mean Difference	4.94 (0.59, 9.29)	Prevention Training Program
Lim, 2009	Low	Jump height	8 wks.	Prevention Training Program	Control group: "regular training program"	Mean Difference	1.2 (-1.83, 4.23)	NS
Lim, 2009	Low	Maximum knee flexion angle (deg)	8 wks.	Prevention Training Program	Control group: "regular training program"	Mean Difference	6.96 (3.21, 10.71)	Prevention Training Program
Lim, 2009	Low	Knee distance (cm)	8 wks.	Prevention Training Program	Control group: "regular training program"	Mean Difference	3.08 (1.52, 4.64)	Control group

Reference Title	Quality	Outcome Details	Duration	Treatment 1 (Details)	Treatment 2 (Details)	Effect Measure	Result (95% CI)	Favored Treatment
Lim, 2009	Low	Maximum knee internal rotation angle (deg)	8 wks.	Prevention Training Program	Control group: "regular training program"	Mean Difference	-2.01 (-4.92, 0.90)	NS
Lim, 2009	Low	H-Q(hamstring-quadriceps)ratios (%)	8 wks.	Prevention Training Program	Control group: "regular training program"	Mean Difference	-6.23 (-10.18, -2.28)	Prevention Training Program
Lim, 2009	Low	Maximum knee extension torque (N-m)	8 wks.	Prevention Training Program	Control group: "regular training program"	Mean Difference	-36.62 (-64.57, -8.67)	Prevention Training Program
Lim, 2009	Low	Maximum knee Valgus moment (N-m)	8 wks.	Prevention Training Program	Control group: "regular training program"	Mean Difference	-12.4 (-21.43, -3.37)	Prevention Training Program
Yarsiasat,2019	High	Mechanism of injury-Twist	6 mos.	Prevent Injury Enhance Performance Program'(PEP)	Control group: "nonspecialized program"	RR	0.12(0.01,0.97)	Prevent Injury Enhance Performance Program' (PEP)
Yarsiasat,2019	High	Muscle power- Peak power (Bio motor ability)	4 wks.	Prevent Injury Enhance Performance Program'(PEP)	Control group: "nonspecialized program"	Author Reported -Multivariate analysis	-1.68(-3.17,-0.19)	Training group
Yarsiasat,2019	High	Muscle power- Flight time (Bio motor ability)	4 wks.	Prevent Injury Enhance Performance Program'(PEP)	Control group: "nonspecialized program"	Author Reported -Multivariate analysis	-0.00(-0.02,-0.01)	NS
Yarsiasat,2019	High	Muscle power- Jump height (Bio motor ability)	4 wks.	Prevent Injury Enhance Performance Program'(PEP)	Control group: "nonspecialized program"	Author Reported -Multivariate analysis	-0.51(-1.60,0.57)	NS
Yarsiasat,2019	High	Sit and reach (Bio motor ability)	4 wks.	Prevent Injury Enhance Performance Program'(PEP)	Control group: "nonspecialized program"	Author Reported -Multivariate analysis	-0.12(-1.39,1.13)	NS
Yarsiasat,2019	High	Agility t-test (Bio motor ability)	4 wks.	Prevent Injury Enhance Performance Program'(PEP)	Control group: "nonspecialized program"	Author Reported -Analysis of Covariance(ANCOVA)	0.17(-0.10,0.46)	NS
Yarsiasat,2019	High	Muscle power- Peak power (Bio motor ability)	8 wks.	Prevent Injury Enhance	Control group: "nonspecialized program"	Author Reported -Multivariate analysis	-3.60(-4.94,-2.37)	Training group

Reference Title	Quality	Outcome Details	Duration	Treatment 1 (Details)	Treatment 2 (Details)	Effect Measure	Result (95% CI)	Favored Treatment
				Performance Program'(PEP)				
Yarsiasat,2019	High	Muscle power- Flight time (Bio motor ability)	8 wks.	Prevent Injury Enhance Performance Program'(PEP)	Control group: "nonspecialized program"	Author Reported -Multivariate analysis	-0.01(-0.02,0.01)	NS
Yarsiasat,2019	High	Muscle power- Jump height (Bio motor ability)	8 wks.	Prevent Injury Enhance Performance Program'(PEP)	Control group: "nonspecialized program"	Author Reported -Multivariate analysis	-1.56(-2.85,-0.27)	Training group
Yarsiasat,2019	High	Sit and reach (Bio motor ability)	8 wks.	Prevent Injury Enhance Performance Program'(PEP)	Control group: "nonspecialized program"	Author Reported -Multivariate analysis	-1.11(-2.72,0.49)	Training group
Yarsiasat,2019	High	Agility t-test (Bio motor ability)	8 wks.	Prevent Injury Enhance Performance Program'(PEP)	Control group: "nonspecialized program"	Author Reported -Analysis of Covariance(ANCOVA)	0.27(-0.15,0.69)	NS
Yarsiasat,2019	High	Angular velocity (60degree)- Dominant leg	4 wks.	Prevent Injury Enhance Performance Program'(PEP)	Control group: "nonspecialized program"	Author Reported -Analysis of Covariance and generalized estimating equations(GEE)	-0.02(-0.04,-0.01)	Training group
Yarsiasat,2019	High	Angular velocity (60degree)- non-dominant leg	4 wks.	Prevent Injury Enhance Performance Program'(PEP)	Control group: "nonspecialized program"	Author Reported -Analysis of Covariance and generalized estimating equations(GEE)	-0.01(-0.03,0.00)	NS
Yarsiasat,2019	High	Angular velocity (180degree)- Dominant leg	4 wks.	Prevent Injury Enhance Performance Program'(PEP)	Control group: "nonspecialized program"	Author Reported -Analysis of Covariance and generalized estimating equations(GEE)	0.01(-0.01,0.03)	NS
Yarsiasat,2019	High	Angular velocity (180degree)- non-dominant leg	4 wks.	Prevent Injury Enhance Performance Program'(PEP)	Control group: "nonspecialized program"	Author Reported -Analysis of Covariance and generalized estimating equations(GEE)	-0.00(-0.02,0.02)	NS
Yarsiasat,2019	High	Angular velocity (300degree)- Dominant leg	4 wks.	Prevent Injury Enhance Performance Program'(PEP)	Control group: "nonspecialized program"	Author Reported -Analysis of Covariance and generalized estimating equations(GEE)	-0.01(-0.03,0.01)	NS

Reference Title	Quality	Outcome Details	Duration	Treatment 1 (Details)	Treatment 2 (Details)	Effect Measure	Result (95% CI)	Favored Treatment
Yarsiasat,2019	High	Angular velocity (300degree)- non-dominant leg	4 wks.	Prevent Injury Enhance Performance Program'(PEP)	Control group: "nonspecialized program"	Author Reported -Analysis of Covariance and generalized estimating equations(GEE)	-0.01(-0.02,0.02)	NS
Yarsiasat,2019	High	Angular velocity (60degree)- Dominant leg	8 wks.	Prevent Injury Enhance Performance Program'(PEP)	Control group: "nonspecialized program"	Author Reported -Analysis of Covariance and generalized estimating equations(GEE)	-0.05(-0.07,-0.02)	Training group
Yarsiasat,2019	High	Angular velocity (60degree)- non-dominant leg	8 wks.	Prevent Injury Enhance Performance Program'(PEP)	Control group: "nonspecialized program"	Author Reported -Analysis of Covariance and generalized estimating equations(GEE)	-0.01(-0.03,0.01)	NS
Yarsiasat,2019	High	Angular velocity (180degree)- Dominant leg	8 wks.	Prevent Injury Enhance Performance Program'(PEP)	Control group: "nonspecialized program"	Author Reported -Analysis of Covariance and generalized estimating equations(GEE)	-0.01(-0.04,0.01)	NS
Yarsiasat,2019	High	Angular velocity (180degree)- non-dominant leg	8 wks.	Prevent Injury Enhance Performance Program'(PEP)	Control group: "nonspecialized program"	Author Reported -Analysis of Covariance and generalized estimating equations(GEE)	-0.01(-0.04,0.02)	NS
Yarsiasat,2019	High	Angular velocity (300degree)- Dominant leg	8 wks.	Prevent Injury Enhance Performance Program'(PEP)	Control group: "nonspecialized program"	Author Reported -Analysis of Covariance and generalized estimating equations(GEE)	0.03(-0.06,0.01)	NS
Yarsiasat,2019	High	Angular velocity (300degree)- non-dominant leg	8 wks.	Prevent Injury Enhance Performance Program'(PEP)	Control group: "nonspecialized program"	Author Reported -Analysis of Covariance and generalized estimating equations(GEE)	-0.05(-0.12,0.02)	NS
Brown, 2014	High	Hip flexion (unilateral)(Peak stance (0–50%)hip and knee rotations)	6 wks.	Plyometric training	Control group	Mean Difference	0.2 (-6.75, 7.15)	NS
Brown, 2014	High	Hip adduction(unilateral) (Peak stance (0–50%) hip and knee rotations)	6 wks.	Plyometric training	Control group	Mean Difference	-4.9 (-11.09, 1.29)	NS
Brown, 2014	High	Knee flexion (unilateral)(Peak stance (0–50%)hip and knee rotations)	6 wks.	Plyometric training	Control group	Mean Difference	-2.3 (-9.45, 4.85)	NS

Reference Title	Quality	Outcome Details	Duration	Treatment 1 (Details)	Treatment 2 (Details)	Effect Measure	Result (95% CI)	Favored Treatment
Brown, 2014	High	Knee abduction(unilateral) (Peak stance (0–50%) hip and knee rotations)	6 wks.	Plyometric training	Control group	Mean Difference	-1 (-4.03, 2.03)	NS
Brown, 2014	High	Hip flexion (bilateral)(Peak stance (0–50%)hip and knee rotations)	6 wks.	Plyometric training	Control group	Mean Difference	6.6 (-3.09, 16.29)	NS
Brown, 2014	High	Hip adduction (bilateral)(Peak stance (0–50%)hip and knee rotations)	6 wks.	Plyometric training	Control group	Mean Difference	-0.4 (-5.09, 4.29)	NS
Brown, 2014	High	Knee flexion (bilateral)(Peak stance (0–50%)hip and knee rotations)	6 wks.	Plyometric training	Control group	Mean Difference	-8.1 (-17.33, 1.13)	NS
Brown, 2014	High	Knee abduction(bilateral) (Peak stance(0–50%) hip and knee rotations)	6 wks.	Plyometric training	Control group	Mean Difference	0.7 (-2.94, 4.34)	NS
Brown, 2014	High	Hip flexion (unilateral)(Peak stance (0–50%)phase hip and knee moments)	6 wks.	Plyometric training	Control group	Mean Difference	0.19 (-0.03, 0.41)	NS
Brown, 2014	High	Hip adduction(unilateral) (Peak stance (0–50%) phase hip and knee moments)	6 wks.	Plyometric training	Control group	Mean Difference	0.09 (-0.08, 0.26)	NS
Brown, 2014	High	Knee flexion (unilateral)(Peak stance (0–50%)phase hip and knee moments)	6 wks.	Plyometric training	Control group	Mean Difference	-0.04 (-0.23, 0.15)	NS
Brown, 2014	High	Knee abduction(unilateral) (Peak stance (0–50%) phase hip and knee moments)	6 wks.	Plyometric training	Control group	Mean Difference	0.02 (-0.09, 0.13)	NS
Brown, 2014	High	Hip flexion (bilateral)(Peak stance (0–50%)phase hip and knee moments)	6 wks.	Plyometric training	Control group	Mean Difference	0.12 (-0.06, 0.30)	NS
Brown, 2014	High	Hip adduction (bilateral)(Peak stance (0–50%)phase hip and knee moments)	6 wks.	Plyometric training	Control group	Mean Difference	-0.04 (-0.13, 0.05)	NS
Brown, 2014	High	Knee flexion (bilateral)(Peak stance (0–50%)phase hip and knee moments)	6 wks.	Plyometric training	Control group	Mean Difference	-0.05 (-0.27, 0.17)	NS

Reference Title	Quality	Outcome Details	Duration	Treatment 1 (Details)	Treatment 2 (Details)	Effect Measure	Result (95% CI)	Favored Treatment
Brown, 2014	High	Knee abduction(bilateral) (Peak stance(0–50%) phase hip and knee moments)	6 wks.	Plyometric training	Control group	Mean Difference	-0.06 (-0.18, 0.06)	NS
Brown, 2014	High	Hip flexion (unilateral)(Peak stance (0–50%)hip and knee rotations)	6 wks.	Plyometric training	Control group	Mean Difference	4.3 (-2.80, 11.40)	NS
Brown, 2014	High	Hip adduction(unilateral) (Peak stance (0–50%) hip and knee rotations)	6 wks.	Standard neuromuscular training	Control group	Mean Difference	-1.6 (-8.64, 5.44)	NS
Brown, 2014	High	Knee flexion (unilateral)(Peak stance (0–50%)hip and knee rotations)	6 wks.	Standard neuromuscular training	Control group	Mean Difference	-1.9 (-10.58, 6.78)	NS
Brown, 2014	High	Knee abduction(unilateral) (Peak stance (0–50%) hip and knee rotations)	6 wks.	Standard neuromuscular training	Control group	Mean Difference	-0.5 (-2.71, 1.71)	NS
Brown, 2014	High	Hip flexion (bilateral)(Peak stance (0–50%)hip and knee rotations)	6 wks.	Standard neuromuscular training	Control group	Mean Difference	5 (-5.49, 15.49)	NS
Brown, 2014	High	Hip adduction (bilateral)(Peak stance (0–50%)hip and knee rotations)	6 wks.	Standard neuromuscular training	Control group	Mean Difference	-2.9 (-7.57, 1.77)	NS
Brown, 2014	High	Knee flexion (bilateral)(Peak stance (0–50%)hip and knee rotations)	6 wks.	Standard neuromuscular training	Control group	Mean Difference	-0.3 (-8.89, 8.29)	NS
Brown, 2014	High	Knee abduction(bilateral) (Peak stance(0–50%) hip and knee rotations)	6 wks.	Standard neuromuscular training	Control group	Mean Difference	0.4 (-2.58, 3.38)	NS
Brown, 2014	High	Hip flexion (unilateral)(Peak stance (0–50%)phase hip and knee moments)	6 wks.	Standard neuromuscular training	Control group	Mean Difference	0.21 (-0.06, 0.48)	NS
Brown, 2014	High	Hip adduction(unilateral) (Peak stance (0–50%) phase hip and knee moments)	6 wks.	Standard neuromuscular training	Control group	Mean Difference	0.05 (-0.12, 0.22)	NS
Brown, 2014	High	Knee flexion (unilateral)(Peak stance (0–50%)phase hip and knee moments)	6 wks.	Standard neuromuscular training	Control group	Mean Difference	-0.06 (-0.24, 0.12)	NS

Reference Title	Quality	Outcome Details	Duration	Treatment 1 (Details)	Treatment 2 (Details)	Effect Measure	Result (95% CI)	Favored Treatment
Brown, 2014	High	Knee abduction(unilateral) (Peak stance (0–50%) phase hip and knee moments)	6 wks.	Standard neuromuscular training	Control group	Mean Difference	0.03 (-0.09, 0.15)	NS
Brown, 2014	High	Hip flexion (bilateral)(Peak stance (0–50%)phase hip and knee moments)	6 wks.	Standard neuromuscular training	Control group	Mean Difference	0.25 (0.06, 0.44)	Standard neuromuscular training
Brown, 2014	High	Hip adduction (bilateral)(Peak stance (0–50%)phase hip and knee moments)	6 wks.	Standard neuromuscular training	Control group	Mean Difference	0.1 (0.01, 0.19)	Standard neuromuscular training
Brown, 2014	High	Knee flexion (bilateral)(Peak stance (0–50%)phase hip and knee moments)	6 wks.	Standard neuromuscular training	Control group	Mean Difference	-0.09 (-0.28, 0.10)	NS
Brown, 2014	High	Knee abduction(bilateral) (Peak stance(0–50%) phase hip and knee moments)	6 wks.	Standard neuromuscular training	Control group	Mean Difference	0.07 (-0.06, 0.20)	NS

Table 160: PICO 12 – Return to Sports Criteria: Global Rating Scale – Return to Activity

Reference Title	Quality	Outcome Details	Duration	Treatment 1 (Details)	Treatment 2 (Details)	Effect Measure	Result (95% CI)	Favored Treatment
Nawasreh,2018	Low	Return to Preinjury Quality of Exercise	12 mos.	Global Rating Scale 90%+	Global Rating Scale < 90%	Author Reported	1.11(1.03,1.20)	Criteria met
Nawasreh,2018	Low	Return to Preinjury Quality of Exercise	24 mos.	Global Rating Scale 90%+	Global Rating Scale < 90%	Author Reported	1.06(0.98,1.15)	NS

Table 161: PICO 12 – Return to Sports Criteria: KOS-ADLS – Return to Activity

Reference Title	Quality	Outcome Details	Duration	Treatment 1 (Details)	Treatment 2 (Details)	Effect Measure	Result (95% CI)	Favored Treatment
Nawasreh,2018	Low	Return to Preinjury Quality of Exercise	12 mos.	KOS-ADLS 90%+	KOS-ADLS <90%	Author Reported	1.18(1.02,1.35)	Criteria met
Nawasreh,2018	Low	Return to Preinjury Quality of Exercise	24 mos.	KOS-ADLS 90%+	KOS-ADLS <90%	Author Reported	1.07(0.89,1.31)	NS

Table 162: PICO 12 – Return to Sports Criteria: Kinesiophobia – Adverse Events

Reference Title	Quality	Outcome Details	Duration	Treatment 1 (Details)	Treatment 2 (Details)	Effect Measure	Result (95% CI)	Favored Treatment
Paterno,2028	low	Graft Rupture / Failure	24 mos.	Tampa Scale of Kinesiophobia < 19	Tampa Scale ofKinesiophobia19+	Author Reported - chi sq	13.00(2.10,81.00)	Low Fear

Table 163: PICO 12 – Return to Sports Criteria: Kinesiophobia – Function

Reference Title	Quality	Outcome Details	Duration	Treatment 1 (Details)	Treatment 2 (Details)	Effect Measure	Result (95% CI)	Favored Treatment
Paterno,2028	low	MARX Activity Scale	Postop .	Tampa Scale of Kinesiophobia < 17	Tampa Scale ofKinesiophobia17+	Author Reported - Odds Ratio	3.73(0.98,14.23)	NS
Paterno,2028	low	Single Leg Hop (% of non-op side < 95%)	Postop .	Tampa Scale of Kinesiophobia < 17	Tampa Scale ofKinesiophobia17+	Author Reported - Odds Ratio	7.10(1.50,33.00)	Low Fear

Table 164: PICO 12 – Return to Sports Criteria: Muscle Function – Adverse Events

Reference Title	Quality	Outcome Details	Duration	Treatment 1 (Details)	Treatment 2 (Details)	Effect Measure	Result (95% CI)	Favored Treatment
Beischer,2020	Low	Graft Rupture / Failure	Postop .	Achieved Symmetrical Muscle Function	Did Not Achieve Symmetrical Muscle Function	Author Reported – cox proportional hazards models	1.31(0.47,3.67)	NS
Beischer,2020	Low	Graft Rupture / Failure	Postop .	Quadriceps LSI 90% +	Quadriceps LSI <90%	Author Reported – cox proportional hazards models	0.96(0.92,1.01)	NS

Table 165: PICO 12 – Return to Sports Criteria: Muscle Function – Return to Activity

Reference Title	Quality	Outcome Details	Duration	Treatment 1 (Details)	Treatment 2 (Details)	Effect Measure	Result (95% CI)	Favored Treatment
Toole, 2017	Low	Maintain Level of RTS Activity for 1 year	1 yrs.	Quadriceps LSI 90%+	Quadriceps LSI <90%	Author Reported - chi sq	N/A	NS
Toole, 2017	Low	Maintain Level of RTS Activity for 1 year	1 yrs.	Hamstring LSI 90%+	Hamstring LSI <90%	Author Reported - chi sq	N/A	NS

Table 166: PICO 12 – Return to Sports Criteria: Timing – 9 mos. – Adverse Events

Reference Title	Quality	Outcome Details	Duration	Treatment 1 (Details)	Treatment 2 (Details)	Effect Measure	Result (95% CI)	Favored Treatment
Beischer,2020	Low	Graft Rupture / Failure	Postop .	Returners after 9 mo.	Returners before9 mo.	Author Reported – cox proportional hazards models	0.15(0.06,0.39)	Returners after 9mo
Grindem,2016	Low	ACL Reinjury	Postop .	Returned after 9 mo.	Returned Before9 mo.	RR	0.53(0.26,1.11)	NS

Table 167: PICO 12 – Return to Sports Criteria: Timing – 12 mos. – Adverse Events

Reference Title	Quality	Outcome Details	Duration	Treatment 1 (Details)	Treatment 2 (Details)	Effect Measure	Result (95% CI)	Favored Treatment
Webster,2021	Low	ACL Reinjury	Postop .	Returned after12 mo.	Returned Before 12 mo.	RR	0.87(0.52,1.45)	NS
Webster,2021	Low	Contralateral ACL Injury	Postop .	Returned after12 mo.	Returned Before 12 mo.	RR	1.32(0.79,2.19)	NS

Table 168: PICO 12 – Return to Sports Criteria: Various RTS Criteria – Adverse Events

Reference Title	Quality	Outcome Details	Duration	Treatment 1 (Details)	Treatment 2 (Details)	Effect Measure	Result (95% CI)	Favored Treatment
Sousa, 2017	Low	Graft Rupture / Failure	Postop .	Returners (Passed Clearance for RTS at 6mopostop)	Non-Returners(Failed Clearance for RTS at 6mopostop)	RR	0.82(0.18,3.75)	NS
Sousa, 2017	Low	Contralateral ACL Rupture/ Failure	Postop .	Returners (Passed Clearance for RTS at 6mopostop)	Non-Returners(Failed Clearance for RTS at 6mopostop)	RR	3.70(1.50,9.10)	Non-Returners(Failed Clearance for RTS at 6mopostop)

Table 169: PICO 12 – Return to Sports Criteria: Various RTS Criteria – Function

Reference Title	Quality	Outcome Details	Duration	Treatment 1 (Details)	Treatment 2 (Details)	Effect Measure	Result (95% CI)	Favored Treatment
Ellis, 2020	Low	IKDC Subjective Score(Pediatric)	6 mos.	Returners (Passed Clearance for RTS at 6mopostop)	Non-Returners(Failed Clearance for RTS at 6mopostop)	Author Reported - paired t test	N/A	NS
Ellis, 2020	Low	HSS Pedi-FABS (Hospital for Special Surgery Functional Activity Brief Scale)	6 mos.	Returners (Passed Clearance for RTS at 6mopostop)	Non-Returners(Failed Clearance for RTS at 6mopostop)	Author Reported - paired t test	N/A	NS

Table 170: PICO 12 – Return to Sports Criteria: Various RTS Criteria – Other

Reference Title	Quality	Outcome Details	Duration	Treatment 1 (Details)	Treatment 2 (Details)	Effect Measure	Result (95% CI)	Favored Treatment
Ellis, 2020	Low	ACSI-28 - Coachability(Athletic Coping SkillsInventory-29)	6 mos.	Returners (Passed Clearance for RTS at 6mopostop)	Non-Returners(Failed Clearance for RTS at 6mopostop)	Author Reported - paired t test	N/A	NS
Ellis, 2020	Low	ACSI-28 - Concentration(Athletic Coping SkillsInventory-30)	6 mos.	Returners (Passed Clearance for RTS at 6mopostop)	Non-Returners(Failed Clearance for RTS at 6mopostop)	Author Reported - paired t test	N/A	RTS Clearance passed
Ellis, 2020	Low	ACSI-28 - Confidence and Achievement Motivation(Athletic Coping SkillsInventory-31)	6 mos.	Returners (Passed Clearance for RTS at 6mopostop)	Non-Returners(Failed Clearance for RTS at 6mopostop)	Author Reported - paired t test	N/A	NS
Ellis, 2020	Low	ACSI-28 - Coping w Adversity (Athletic Coping Skills Inventory-32)	6 mos.	Returners (Passed Clearance for RTS at 6mopostop)	Non-Returners(Failed Clearance for RTS at 6mopostop)	Author Reported - paired t test	N/A	NS
Ellis, 2020	Low	ACSI-28 - Freedom from Worry (Athletic Coping Skills Inventory-33)	6 mos.	Returners (Passed Clearance for RTS at 6mopostop)	Non-Returners(Failed Clearance for RTS at 6mopostop)	Author Reported - paired t test	N/A	NS
Ellis, 2020	Low	ACSI-28 - Goal Setting and Mental Prep (Athletic Coping Skills Inventory-34)	6 mos.	Returners (Passed Clearance for RTS at 6mopostop)	Non-Returners(Failed Clearance for RTS at 6mopostop)	Author Reported - paired t test	N/A	NS
Ellis, 2020	Low	ACSI-28 - Peaking Under Pressure (Athletic Coping Skills Inventory-35)	6 mos.	Returners (Passed Clearance for RTS at 6mopostop)	Non-Returners(Failed Clearance for RTS at 6mopostop)	Author Reported - paired t test	N/A	RTS Clearance passed
Ellis, 2020	Low	ACSI-28 - Total (Athletic Coping Skills Inventory-28)	6 mos.	Returners (Passed Clearance for RTS at 6mopostop)	Non-Returners(Failed Clearance for RTS at 6mopostop)	Author Reported - paired t test	N/A	NS
Ellis, 2020	Low	AIMS (Athletic Identity Measurement Scale)	6 mos.	Returners (Passed Clearance for RTS at 6mopostop)	Non-Returners(Failed Clearance for RTS at 6mopostop)	Author Reported - paired t test	N/A	NS
Ellis, 2020	Low	MSPSS - Family(Multidimensional Scale of Perceived Social Support)	6 mos.	Returners (Passed Clearance for RTS at 6mopostop)	Non-Returners(Failed Clearance for RTS at 6mopostop)	Author Reported - paired t test	N/A	NS
Ellis, 2020	Low	MSPSS - Friends(Multidimensional Scale of Perceived Social Support)	6 mos.	Returners (Passed Clearance for RTS at 6mopostop)	Non-Returners(Failed Clearance for RTS at 6mopostop)	Author Reported - paired t test	N/A	NS
Ellis, 2020	Low	MSPSS - Significant Other(Multidimensional Scale of Perceived Social Support)	6 mos.	Returners (Passed Clearance for RTS at 6mopostop)	Non-Returners(Failed Clearance for RTS at 6mopostop)	Author Reported - paired t test	N/A	NS

Reference Title	Quality	Outcome Details	Duration	Treatment 1 (Details)	Treatment 2 (Details)	Effect Measure	Result (95% CI)	Favored Treatment
Ellis, 2020	Low	MSPSS - Total(Multidimensional Scale of Perceived Social Support)	6 mos.	Returners (Passed Clearance for RTS at 6mopostop)	Non-Returners(Failed Clearance for RTS at 6mopostop)	Author Reported - paired t test	N/A	NS
Ellis, 2020	Low	Impact of Events -Avoidance	6 mos.	Returners (Passed Clearance for RTS at 6mopostop)	Non-Returners(Failed Clearance for RTS at 6mopostop)	Author Reported - paired t test	N/A	NS
Ellis, 2020	Low	Impact of Events -Intrusion	6 mos.	Returners (Passed Clearance for RTS at 6mopostop)	Non-Returners(Failed Clearance for RTS at 6mopostop)	Author Reported - paired t test	N/A	NS
Ellis, 2020	Low	Impact of Events - Total	6 mos.	Returners (Passed Clearance for RTS at 6mopostop)	Non-Returners(Failed Clearance for RTS at 6mopostop)	Author Reported - paired t test	N/A	NS

Table 171: PICO 12 – Return to Sports Criteria: Various RTS Criteria – Return to Activity

Reference Title	Quality	Outcome Details	Duration	Treatment 1 (Details)	Treatment 2 (Details)	Effect Measure	Result (95% CI)	Favored Treatment
Ellis, 2020	Low	ACL-RSI (Anterior Cruciate Ligament-Return to Sport after Injury)	6 mos.	Returners (Passed Clearance for RTS at 6mopostop)	Non-Returners(Failed Clearance for RTS at 6mopostop)	Author Reported - paired t test	N/A	NS
Nawasreh,2018	Low	Return to Preinjury Quality of Exercise	12 mos.	PASS Criteria: 90%+ on each: Isometric quadriceps index, single-legged hop test, Knee Outcome Survey - Activities of Daily Living, Global Rating Scale	FAIL Criteria	RR	1.83(1.27,2.66)	NS
Nawasreh,2018	Low	Return to Preinjury Quality of Exercise	24 mos.	PASS Criteria: 90%+ on each: Isometric quadriceps index, single-legged hop test, Knee Outcome Survey - Activities of Daily Living, Global Rating Scale	FAIL Criteria	RR	1.82(1.19,2.78)	PASS Criteria
Toole, 2017	Low	Maintain Level of RTS Activity for 1 year	1 yrs.	PASS Criteria	FAIL Criteria	Author Reported - chi sq	N/A	NS

Table 172: PICO 12 – Return to Sports Criteria: Hop Test – Return to Activity

Reference Title	Quality	Outcome Details	Duration	Treatment 1 (Details)	Treatment 2 (Details)	Effect Measure	Result (95% CI)	Favored Treatment
Nawasreh,2018	Low	Return to Preinjury Quality of Exercise	12 mos.	Single Hop LSI 90%+	Single Hop LSI <90%	Author Reported	1.07(1.01,1.14)	Criteria met
Nawasreh,2018	Low	Return to Preinjury Quality of Exercise	12 mos.	Cross-over Hop LSI 90%+	Cross-over Hop LSI < 90%	Author Reported	1.06(0.99,1.15)	NS
Nawasreh,2018	Low	Return to Preinjury Quality of Exercise	12 mos.	Triple Hop LSI 90%+	Triple Hop LSI <90%	Author Reported	1.11(1.02,1.20)	Criteria met
Nawasreh,2018	Low	Return to Preinjury Quality of Exercise	12 mos.	6-meter Timed Hop LSI 90%+	6-meter Timed Hop LSI < 90%	Author Reported	1.13(1.04,1.22)	Criteria met
Nawasreh,2018	Low	Return to Preinjury Quality of Exercise	24 mos.	Single Hop LSI 90%+	Single Hop LSI <90%	Author Reported	1.15(1.05,1.26)	Criteria met
Nawasreh,2018	Low	Return to Preinjury Quality of Exercise	24 mos.	Cross-over Hop LSI 90%+	Cross-over Hop LSI < 90%	Author Reported	1.12(1.03,1.21)	Criteria met
Nawasreh,2018	Low	Return to Preinjury Quality of Exercise	24 mos.	Triple Hop LSI 90%+	Triple Hop LSI <90%	Author Reported	1.17(1.05,1.31)	Criteria met
Nawasreh,2018	Low	Return to Preinjury Quality of Exercise	24 mos.	6-meter Timed Hop LSI 90%+	6-meter Timed Hop LSI < 90%	Author Reported	1.18(1.06,1.31)	Criteria met
Toole, 2017	Low	Maintain Level of RTS Activity for 1 year	1 yrs.	Single Hop LSI 90%+	Single Hop LSI <90%	Author Reported - chi sq	N/A	NS
Toole, 2017	Low	Maintain Level of RTS Activity for 1 year	1 yrs.	Triple Hop LSI 90%+	Triple Hop LSI <90%	Author Reported - chi sq	N/A	NS
Toole, 2017	Low	Maintain Level of RTS Activity for 1 year	1 yrs.	Cross-over Hop LSI 90%+	Cross-over Hop LSI < 90%	Author Reported - chi sq	N/A	NS
Toole, 2017	Low	Maintain Level of RTS Activity for 1 year	1 yrs.	6-meter Timed Hop LSI 90%+	6-meter Timed Hop LSI < 90%	Author Reported - chi sq	N/A	NS
Toole, 2017	Low	Maintain Level of RTS Activity for 1 year	1 yrs.	All hop tests LSI 90%+	Any hop tests LSI< 90%	Author Reported - chi sq	N/A	Criteria met

Table 173: PICO 12 – Return to Sports Criteria: IKDC Score – Return to Activity

Reference Title	Quality	Outcome Details	Duration	Treatment 1 (Details)	Treatment 2 (Details)	Effect Measure	Result (95% CI)	Favored Treatment
Toole, 2017	Low	Maintain Level of RTS Activity for 1 year	1 yrs.	IKDC Score 90+	IKDC Score < 90	Author Reported - chi sq	N/A	NS

Table 174: PICO 13 – ALL vs. Control – Adverse Events

Reference Title	Quality	Outcome Details	Duration	Treatment 1 (Details)	Treatment 2 (Details)	Effect Measure	Result (95% CI)	Favored Treatment
Sonnery-Cottet,2018	Low	Repair Failure	24 mos.	Anterolateral ligament reconstruction: "ALLR"	Control (No ALL)	Mean Difference	-6 (-12.78, 0.78)	NS
Sonnery-Cottet,2018	Low	Repair Failure	36 mos.	Anterolateral ligament reconstruction: "ALLR"	Control (No ALL)	Mean Difference	-7.4 (-16.26, 1.46)	NS
Sonnery-Cottet,2018	Low	Risk of reoperation for failure of concomitant MM Repair (Effect of ALLR on Medial Meniscal Repair Failure)	37.4mos	Anterolateral ligament reconstruction: "ALLR"	Control (No ALL)	Author Reported - Cox proportional hazards regression model	0.44(0.22,0.87)	ACL Reconstruction with ALL
Helito, 2018	Low	Re-rupture	.	Anterolateral ligament reconstruction	Control (No ALL)	RD	-0.07(-0.14,-0.01)	Anterolateral ligament reconstruction
Sonnery-Cottet,2017	Low	Meniscal Repair (Secondary meniscal procedure)	38.4mos	Anterolateral ligament reconstruction	Control (No ALL)	RD	0.02(0.00,0.04)	Control (No ALL)
Sonnery-Cottet,2017	Low	Meniscectomy (Secondary meniscal procedure)	38.4mos	Anterolateral ligament reconstruction	Control (No ALL)	RR	0.80(0.28,2.23)	NS
Sonnery-Cottet,2017	Low	Cyclops Syndrome	38.4mos	Anterolateral ligament reconstruction	Control (No ALL)	RR	0.43(0.16,1.15)	NS
Sonnery-Cottet,2017	Low	Graft Rupture / Failure	38.4mos	Anterolateral ligament reconstruction	Control (No ALL)	Author Reported - analysis of variance for heterogeneity(Gaussian variables), the Kruskal-Wallis test (ordinal variables or non-Gaussian variables)	0.33(0.13,0.76)	ACL Reconstruction with ALL
Hamido, 2020	High	Graft Rupture / Failure	60 mos.	anterolateral ligament reconstruction	Control (No ALL)	RD	-0.10(-0.18,-0.02)	anterolateral ligament reconstruction
Helito, 2019	Low	ACL Re-injury rate("Re-rupture")	28.85mos	anterolateral ligament reconstruction (ACL)	Control (No ALL)	RR	0.15(0.02,1.12)	NS
Helito, 2019	Low	Re-rupture rate; Beighton - 5(Modified Beighton Laxity Scores)	28.85mos	anterolateral ligament reconstruction (ACL)	Control (No ALL)	RD	-0.15(-0.24,-0.06)	anterolateral ligament reconstruction (ACL)

Reference Title	Quality	Outcome Details	Duration	Treatment 1 (Details)	Treatment 2 (Details)	Effect Measure	Result (95% CI)	Favored Treatment
Helito, 2019	Low	Re-rupture rate; Beighton - 6(Modified Beighton Laxity Scores)	28.85mos	anterolateral ligament reconstruction (ACL)	Control (No ALL)	RR	0.62(0.22,1.73)	NS
Helito, 2019	Low	Re-rupture rate; Beighton - 7(Modified Beighton Laxity Scores)	28.85mos	anterolateral ligament reconstruction (ACL)	Control (No ALL)	RD	-0.50(-0.63,-0.37)	anterolateral ligament reconstruction (ACL)
Helito, 2019	Low	Re-rupture rate; Beighton - 8(Modified Beighton Laxity Scores)	28.85mos	anterolateral ligament reconstruction (ACL)	Control (No ALL)	RD	0.00(0.00,0.00)	NS
Helito, 2019	Low	Cyclops type lesion	28.85mos	anterolateral ligament reconstruction (ACL)	Control (No ALL)	RD	0.03(-0.03,0.10)	NS
Sonnery-Cottet,2021	Low	Graft Rupture / Failure (ACL Graft)	104 mos.	ACLR w/ ALL Reconstruction	Control (ACLRw/out ALL Reconstruction)	RR	0.20(0.06,0.67)	ACLR w/ ALL Reconstruction
Chen, 2021	High	Graft Rupture / Failure	2 yrs.	ACLR w/ ALL Augmentation	Control (ACLRw/out ALL Augmentation	RR	0.16(0.04,0.71)	ACLR w/ ALL Augmentation

Table 175: PICO 13 – ALL vs. Control – Function

Reference Title	Quality	Outcome Details	Duration	Treatment 1 (Details)	Treatment 2 (Details)	Effect Measure	Result (95% CI)	Favored Treatment
Abdelrazek,2019	Moderate	Effusion: None/Mild (IKDC objective scores)	2 yrs.	Anatomical Single Bundle with ALL augmentation: "ASB" plus ALL	Anatomical Double Bundle: “ADB”	RR	0.00(0.00,0.00)	NS
Abdelrazek,2019	Moderate	Effusion: Moderate/Severe(IKDC objective scores)	2 yrs.	Anatomical Single Bundle with ALL augmentation: "ASB" plus ALL	Anatomical Double Bundle: “ADB”	RD	0.00(0.00,0.00)	NS
Abdelrazek,2019	Moderate	Motion Deficit: Lack of Extension, A- < 5 degree (IKDC objective scores)	2 yrs.	Anatomical Single Bundle with ALL augmentation: "ASB" plus ALL	Anatomical Double Bundle: “ADB”	RR	0.05(-0.05,0.15)	NS
Abdelrazek,2019	Moderate	Motion Deficit: Lack of Extension, B- > 5 degree (IKDC objective scores)	2 yrs.	Anatomical Single Bundle with ALL augmentation: "ASB" plus ALL	Anatomical Double Bundle: “ADB”	RD	-0.05(-0.15,0.05)	NS
Abdelrazek,2019	Moderate	Motion Deficit: Lack of Flexion,A- 0-5 degree (IKDC objective scores)	2 yrs.	Anatomical Single Bundle with ALL augmentation: "ASB" plus ALL	Anatomical Double Bundle: “ADB”	RR	1.00(0.87,1.15)	NS
Abdelrazek,2019	Moderate	Motion Deficit: Lack of Flexion,B- 6-15 degree (IKDC objective scores)	2 yrs.	Anatomical Single Bundle with ALL augmentation: "ASB" plus ALL	Anatomical Double Bundle: “ADB”	RR	1.00(0.07,14.90)	NS
Abdelrazek,2019	Moderate	Lachmann Test: A/B (IKDC objective scores)	2 yrs.	Anatomical Single Bundle with ALL augmentation: "ASB" plus ALL	Anatomical Double Bundle: “ADB”	RR	1.06(0.88,1.26)	NS
Abdelrazek,2019	Moderate	Lachmann Test: C/D (IKDC objective scores)	2 yrs.	Anatomical Single Bundle with ALL augmentation: "ASB" plus ALL	Anatomical Double Bundle: “ADB”	RR	0.50(0.05,5.08)	NS
Abdelrazek,2019	Moderate	Pivot Shift Test: A/B	2 yrs.	Anatomical Single Bundle with ALL augmentation: "ASB" plus ALL	Anatomical Double Bundle: “ADB”	RR	0.05(-0.05,0.15)	NS
Abdelrazek,2019	Moderate	Pivot Shift Test: C/D	2 yrs.	Anatomical Single Bundle with ALL augmentation: "ASB" plus ALL	Anatomical Double Bundle: “ADB”	RD	-0.05(-0.15,0.05)	NS
Abdelrazek,2019	Moderate	One leg hop test: A >-76%(IKDC objective scores)	2 yrs.	Anatomical Single Bundle with ALL augmentation: "ASB" plus ALL	Anatomical Double Bundle: “ADB”	RR	1.06(0.88,1.26)	NS
Abdelrazek,2019	Moderate	One leg hop test: B < 75%(IKDC objective scores)	2 yrs.	Anatomical Single Bundle with ALL augmentation: "ASB" plus ALL	Anatomical Double Bundle: “ADB”	RR	0.50(0.05,5.08)	NS

Reference Title	Quality	Outcome Details	Duration	Treatment 1 (Details)	Treatment 2 (Details)	Effect Measure	Result (95% CI)	Favored Treatment
Abdelrazek,2019	Moderate	KT-1000, side to side difference(IKDC objective scores)	2 yrs.	Anatomical Single Bundle with ALL augmentation: "ASB" plus ALL	Anatomical Double Bundle: “ADB”	Mean Difference	0.5 (-0.49, 1.49)	NS
Abdelrazek,2019	Moderate	Rotational Stability (Internal Tibial Rotation Angle)	2 yrs.	Anatomical Single Bundle with ALL augmentation: "ASB" plus ALL	Anatomical Double Bundle: “ADB”	Mean Difference	3.2 (0.77, 5.63)	
Sonnery-Cottet,2018	Low	Tegner Activity Scale	37.4mos	Anterolateral ligament reconstruction: "ALLR"	Control (No ALL)	Mean Difference	0.7 (0.25, 1.15)	Anterolateral ligament reconstruction
Helito, 2018	Low	IKDC Subjective Score	.	Anterolateral ligament reconstruction	Control (No ALL)	Mean Difference	5.6 (2.66, 8.54)	Anterolateral ligament reconstruction
Helito, 2018	Low	Lysholm Knee Score	.	Anterolateral ligament reconstruction	Control (No ALL)	Mean Difference	5.4 (2.93, 7.87)	Anterolateral ligament reconstruction
Helito, 2018	Low	KT-1000 (mm)	.	Anterolateral ligament reconstruction	Control (No ALL)	Mean Difference	-1 (-1.61, -0.39)	Anterolateral ligament reconstruction
Helito, 2018	Low	Residual Pivot Shift	.	Anterolateral ligament reconstruction	Control (No ALL)	RR	0.26(0.08,0.79)	Anterolateral ligament reconstruction
Sonnery-Cottet,2017	Low	IKDC Subjective Score	38.4mos	Anterolateral ligament reconstruction	Control (No ALL)	Mean Difference	0.7 (-2.52, 3.92)	NS
Sonnery-Cottet,2017	Low	Lysholm Knee Score	38.4mos	Anterolateral ligament reconstruction	Control (No ALL)	Mean Difference	0.6 (-1.39, 2.59)	NS
Sonnery-Cottet,2017	Low	Tegner Activity Scale	38.4mos	Anterolateral ligament reconstruction	Control (No ALL)	Mean Difference	0.4 (0.03, 0.77)	Anterolateral ligament reconstruction
Sonnery-Cottet,2017	Low	Side to side Laxity, mm	38.4mos	Anterolateral ligament reconstruction	Control (No ALL)	Mean Difference	-0.2 (-0.55, 0.15)	NS
Hamido, 2020	High	Anterior drawer test- 0/1	60 mos.	anterolateral ligament reconstruction	Control (No ALL)	RR	0.06(-0.01,0.12)	NS
Hamido, 2020	High	Anterior drawer test- 2/3	60 mos.	anterolateral ligament reconstruction	Control (No ALL)	RD	-0.06(-0.12,0.01)	NS
Hamido, 2020	High	Lachman test- 0/1	60 mos.	anterolateral ligament reconstruction	Control (No ALL)	RR	0.04(-0.01,0.09)	NS
Hamido, 2020	High	Lachman test- 2/3	60 mos.	anterolateral ligament reconstruction	Control (No ALL)	RD	-0.04(-0.09,0.01)	NS
Hamido, 2020	High	Pivot Shift Test: A/B	60 mos.	anterolateral ligament reconstruction	Control (No ALL)	RR	0.10(0.02,0.18)	anterolateral ligament reconstruction

Reference Title	Quality	Outcome Details	Duration	Treatment 1 (Details)	Treatment 2 (Details)	Effect Measure	Result (95% CI)	Favored Treatment
Hamido, 2020	High	Pivot Shift Test: C/D	60 mos.	anterolateral ligament reconstruction	Control (No ALL)	RD	-0.10(-0.18,-0.02)	anterolateral ligament reconstruction
Hamido, 2020	High	KT-1000 arthrometer: < 3mm	60 mos.	anterolateral ligament reconstruction	Control (No ALL)	RR	1.19(1.03,1.37)	anterolateral ligament reconstruction
Hamido, 2020	High	KT-1000 arthrometer: >-3mm	60 mos.	anterolateral ligament reconstruction	Control (No ALL)	RR	0.21(0.05,0.90)	anterolateral ligament reconstruction
Hamido, 2020	High	Lysholm knee Score: Excellent/Good	60 mos.	anterolateral ligament reconstruction	Control (No ALL)	RR	0.06(-0.01,0.12)	NS
Hamido, 2020	High	Lysholm knee Score: Fair/Poor	60 mos.	anterolateral ligament reconstruction	Control (No ALL)	RD	-0.06(-0.12,0.01)	NS
Hamido, 2020	High	Lysholm knee Score	60 mos.	anterolateral ligament reconstruction	Control (No ALL)	Mean Difference	2 (0.15, 3.85)	anterolateral ligament reconstruction
Hamido, 2020	High	Tegner Activity Scale	60 mos.	anterolateral ligament reconstruction	Control (No ALL)	Mean Difference	0.1 (-0.34, 0.54)	NS
Hamido, 2020	High	IKDC Score- Grade A/B	60 mos.	anterolateral ligament reconstruction	Control (No ALL)	RR	0.10(0.02,0.18)	anterolateral ligament reconstruction
Hamido, 2020	High	IKDC Score- Grade C/D	60 mos.	anterolateral ligament reconstruction	Control (No ALL)	RD	-0.10(-0.18,-0.02)	anterolateral ligament reconstruction
Hamido, 2020	High	Median Instrumented Knee Laxity	60 mos.	anterolateral ligament reconstruction	Control (No ALL)	Mean Difference	-1.3 (-1.57, -1.03)	anterolateral ligament reconstruction
Helito, 2019	Low	IKDC Subjective Score	28.85mos	anterolateral ligament reconstruction (ACL)	Control (No ALL)	Mean Difference	2.6 (-1.55, 6.75)	NS
Helito, 2019	Low	Lysholm Knee Score	28.85mos	anterolateral ligament reconstruction (ACL)	Control (No ALL)	Mean Difference	2 (-1.27, 5.27)	NS
Helito, 2019	Low	KT-1000	28.85mos	anterolateral ligament reconstruction (ACL)	Control (No ALL)	Mean Difference	-0.8 (-1.33, -0.27)	anterolateral ligament reconstruction (ACL)
Helito, 2019	Low	Residual Pivot Shift	28.85mos	anterolateral ligament reconstruction (ACL)	Control (No ALL)	RR	0.52(0.27,0.98)	Control (No ALL)
Helito, 2019	Low	Pivot Shift Test: A/ B	28.85mos	anterolateral ligament reconstruction (ACL)	Control (No ALL)	RR	0.08(0.01,0.15)	anterolateral ligament reconstruction (ACL)
Helito, 2019	Low	KT-1000 (mm); Beighton - 5(Modified Beighton Laxity Scores)	28.85mos	anterolateral ligament reconstruction (ACL)	Control (No ALL)	Mean Difference	-0.56 (-1.00, -0.12)	anterolateral ligament reconstruction (ACL)

Reference Title	Quality	Outcome Details	Duration	Treatment 1 (Details)	Treatment 2 (Details)	Effect Measure	Result (95% CI)	Favored Treatment
Helito, 2019	Low	KT-1000 (mm); Beighton - 6(Modified Beighton Laxity Scores)	28.85mos	anterolateral ligament reconstruction (ACL)	Control (No ALL)	Mean Difference	-0.44 (-1.11, 0.23)	NS
Helito, 2019	Low	KT-1000 (mm); Beighton - 7(Modified Beighton Laxity Scores)	28.85mos	anterolateral ligament reconstruction (ACL)	Control (No ALL)	Mean Difference	-1.62 (-2.14, -1.10)	anterolateral ligament reconstruction (ACL)
Helito, 2019	Low	KT-1000 (mm); Beighton - 8(Modified Beighton Laxity Scores)	28.85mos	anterolateral ligament reconstruction (ACL)	Control (No ALL)	Mean Difference	-0.91 (-1.59, -0.23)	anterolateral ligament reconstruction (ACL)
Helito, 2019	Low	Pivot Shift Positivity; Beighton-5 (Modified Beighton Laxity Scores)	28.85mos	anterolateral ligament reconstruction (ACL)	Control (No ALL)	RR	0.53(0.31,0.90)	
Helito, 2019	Low	Pivot Shift Positivity; Beighton-6 (Modified Beighton Laxity Scores)	28.85mos	anterolateral ligament reconstruction (ACL)	Control (No ALL)	RD	-0.37(-0.49,-0.24)	anterolateral ligament reconstruction (ACL)
Helito, 2019	Low	Pivot Shift Positivity; Beighton-7 (Modified Beighton Laxity Scores)	28.85mos	anterolateral ligament reconstruction (ACL)	Control (No ALL)	RR	0.83(0.55,1.26)	NS
Helito, 2019	Low	Pivot Shift Positivity; Beighton-8 (Modified Beighton Laxity Scores)	28.85mos	anterolateral ligament reconstruction (ACL)	Control (No ALL)	RR	0.80(0.35,1.85)	NS
Ibrahim, 2017	High	Pivot Shift Test: A/B	27 mos.	anterolateral ligament reconstruction (ACL)	Control (No ALL)	RR	1.02(0.96,1.09)	NS
Ibrahim, 2017	High	Pivot Shift Test: C/D	27 mos.	anterolateral ligament reconstruction (ACL)	Control (No ALL)	RR	0.47(0.04,5.04)	NS
Ibrahim, 2017	High	Lachman test- 0/1	27 mos.	anterolateral ligament reconstruction (ACL)	Control (No ALL)	RR	1.00(0.93,1.08)	NS
Ibrahim, 2017	High	Lachman test- 2/3	27 mos.	anterolateral ligament reconstruction (ACL)	Control (No ALL)	RR	0.94(0.14,6.44)	NS
Ibrahim, 2017	High	Anterior drawer test- 0/1	27 mos.	anterolateral ligament reconstruction (ACL)	Control (No ALL)	RR	1.00(0.91,1.10)	NS
Ibrahim, 2017	High	Anterior drawer test- 2/3	27 mos.	anterolateral ligament reconstruction (ACL)	Control (No ALL)	RR	0.94(0.20,4.46)	NS
Ibrahim, 2017	High	KT-1000; <3mm (KT-1000arthrometer at 20 lb.)	27 mos.	anterolateral ligament reconstruction (ACL)	Control (No ALL)	RR	1.08(0.93,1.25)	NS

Reference Title	Quality	Outcome Details	Duration	Treatment 1 (Details)	Treatment 2 (Details)	Effect Measure	Result (95% CI)	Favored Treatment
Ibrahim, 2017	High	KT-1000; 3-5mm (KT-1000arthrometer at 20 lb.)	27 mos.	anterolateral ligament reconstruction (ACL)	Control (No ALL)	RR	0.94(0.29,3.06)	NS
Ibrahim, 2017	High	KT-1000; >5mm (KT-1000arthrometer at 20 lb.)	27 mos.	anterolateral ligament reconstruction (ACL)	Control (No ALL)	RD	-0.06(-0.13,0.01)	NS
Ibrahim, 2017	High	KT-1000 arthrometer at 20 lb.("Instrumented Knee Laxity Testing")	27 mos.	anterolateral ligament reconstruction (ACL)	Control (No ALL)	Mean Difference	-0.5 (-0.73, -0.27)	anterolateral ligament reconstruction (ACL)
Ibrahim, 2017	High	Lysholm knee Score: Excellent/Good	27 mos.	anterolateral ligament reconstruction (ACL)	Control (No ALL)	RR	1.02(0.94,1.12)	NS
Ibrahim, 2017	High	Lysholm knee Score: Fair/Poor	27 mos.	anterolateral ligament reconstruction (ACL)	Control (No ALL)	RR	0.63(0.11,3.61)	NS
Ibrahim, 2017	High	Lysholm Knee Score	27 mos.	anterolateral ligament reconstruction (ACL)	Control (No ALL)	Mean Difference	2 (0.34, 3.66)	anterolateral ligament reconstruction (ACL)
Ibrahim, 2017	High	Tegner Activity Scale	27 mos.	anterolateral ligament reconstruction (ACL)	Control (No ALL)	Mean Difference	0 (-0.39, 0.39)	NS
Ibrahim, 2017	High	IKDC Score- Grade A/B	27 mos.	anterolateral ligament reconstruction (ACL)	Control (No ALL)	RR	0.98(0.89,1.09)	NS
Ibrahim, 2017	High	IKDC Score- Grade C/D	27 mos.	anterolateral ligament reconstruction (ACL)	Control (No ALL)	RR	1.26(0.30,5.34)	NS
Sonnery-Cottet,2021	Low	KT-1000 (mm) (side to side laxity)	2 yrs.	ACLR w/ ALL Reconstruction	Control (ACLR w/out ALL Reconstruction)	Mean Difference	0.1 (-3.37, 3.57)	NS
Sonnery-Cottet,2021	Low	IKDC Subjective Score	2 yrs.	ACLR w/ ALL Reconstruction	Control (ACLR w/out ALL Reconstruction)	Mean Difference	0.4 (-2.53, 3.33)	NS
Sonnery-Cottet,2021	Low	Lysholm Knee Score	2 yrs.	ACLR w/ ALL Reconstruction	Control (ACLR w/out ALL Reconstruction)	Mean Difference	0.7 (-1.84, 3.24)	NS
Sonnery-Cottet,2021	Low	Tegner Activity Scale	2 yrs.	ACLR w/ ALL Reconstruction	Control (ACLR w/out ALL Reconstruction)	Mean Difference	-0.3 (-0.80, 0.20)	NS
Sonnery-Cottet,2021	Low	KOOS Symptoms	2 yrs.	ACLR w/ ALL Reconstruction	Control (ACLR w/out ALL Reconstruction)	Mean Difference	0.6 (-1.99, 3.19)	NS
Sonnery-Cottet,2021	Low	KOOS ADLs	2 yrs.	ACLR w/ ALL Reconstruction	Control (ACLR w/out ALL Reconstruction)	Mean Difference	0.5 (-0.50, 1.50)	NS
Sonnery-Cottet,2021	Low	KOOS Recreation	2 yrs.	ACLR w/ ALL Reconstruction	Control (ACLR w/out ALL Reconstruction)	Mean Difference	-0.1 (-4.09, 3.89)	NS
Sonnery-Cottet,2021	Low	KOOS QOL	2 yrs.	ACLR w/ ALL Reconstruction	Control (ACLR w/out ALL Reconstruction)	Mean Difference	5.9 (0.54, 11.26)	ACLR w/ ALL Reconstruction

Reference Title	Quality	Outcome Details	Duration	Treatment 1 (Details)	Treatment 2 (Details)	Effect Measure	Result (95% CI)	Favored Treatment
Erden, 2021	Low	KT-1000 (mm) (side to side difference)	31 mos.	ACLR w/ ALL Augmentation	Control (ACLR w/out ALL Augmentation	Mean Difference	0.3 (-0.32, 0.92)	NS
Erden, 2021	Low	Lachman test- 0/1	31 mos.	ACLR w/ ALL Augmentation	Control (ACLR w/out ALL Augmentation	RR	1.01(0.77,1.33)	NS
Erden, 2021	Low	Pivot Shift Test: A/B	31 mos.	ACLR w/ ALL Augmentation	Control (ACLR w/out ALL Augmentation	RR	-0.20(-0.34,-0.06)	Control (ACLR w/out ALL Augmentation
Erden, 2021	Low	Lysholm Knee Score	31 mos.	ACLR w/ ALL Augmentation	Control (ACLR w/out ALL Augmentation	Mean Difference	0.2 (-2.92, 3.32)	NS
Erden, 2021	Low	Cincinnati Occupational Rating	31 mos.	ACLR w/ ALL Augmentation	Control (ACLR w/out ALL Augmentation	Mean Difference	-0.6 (-3.32, 2.12)	NS
Erden, 2021	Low	IKDC Subjective Score	31 mos.	ACLR w/ ALL Augmentation	Control (ACLR w/out ALL Augmentation	Mean Difference	1.1 (-1.04, 3.24)	NS
Erden, 2021	Low	IKDC Score- Grade A/B	31 mos.	ACLR w/ ALL Augmentation	Control (ACLR w/out ALL Augmentation	RR	1.10(0.07,16.82)	NS
Chen, 2021	High	Lysholm Knee Score	2 yrs.	ACLR w/ ALL Augmentation	Control (ACLR w/out ALL Augmentation	Mean Difference	0.6 (-6.60, 7.80)	NS
Chen, 2021	High	IKDC Subjective Score((change from baseline))	2 yrs.	ACLR w/ ALL Augmentation	Control (ACLR w/out ALL Augmentation	Mean Difference	-4.6 (-11.61, 2.41)	NS
Chen, 2021	High	Tegner Activity Scale ((change from baseline))	2 yrs.	ACLR w/ ALL Augmentation	Control (ACLR w/out ALL Augmentation	Mean Difference	0.2 (-0.50, 0.90)	NS
Chen, 2021	High	Marx Activity Level Scores("Marx activity rating scale")	2 yrs.	ACLR w/ ALL Augmentation	Control (ACLR w/out ALL Augmentation	Mean Difference	1.1 (-1.00, 3.20)	NS
Chen, 2021	High	ACL-RSI	2 yrs.	ACLR w/ ALL Augmentation	Control (ACLR w/out ALL Augmentation	Mean Difference	3.8 (-4.08, 11.68)	NS
Chen, 2021	High	Pivot Shift Test: A/B	2 yrs.	ACLR w/ ALL Augmentation	Control (ACLR w/out ALL Augmentation	RR	0.06(-0.01,0.12)	NS
Chen, 2021	High	Lachman test- 0/1	2 yrs.	ACLR w/ ALL Augmentation	Control (ACLR w/out ALL Augmentation	RR	0.02(-0.02,0.05)	NS
Chen, 2021	High	Anterior drawer test- 0/1	2 yrs.	ACLR w/ ALL Augmentation	Control (ACLR w/out ALL Augmentation	RR	0.00(0.00,0.00)	NS
Chen, 2021	High	KT-1000 (mm) (side to side laxity)	2 yrs.	ACLR w/ ALL Augmentation	Control (ACLR w/out ALL Augmentation	Mean Difference	-0.1 (-0.30, 0.10)	NS

Table 176: PICO 13 – ALL vs. Control – Other

Reference Title	Quality	Outcome Details	Duration	Treatment 1 (Details)	Treatment 2 (Details)	Effect Measure	Result (95% CI)	Favored Treatment
Helito, 2018	Low	Graft Diameter	.	Anterolateral ligament reconstruction	Control (No ALL)	Mean Difference	0.2 (-0.05, 0.45)	NS

Table 177: PICO 13 – ALL vs. Control – Pain

Reference Title	Quality	Outcome Details	Duration	Treatment 1 (Details)	Treatment 2 (Details)	Effect Measure	Result (95% CI)	Favored Treatment
Sonnery-Cottet,2021	Low	KOOS Pain	2 yrs.	ACLR w/ ALL Reconstruction	Control (ACLR w/out ALL Reconstruction)	Mean Difference	3.6 (0.76, 6.44)	ACLR w/ ALL Reconstruction

Table 178: PICO 13 – ALL vs. Control – Return to Activity

Reference Title	Quality	Outcome Details	Duration	Treatment 1 (Details)	Treatment 2 (Details)	Effect Measure	Result (95% CI)	Favored Treatment
Sonnery-Cottet,2018	Low	Return to preinjury activity level	37.4mos	Anterolateral ligament reconstruction: "ALLR"	Control (No ALL)	RR	0.97(0.82,1.15)	NS
Chen, 2021	High	Return to preinjury activity level	2 yrs.	ACLR w/ ALL Augmentation	Control (ACLR w/out ALL Augmentation	RR	1.74(1.05,2.88)	ACLR w/ ALL Augmentation
Chen, 2021	High	Return to competitive activity level	2 yrs.	ACLR w/ ALL Augmentation	Control (ACLR w/out ALL Augmentation	RR	1.49(1.03,2.14)	ACLR w/ ALL Augmentation

Table 179: PICO 13 – LET vs. Control – Adverse Events

Reference Title	Quality	Outcome Details	Duration	Treatment 1 (Details)	Treatment 2 (Details)	Effect Measure	Result (95% CI)	Favored Treatment
King, 2020	Low	Graft Rupture / Failure	2 yrs.	Lateral Extraarticular Tenodesis (LET)	Control (No LET)	Author Reported - Cox Proportional Hazards Regression	0.17(0.08,0.34)	BPTB
Castoldi, 2020	Moderate	Medial Meniscectomy	19.4 yrs.	Lateral Extraarticular Tenodesis(LET):"LET with Gracilis Tendon"	Control (No LET)	RR	0.43(0.20,0.91)	Lateral Extraarticular Tenodesis(LET)
Castoldi, 2020	Moderate	Medial Meniscal Repair	19.4 yrs.	Lateral Extraarticular Tenodesis(LET):"LET with Gracilis Tendon"	Control (No LET)	RR	1.11(0.30,4.12)	NS
Castoldi, 2020	Moderate	Lateral Meniscectomy	19.4 yrs.	Lateral Extraarticular Tenodesis(LET):"LET with Gracilis Tendon"	Control (No LET)	RR	1.24(0.53,2.90)	NS
Castoldi, 2020	Moderate	Lateral Meniscal Repair	19.4 yrs.	Lateral Extraarticular Tenodesis(LET):"LET with Gracilis Tendon"	Control (No LET)	RD	0.05(-0.02,0.12)	NS
Castoldi, 2020	Moderate	Graft Rupture / Failure	19.4 yrs.	Lateral Extraarticular Tenodesis(LET):"LET with Gracilis Tendon"	Control (No LET)	RR	0.46(0.18,1.19)	NS
Castoldi, 2020	Moderate	Revision ACL Surgery	19.4 yrs.	Lateral Extraarticular Tenodesis(LET):"LET with Gracilis Tendon"	Control (No LET)	RR	0.28(0.03,2.36)	NS
Castoldi, 2020	Moderate	Recurrent Instability	19.4 yrs.	Lateral Extraarticular Tenodesis(LET):"LET with Gracilis Tendon"	Control (No LET)	RR	0.47(0.13,1.70)	NS
Rowan, 2019	Low	ACL Re-injury rate	2 yrs.	Lateral Extraarticular Tenodesis(LET):"LEAT"	Control (No LET)	RD	-0.05(-0.09,-0.01)	Lateral Extraarticular Tenodesis(LET)
Rowan, 2019	Low	Revision ACL Surgery	2 yrs.	Lateral Extraarticular Tenodesis(LET):"LEAT"	Control (No LET)	RD	-0.05(-0.09,-0.01)	Lateral Extraarticular Tenodesis(LET)
Rowan, 2019	Low	Revision Surgery-LEAT performed	2 yrs.	Lateral Extraarticular Tenodesis(LET):"LEAT"	Control (No LET)	RD	-0.04(-0.07,-0.01)	Lateral Extraarticular Tenodesis(LET)
Rowan, 2019	Low	Revision Surgery-Arthroscopic surgery excl. ACLR	2 yrs.	Lateral Extraarticular Tenodesis(LET):"LEAT"	Control (No LET)	RR	0.56(0.25,1.27)	NS
Barrett, 1995	Low	Thigh Circumference	2.85 yrs.	Extra-articular iliotibial tendonitis	Control (No LET)	RR	2.38(0.23,25.00)	NS

Reference Title	Quality	Outcome Details	Duration	Treatment 1 (Details)	Treatment 2 (Details)	Effect Measure	Result (95% CI)	Favored Treatment
Barrett, 1995	Low	Graft Rupture / Failure	2.85 yrs.	Extra-articular iliotibial tendonitis	Control (No LET)	RD	0.03(-0.03,0.09)	NS
Getgood, 2020	High	Graft Rupture / Failure	24 mos.	Lateral Extraarticular Tenodesis	Control (No LET)	RR	0.39(0.12,1.32)	NS
Getgood, 2020	High	Contralateral ACL tear	24 mos.	Lateral Extraarticular Tenodesis	Control (No LET)	RR	0.91(0.21,4.04)	NS
Getgood, 2020	High	Clinical Failure	2 yrs.	lateral Extraarticular Tenodesis(LET)	Control (No LET)	Author Reported - Mantel-Haenszel test	0.38(0.21,0.52)	ACL Reconstruction + LET
Getgood, 2020	High	Graft Rupture / Failure	2 yrs.	lateral Extraarticular Tenodesis(LET)	Control (No LET)	Author Reported - Mantel-Haenszel test	0.67(0.36,0.83)	ACL Reconstruction + LET
a, 2013	High	Graft Rupture / Failure	44.6mos	"ACLR with Extraarticular MacIntosh procedure modified by Cocker-Arnold"	Control (No LET)	RD	-0.07(-0.16,0.02)	NS
VadalÃ, 2013	High	Meniscectomy	44.6mos	"ACLR with Extraarticular MacIntosh procedure modified by Cocker-Arnold"	Control (No LET)	RR	0.94(0.48,1.85)	NS
Mahmoud,2021	Low	Graft Rupture / Failure	4 yrs.	ACLR w/ Lateral Extraarticular Tenodesis	Control(isolated ACLR)	RR	0.44(0.14,1.38)	NS

Table 180: PICO 13 – LET vs. Control – Function

Reference Title	Quality	Outcome Details	Duration	Treatment 1 (Details)	Treatment 2 (Details)	Effect Measure	Result (95% CI)	Favored Treatment
King, 2020	Low	Second ACL injury (Ipsilateral ACL injury)	2 yrs.	Lateral Extraarticular Tenodesis (LET)	Control (No LET)	RD	-0.04(-0.05,-0.03)	Lateral Extraarticular Tenodesis (LET)
King, 2020	Low	Second ACL injury(Contralateral ACL injury)	2 yrs.	Lateral Extraarticular Tenodesis (LET)	Control (No LET)	RD	-0.09(-0.10,-0.07)	Lateral Extraarticular Tenodesis (LET)
King, 2020	Low	IKDC Score < 80 (<80)	2 yrs.	Lateral Extraarticular Tenodesis (LET)	Control (No LET)	RR	1.12(0.51,2.45)	NS
King, 2020	Low	IKDC Score > 90 (>90)	2 yrs.	Lateral Extraarticular Tenodesis (LET)	Control (No LET)	RR	0.97(0.78,1.21)	NS
Castoldi, 2020	Moderate	IKDC Subjective Score	19.4 yrs.	Lateral Extraarticular Tenodesis(LET):"LET with Gracilis Tendon"	Control (No LET)	Mean Difference	1.3 (-24.53, 27.13)	NS
Castoldi, 2020	Moderate	Lysholm Knee Score	19.4 yrs.	Lateral Extraarticular Tenodesis(LET):"LET with Gracilis Tendon"	Control (No LET)	Mean Difference	3.7 (-12.84, 20.24)	NS
Castoldi, 2020	Moderate	Forgotten Knee Scores	19.4 yrs.	Lateral Extraarticular Tenodesis(LET):"LET with Gracilis Tendon"	Control (No LET)	RR	0.97(0.55,1.71)	NS
Castoldi, 2020	Moderate	Lachman Soft end point	19.4 yrs.	Lateral Extraarticular Tenodesis(LET):"LET with Gracilis Tendon"	Control (No LET)	RR	0.37(0.04,3.39)	NS
Castoldi, 2020	Moderate	Pivot Shift Test: D (Grade- 3+)	19.4 yrs.	Lateral Extraarticular Tenodesis(LET):"LET with Gracilis Tendon"	Control (No LET)	RD	-0.02(-0.07,0.02)	NS
Castoldi, 2020	Moderate	Differential TELOS >10mm	19.4 yrs.	Lateral Extraarticular Tenodesis(LET):"LET with Gracilis Tendon"	Control (No LET)	RR	1.11(0.07,17.06)	NS
Rowan, 2019	Low	Lysholm Knee Score	2 yrs.	Lateral Extraarticular Tenodesis(LET):"LEAT"	Control (No LET)	Mean Difference	8 (-2.20, 18.20)	NS
Rowan, 2019	Low	Tegner Activity Scale	2 yrs.	Lateral Extraarticular Tenodesis(LET):"LEAT"	Control (No LET)	Mean Difference	0.5 (0.04, 0.96)	Lateral Extraarticular Tenodesis(LET)
Rowan, 2019	Low	Lysholm Knee Score	37.4mos	Lateral Extraarticular Tenodesis(LET):"LEAT"	Control (No LET)	Mean Difference	0.7 (-1.50, 2.90)	NS

Reference Title	Quality	Outcome Details	Duration	Treatment 1 (Details)	Treatment 2 (Details)	Effect Measure	Result (95% CI)	Favored Treatment
Barrett, 1995	Low	Lachman test 1+	2.85 yrs.	Extra-articular iliotibial tendonitis	Control (No LET)	RR	0.65(0.27,1.56)	NS
Barrett, 1995	Low	Lachman test 2+	2.85 yrs.	Extra-articular iliotibial tendonitis	Control (No LET)	RD	0.03(-0.03,0.09)	NS
Barrett, 1995	Low	Pivot Shift Test: A (Grade: 1+)	2.85 yrs.	Extra-articular iliotibial tendonitis	Control (No LET)	RR	0.24(0.03,1.93)	NS
Barrett, 1995	Low	Extension: 5 degree	2.85 yrs.	Extra-articular iliotibial tendonitis	Control (No LET)	RR	0.99(0.92,1.08)	NS
Barrett, 1995	Low	Flexion: 10 degree	2.85 yrs.	Extra-articular iliotibial tendonitis	Control (No LET)	RR	0.99(0.88,1.11)	NS
Barrett, 1995	Low	KT 1000 >5mm laxity	2.85 yrs.	Extra-articular iliotibial tendonitis	Control (No LET)	RD	0.03(-0.03,0.09)	NS
Barrett, 1995	Low	Lysholm Knee Score: Poor <64	2.85 yrs.	Extra-articular iliotibial tendonitis	Control (No LET)	RD	0.09(-0.01,0.19)	NS
Barrett, 1995	Low	Tegner Activity Scale	2.85 yrs.	Extra-articular iliotibial tendonitis	Control (No LET)	Mean Difference	-0.5 (-5.39, 4.39)	NS
Getgood, 2020	High	QI peak torque (?)	24 mos.	Lateral Extraarticular Tenodesis	Control (No LET)	Author Reported - analysis of covariance	-0.40(-4.80,4.00)	NS
Getgood, 2020	High	QI average power (?)	24 mos.	Lateral Extraarticular Tenodesis	Control (No LET)	Author Reported - analysis of covariance	0.90(-3.50,5.40)	NS
Getgood, 2020	High	HTI peak torque (?)	24 mos.	Lateral Extraarticular Tenodesis	Control (No LET)	Author Reported - analysis of covariance	2.10(-2.30,6.50)	NS
Getgood, 2020	High	HTI average power (?)	24 mos.	Lateral Extraarticular Tenodesis	Control (No LET)	Author Reported - analysis of covariance	1.70(-2.80,6.20)	NS
Getgood, 2020	High	HTI/QI ratio (involved) (?)	24 mos.	Lateral Extraarticular Tenodesis	Control (No LET)	Author Reported - analysis of covariance	0.20(-3.10,3.60)	NS

Reference Title	Quality	Outcome Details	Duration	Treatment 1 (Details)	Treatment 2 (Details)	Effect Measure	Result (95% CI)	Favored Treatment
Getgood, 2020	High	LSI (?)	24 mos.	Lateral Extraarticular Tenodesis	Control (No LET)	Author Reported - analysis of covariance	N/A	NS
Getgood, 2020	High	Marx Activity Level Scores("Marx activity rating scale")	2 yrs.	lateral Extraarticular Tenodesis(LET)	Control (No LET)	Author Reported - analysis of covariance	-1.60(-1.40,0.10)	NS
Getgood, 2020	High	ACL-QOL	2 yrs.	lateral Extraarticular Tenodesis(LET)	Control (No LET)	Author Reported - analysis of covariance	1.50(-2.70,5.80)	NS
Getgood, 2020	High	IKDC	2 yrs.	lateral Extraarticular Tenodesis(LET)	Control (No LET)	Author Reported - analysis of covariance	-0.70(-3.10,1.60)	NS
Getgood, 2020	High	KOOS Symptoms	2 yrs.	lateral Extraarticular Tenodesis(LET)	Control (No LET)	Author Reported - analysis of covariance	-0.10(-2.40,2.20)	NS
Getgood, 2020	High	KOOS ADLs	2 yrs.	lateral Extraarticular Tenodesis(LET)	Control (No LET)	Author Reported - analysis of covariance	0.20(-0.90,1.30)	NS
Getgood, 2020	High	KOOS Recreation	2 yrs.	lateral Extraarticular Tenodesis(LET)	Control (No LET)	Author Reported - analysis of covariance	0.20(-3.20,2.60)	NS
Getgood, 2020	High	KOOS QOL	2 yrs.	lateral Extraarticular Tenodesis(LET)	Control (No LET)	Author Reported - analysis of covariance	-1.10(-4.70,2.50)	NS
VadalÃ, 2013	High	Pivot Shift Test: A/B	44.6mos	"ACLR with Extraarticular MacIntosh procedure modified by Cocker-Arnold"	Control (No LET)	RR	0.14(0.01,0.27)	"ACLR with Extraarticular MacIntosh procedure modified by Cocker-Arnold"
VadalÃ, 2013	High	Lachman test-Negative	44.6mos	"ACLR with Extraarticular MacIntosh procedure modified by Cocker-Arnold"	Control (No LET)	RR	0.83(0.56,1.23)	NS

Reference Title	Quality	Outcome Details	Duration	Treatment 1 (Details)	Treatment 2 (Details)	Effect Measure	Result (95% CI)	Favored Treatment
VadalÃ, 2013	High	Lachman test- +1	44.6mos	"ACLR with Extraarticular MacIntosh procedure modified by Cocker-Arnold"	Control (No LET)	RR	1.43(0.68,2.99)	NS
VadalÃ, 2013	High	Tegner Activity Scale	44.6mos	"ACLR with Extraarticular MacIntosh procedure modified by Cocker-Arnold"	Control (No LET)	Mean Difference	0.8 (0.14, 1.46)	"ACLR with Extraarticular MacIntosh procedure modified by Cocker-Arnold"
VadalÃ, 2013	High	Lysholm knee Score	44.6mos	"ACLR with Extraarticular MacIntosh procedure modified by Cocker-Arnold"	Control (No LET)	Mean Difference	1.3 (-1.59, 4.19)	NS
VadalÃ, 2013	High	IKDC Subjective Score	44.6mos	"ACLR with Extraarticular MacIntosh procedure modified by Cocker-Arnold"	Control (No LET)	Mean Difference	2 (1.13, 2.87)	"ACLR with Extraarticular MacIntosh procedure modified by Cocker-Arnold"
VadalÃ, 2013	High	IKDC Objective Score	44.6mos	"ACLR with Extraarticular MacIntosh procedure modified by Cocker-Arnold"	Control (No LET)	Mean Difference	0.5 (-1.27, 2.27)	NS
VadalÃ, 2013	High	KT-1000 (mm)	44.6mos	"ACLR with Extraarticular MacIntosh procedure modified by Cocker-Arnold"	Control (No LET)	Mean Difference	-0.1 (-0.54, 0.34)	NS
Mahmoud,2021	Low	Lysholm Knee Score ((change from baseline))	4 yrs.	ACLR w/ Lateral Extraarticular Tenodesis	Control(isolated ACLR)	Author Reported - Student's T Test	N/A	NS
Mahmoud,2021	Low	IKDC Subjective Score((change from baseline))	4 yrs.	ACLR w/ Lateral Extraarticular Tenodesis	Control(isolated ACLR)	Author Reported - Student's T Test	N/A	NS
Mahmoud,2021	Low	Oxford Knee Score ((change from baseline))	4 yrs.	ACLR w/ Lateral Extraarticular Tenodesis	Control(isolated ACLR)	Author Reported - Student's T Test	N/A	NS
Mahmoud,2021	Low	Tegner Activity Scale ((change from baseline))	4 yrs.	ACLR w/ Lateral Extraarticular Tenodesis	Control(isolated ACLR)	Author Reported - Student's T Test	N/A	NS

Table 181: PICO 13 – LET vs. Control – OA Progression

Reference Title	Quality	Outcome Details	Duration	Treatment 1 (Details)	Treatment 2 (Details)	Effect Measure	Result (95% CI)	Favored Treatment
Castoldi, 2020	Moderate	Medial tibiofemoral OA	19.4 yrs.	Lateral Extra-articular tenodesis (LET): "LET with gracilis tendon"	Control (No LET)	RR	0.92(0.63,1.34)	NS
Castoldi, 2020	Moderate	Lateral tibiofemoral OA	19.4 yrs.	Lateral Extra-articular tenodesis (LET): "LET with gracilis tendon"	Control (No LET)	RR	2.72(1.16,6.36)	Control (No LET)
Castoldi, 2020	Moderate	Patellofemoral OA	19.4 yrs.	Lateral Extra-articular tenodesis (LET): "LET with gracilis tendon"	Control (No LET)	RR	1.19(0.79,1.81)	NS

Table 182: PICO 13 – LET vs. Control – Other

Reference Title	Quality	Outcome Details	Duration	Treatment 1 (Details)	Treatment 2 (Details)	Effect Measure	Result (95% CI)	Favored Treatment
Barrett, 1995	Low	Screw removal	38 mos.	Extra-articular iliotibial tendonitis	Control (No LET)	RR	2.38(0.23,25.00)	NS

Table 183: PICO 13 – LET vs. Control – Pain

Reference Title	Quality	Outcome Details	Duration	Treatment 1 (Details)	Treatment 2 (Details)	Effect Measure	Result (95% CI)	Favored Treatment
Getgood, 2020	High	Pain and/or stiffness	24 mos.	Lateral extra-articular tenodesis	Control (No LET)	RR	4.11(1.00,16.89)	NS
Getgood, 2020	High	P4 Pain Score (?)	24 mos.	Lateral extra-articular tenodesis	Control (No LET)	Author Reported - analysis of covariance	N/A	NS
Getgood, 2020	High	P4 Pain Score (?)	2 yrs.	lateral extra-articular tenodesis (LET)	Control (No LET)	Author Reported - analysis of covariance	-0.20(-1.10,0.70)	NS
Getgood, 2020	High	KOOS Pain	2 yrs.	lateral extra-articular tenodesis (LET)	Control (No LET)	Author Reported - analysis of covariance	-0.30(-2.00,1.40)	NS
VadalÃ, 2013	High	VSA Pain	44.6mos	"ACLR with extra-articular MacIntosh procedure modified by Cocker-Arnold"	Control (No LET)	Mean Difference	0.04 (-0.40, 0.48)	NS

Table 184: PICO 13 – LET vs. Control – Return to Activity

Reference Title	Quality	Outcome Details	Duration	Treatment 1 (Details)	Treatment 2 (Details)	Effect Measure	Result (95% CI)	Favored Treatment
King, 2020	Low	Return to sport	2 yrs.	Lateral Extraarticular Tenodesis (LET)	Control (No LET)	RR	1.13(0.93,1.38)	NS
Castoldi, 2020	Moderate	Sports Participation-Pivoting Sports	19.4 yrs.	Lateral Extra-articular tenodesis (LET): "LET with gracilis tendon"	Control (No LET)	RR	1.03(0.76,1.39)	NS
Castoldi, 2020	Moderate	Sports Participation-Non pivoting Sports	19.4 yrs.	Lateral Extra-articular tenodesis (LET): "LET with gracilis tendon"	Control (No LET)	RR	1.00(0.48,2.10)	NS
Castoldi, 2020	Moderate	No sports	19.4 yrs.	Lateral Extra-articular tenodesis (LET): "LET with gracilis tendon"	Control (No LET)	RR	0.74(0.13,4.18)	NS
Rowan, 2019	Low	Time to return to Sports (months)	2 yrs.	Lateral Extra-articular tenodesis (LET):"LEAT"	Control (No LET)	Mean Difference	-2 (-10.49, 6.49)	NS
Rowan, 2019	Low	Level of sport returned to after ACLR-Higher/same level	2 yrs.	Lateral Extra-articular tenodesis (LET):"LEAT"	Control (No LET)	RR	1.04(0.93,1.16)	NS
Rowan, 2019	Low	Level of sport returned to after ACLR- Lower level/did not return to sport	2 yrs.	Lateral Extra-articular tenodesis (LET):"LEAT"	Control (No LET)	RR	0.72(0.25,2.07)	NS
Sonnery-Cottet,2017	Low	Return to preinjury activity level	38.4mos	Extra-articular iliotibial tendonitis	Control (No LET)	Author Reported - analysis of variance for heterogeneity(Gaussian variables), the Kruskal-Wallis test (ordinal variables or non-Gaussian variables)	1.94(1.17,3.22)	ACL Reconstruction with ALL

Table 185: PICO 14 – Repair vs. Reconstruction – Adverse Events

Reference Title	Quality	Outcome Details	Duration	Treatment 1 (Details)	Treatment 2 (Details)	Effect Measure	Result (95% CI)	Favored Treatment
Sporsheim,2019	High	Revision ACL Surgery	30 yrs.	Primary ACL Repair	ACL Reconstruction(BPTB)	RR	12.49(1.69,92.47)	ACL Reconstruction(BPTB)
Sporsheim,2019	High	Revision ACL Surgery	30 yrs.	ACL Repair with Augmentation	ACL Reconstruction(BPTB)	RR	9.18(1.21,69.82)	ACL Reconstruction(BPTB)
Drogset,2006	High	Revision ACL Surgery	16 yrs.	Primary ACL Repair	ACL Reconstruction(BPTB)	RR	10.25(1.38,75.92)	ACL Reconstruction(BPTB)
Drogset,2006	High	Revision ACL Surgery	16 yrs.	ACL Repair with Augmentation	ACL Reconstruction(BPTB)	RR	3.90(0.46,33.48)	NS
Murray, 2020	High	Revision ACL Surgery	2 yrs.	Bridge-Enhanced ACL Repair(BEAR)	ACL Reconstruction	RR	2.46(0.56,10.76)	NS
Kosters,2020	High	Graft Rupture / Failure(Failure (ATT > 3mm))	2 yrs.	ACL Repair with Dynamic Intraligamentary Stabilization	ACL Reconstruction(single bundle 4strand ST autograft)	RR	1.30(0.45,3.77)	NS
Hoogeslad,2019	High	Graft Rupture / Failure	2 yrs.	ACL Repair with Dynamic Intraligamentary Stabilization	ACL Reconstruction(Hamstring - ST)	RR	0.46(0.09,2.24)	NS
Hoogeslad,2019	High	Contralateral ACL Rupture / Failure	2 yrs.	ACL Repair with Dynamic Intraligamentary Stabilization	ACL Reconstruction(Hamstring - ST)	RD	0.09(-0.03,0.20)	NS
Hoogeslad,2019	High	Repeat Surgery	2 yrs.	ACL Repair with Dynamic Intraligamentary Stabilization	ACL Reconstruction(Hamstring - ST)	RR	1.52(0.41,5.60)	NS
Hoogeslad,2019	High	Abnormal Symptoms(Pain, swelling, extension deficits)	2 yrs.	ACL Repair with Dynamic Intraligamentary Stabilization	ACL Reconstruction(Hamstring - ST)	RR	1.14(0.35,3.69)	NS
Hoogeslad,2019	High	Other Adverse Events	2 yrs.	ACL Repair with Dynamic Intraligamentary Stabilization	ACL Reconstruction(Hamstring - ST)	RR	2.74(0.31,24.34)	NS

Reference Title	Quality	Outcome Details	Duration	Treatment 1 (Details)	Treatment 2 (Details)	Effect Measure	Result (95% CI)	Favored Treatment
Gagliardi,2019	Low	Graft Rupture / Failure	3 yrs.	ACL Repair with Suture Ligament Augmentation: SLA	ACL Reconstruction(Quadriceps Tendon - Patellar Bone): QPA	Author Reported -Multivariate Cox Proportional Hazards Regression	10.66(3.45,32.92)	ACL Reconstruction
Bieri, 2017	Low	Infection	2 yrs.	ACL Repair with Dynamic Intraligamentary Stabilization	ACL Reconstruction	RR	2.00(0.19,21.40)	NS
Bieri, 2017	Low	Arthroscopic Surgery	2 yrs.	ACL Repair with Dynamic Intraligamentary Stabilization	ACL Reconstruction	RR	0.90(0.40,2.04)	NS
Bieri, 2017	Low	Hardware Removal	2 yrs.	ACL Repair with Dynamic Intraligamentary Stabilization	ACL Reconstruction	RR	7.00(0.89,54.95)	NS
Bieri, 2017	Low	Revision ACL Surgery	2 yrs.	ACL Repair with Dynamic Intraligamentary Stabilization	ACL Reconstruction	RR	1.25(0.36,4.40)	NS
Achtnich,2016	Low	Graft Rupture / Failure	28 mos.	ACL Repair: Refixation with Suture Lasso SD	ACL Reconstruction(Hamstring - ST)	RD	0.08(-0.01,0.16)	NS
Achtnich,2016	Low	Revision ACL Surgery	28 mos.	ACL Repair: Refixation with Suture Lasso SD	ACL Reconstruction(Hamstring - ST)	RD	0.10(0.01,0.19)	ACL Reconstruction(Hamstring - ST)
Demirag,2012	Moderate	Tibial Tunnel Enlargement	2 yrs.	ACL Repair(Augmentation w/HS Autograft)	ACL Reconstruction	Mean Difference	-0.22 (-0.54, 0.10)	NS
Demirag,2012	Moderate	Femoral Tunnel Enlargement	2 yrs.	ACL Repair(Augmentation w/HS Autograft)	ACL Reconstruction	Mean Difference	-0.15 (-0.48, 0.18)	NS

Table 186: PICO 14 – Repair vs. Reconstruction – Composite

Reference Title	Quality	Outcome Details	Duration	Treatment 1 (Details)	Treatment 2 (Details)	Effect Measure	Result (95% CI)	Favored Treatment
Sporsheim,2019	High	Lysholm Knee Score	30 yrs.	Primary ACL Repair	ACL Reconstruction(BPTB)	Mean Difference	-6 (-16.63, 4.63)	NS
Sporsheim,2019	High	Lysholm Knee Score	30 yrs.	ACL Repair with Augmentation	ACL Reconstruction(BPTB)	Mean Difference	-3 (-14.40, 8.40)	NS
Kosters,2020	High	Lysholm Knee Score	2 yrs.	ACL Repair with Dynamic Intraligamentary Stabilization	ACL Reconstruction(single bundle 4strand ST autograft)	Author Reported - MW U Test	N/A	NS
Gagliardi,2019	Low	Lysholm Knee Score	3 yrs.	ACL Repair with Suture Ligament Augmentation: SLA	ACL Reconstruction(Quadriceps Tendon - Patellar Bone): QPA	Author Reported - Wilcoxon Rank	N/A	NS
Demirag,2012	Moderate	Lysholm Knee Score	2 yrs.	ACL Repair(Augmentation w/HS Autograft)	ACL Reconstruction	Mean Difference	-0.37 (-3.93, 3.19)	NS

Table 187: PICO 14 – Repair vs. Reconstruction – Function

Reference Title	Quality	Outcome Details	Duration	Treatment 1 (Details)	Treatment 2 (Details)	Effect Measure	Result (95% CI)	Favored Treatment
Sporsheim,2019	High	Extension Deficit < 5°	30 yrs.	Primary ACL Repair	ACL Reconstruction(BPTB)	RR	0.86(0.48,1.54)	NS
Sporsheim,2019	High	Extension Deficit > 5°	30 yrs.	Primary ACL Repair	ACL Reconstruction(BPTB)	RR	0.46(0.15,1.40)	NS
Sporsheim,2019	High	Flexion Deficit < 10°	30 yrs.	Primary ACL Repair	ACL Reconstruction(BPTB)	RR	0.65(0.39,1.09)	NS
Sporsheim,2019	High	Flexion Deficit > 10°	30 yrs.	Primary ACL Repair	ACL Reconstruction(BPTB)	RR	1.56(0.27,8.95)	NS
Sporsheim,2019	High	Pivot-Shift Test Grade0/1	30 yrs.	Primary ACL Repair	ACL Reconstruction(BPTB)	RR	0.67(0.41,1.09)	NS
Sporsheim,2019	High	Pivot-Shift Test Grade2/3	30 yrs.	Primary ACL Repair	ACL Reconstruction(BPTB)	RD	-0.02(-0.06,0.02)	NS
Sporsheim,2019	High	Lachman Test Grade0/1	30 yrs.	Primary ACL Repair	ACL Reconstruction(BPTB)	RR	0.77(0.47,1.25)	NS
Sporsheim,2019	High	Lachman Test Grade2/3	30 yrs.	Primary ACL Repair	ACL Reconstruction(BPTB)	RR	0.35(0.04,3.22)	NS
Sporsheim,2019	High	Side to Side Difference (< 3 mm)(KT-1000)	30 yrs.	Primary ACL Repair	ACL Reconstruction(BPTB)	RR	1.14(0.55,2.33)	NS
Sporsheim,2019	High	Side to Side Difference (> 3 mm)(KT-1000)	30 yrs.	Primary ACL Repair	ACL Reconstruction(BPTB)	RR	0.42(0.18,0.99)	Primary ACL Repair
Sporsheim,2019	High	Tegner Activity Scale	30 yrs.	Primary ACL Repair	ACL Reconstruction(BPTB)	Author Reported - Kruskal Wallis /median test	N/A	NS
Sporsheim,2019	High	Extension Deficit < 5°	30 yrs.	ACL Repair with Augmentation	ACL Reconstruction(BPTB)	RR	1.02(0.59,1.76)	NS
Sporsheim,2019	High	Extension Deficit > 5°	30 yrs.	ACL Repair with Augmentation	ACL Reconstruction(BPTB)	RR	0.34(0.10,1.18)	NS
Sporsheim,2019	High	Flexion Deficit < 10°	30 yrs.	ACL Repair with Augmentation	ACL Reconstruction(BPTB)	RR	0.77(0.48,1.22)	NS
Sporsheim,2019	High	Flexion Deficit > 10°	30 yrs.	ACL Repair with Augmentation	ACL Reconstruction(BPTB)	RR	1.02(0.15,6.96)	NS

Reference Title	Quality	Outcome Details	Duration	Treatment 1 (Details)	Treatment 2 (Details)	Effect Measure	Result (95% CI)	Favored Treatment
Sporsheim,2019	High	Pivot-Shift Test Grade0/1	30 yrs.	ACL Repair with Augmentation	ACL Reconstruction(BPTB)	RR	0.69(0.43,1.12)	NS
Sporsheim,2019	High	Pivot-Shift Test Grade2/3	30 yrs.	ACL Repair with Augmentation	ACL Reconstruction(BPTB)	RR	2.04(0.19,21.79)	NS
Sporsheim,2019	High	Lachman Test Grade0/1	30 yrs.	ACL Repair with Augmentation	ACL Reconstruction(BPTB)	RR	0.75(0.46,1.23)	NS
Sporsheim,2019	High	Lachman Test Grade2/3	30 yrs.	ACL Repair with Augmentation	ACL Reconstruction(BPTB)	RR	1.02(0.22,4.82)	NS
Sporsheim,2019	High	Side to Side Difference (< 3 mm)(KT-1000)	30 yrs.	ACL Repair with Augmentation	ACL Reconstruction(BPTB)	RR	1.21(0.60,2.43)	NS
Sporsheim,2019	High	Side to Side Difference (> 3 mm)(KT-1000)	30 yrs.	ACL Repair with Augmentation	ACL Reconstruction(BPTB)	RR	0.41(0.17,0.97)	ACL Repair with Augmentation
Sporsheim,2019	High	Tegner Activity Scale	30 yrs.	ACL Repair with Augmentation	ACL Reconstruction(BPTB)	Author Reported - Kruskal Wallis /median test	N/A	NS
Drogset,2006	High	Pivot-Shift Test Grade0/1	5 yrs.	Primary ACL Repair	ACL Reconstruction(BPTB)	RR	0.65(0.46,0.93)	ACL Reconstruction(BPTB)
Drogset,2006	High	Pivot-Shift Test Grade2/3	5 yrs.	Primary ACL Repair	ACL Reconstruction(BPTB)	RR	0.56(0.41,0.76)	Primary ACL Repair
Drogset,2006	High	Pivot-Shift Test Grade0/1	16 yrs.	Primary ACL Repair	ACL Reconstruction(BPTB)	RR	0.87(0.72,1.05)	NS
Drogset,2006	High	Pivot-Shift Test Grade2/3	16 yrs.	Primary ACL Repair	ACL Reconstruction(BPTB)	RR	3.13(0.65,14.91)	NS
Drogset,2006	High	Lachman Test Grade0/1	5 yrs.	Primary ACL Repair	ACL Reconstruction(BPTB)	RR	0.53(0.39,0.74)	ACL Reconstruction(BPTB)
Drogset,2006	High	Lachman Test Grade2/3	5 yrs.	Primary ACL Repair	ACL Reconstruction(BPTB)	RR	3.86(1.85,8.03)	ACL Reconstruction(BPTB)
Drogset,2006	High	Lachman Test Grade0/1	16 yrs.	Primary ACL Repair	ACL Reconstruction(BPTB)	RR	0.93(0.75,1.14)	NS
Drogset,2006	High	Lachman Test Grade2/3	16 yrs.	Primary ACL Repair	ACL Reconstruction(BPTB)	RR	1.56(0.46,5.28)	NS

Reference Title	Quality	Outcome Details	Duration	Treatment 1 (Details)	Treatment 2 (Details)	Effect Measure	Result (95% CI)	Favored Treatment
Drogset,2006	High	Side to Side Difference (< 3 mm)(KT-1000)	5 yrs.	Primary ACL Repair	ACL Reconstruction(BPTB)	RR	0.43(0.28,0.68)	ACL Reconstruction(BPTB)
Drogset,2006	High	Side to Side Difference (> 3 mm)(KT-1000)	5 yrs.	Primary ACL Repair	ACL Reconstruction(BPTB)	RR	3.16(1.75,5.72)	ACL Reconstruction(BPTB)
Drogset,2006	High	Side to Side Difference (< 3 mm)(KT-1000)	16 yrs.	Primary ACL Repair	ACL Reconstruction(BPTB)	RR	0.74(0.49,1.14)	NS
Drogset,2006	High	Side to Side Difference (> 3 mm)(KT-1000)	16 yrs.	Primary ACL Repair	ACL Reconstruction(BPTB)	RR	1.59(0.83,3.04)	NS
Drogset,2006	High	Pivot-Shift Test Grade0/1	5 yrs.	ACL Repair with Augmentation	ACL Reconstruction(BPTB)	RR	0.70(0.55,0.89)	ACL Reconstruction(BPTB)
Drogset,2006	High	Pivot-Shift Test Grade2/3	5 yrs.	ACL Repair with Augmentation	ACL Reconstruction(BPTB)	RR	4.29(1.54,11.91)	ACL Reconstruction(BPTB)
Drogset,2006	High	Pivot-Shift Test Grade0/1	16 yrs.	ACL Repair with Augmentation	ACL Reconstruction(BPTB)	RR	0.51(0.35,0.75)	ACL Reconstruction(BPTB)
Drogset,2006	High	Pivot-Shift Test Grade2/3	16 yrs.	ACL Repair with Augmentation	ACL Reconstruction(BPTB)	RR	9.05(2.25,36.38)	ACL Reconstruction(BPTB)
Drogset,2006	High	Lachman Test Grade0/1	5 yrs.	ACL Repair with Augmentation	ACL Reconstruction(BPTB)	RR	0.83(0.67,1.04)	NS
Drogset,2006	High	Lachman Test Grade2/3	5 yrs.	ACL Repair with Augmentation	ACL Reconstruction(BPTB)	RR	2.04(0.88,4.71)	NS
Drogset,2006	High	Lachman Test Grade0/1	16 yrs.	ACL Repair with Augmentation	ACL Reconstruction(BPTB)	RR	0.74(0.55,0.99)	ACL Reconstruction(BPTB)
Drogset,2006	High	Lachman Test Grade2/3	16 yrs.	ACL Repair with Augmentation	ACL Reconstruction(BPTB)	RR	4.02(1.22,13.26)	ACL Reconstruction(BPTB)
Drogset,2006	High	Side to Side Difference (< 3 mm)(KT-1000)	5 yrs.	ACL Repair with Augmentation	ACL Reconstruction(BPTB)	RR	0.66(0.48,0.91)	ACL Reconstruction(BPTB)
Drogset,2006	High	Side to Side Difference (> 3 mm)(KT-1000)	5 yrs.	ACL Repair with Augmentation	ACL Reconstruction(BPTB)	RR	2.29(1.21,4.32)	ACL Reconstruction(BPTB)

Reference Title	Quality	Outcome Details	Duration	Treatment 1 (Details)	Treatment 2 (Details)	Effect Measure	Result (95% CI)	Favored Treatment
Drogset,2006	High	Side to Side Difference (< 3 mm)(KT-1000)	16 yrs.	ACL Repair with Augmentation	ACL Reconstruction(BPTB)	RR	0.89(0.62,1.28)	NS
Drogset,2006	High	Side to Side Difference (> 3 mm)(KT-1000)	16 yrs.	ACL Repair with Augmentation	ACL Reconstruction(BPTB)	RR	1.25(0.62,2.51)	NS
Drogset,2006	High	Extension Deficit < 5°	5 yrs.	Primary ACL Repair	ACL Reconstruction(BPTB)	RR	1.14(0.99,1.32)	NS
Drogset,2006	High	Extension Deficit > 5°	5 yrs.	Primary ACL Repair	ACL Reconstruction(BPTB)	RR	0.29(0.07,1.30)	NS
Drogset,2006	High	Extension Deficit < 5°	16 yrs.	Primary ACL Repair	ACL Reconstruction(BPTB)	RR	0.91(0.67,1.24)	NS
Drogset,2006	High	Extension Deficit > 5°	16 yrs.	Primary ACL Repair	ACL Reconstruction(BPTB)	RR	1.30(0.56,3.01)	NS
Drogset,2006	High	Extension Deficit < 5°	5 yrs.	ACL Repair with Augmentation	ACL Reconstruction(BPTB)	RR	1.03(0.86,1.23)	NS
Drogset,2006	High	Extension Deficit > 5°	5 yrs.	ACL Repair with Augmentation	ACL Reconstruction(BPTB)	RR	0.86(0.32,2.27)	NS
Drogset,2006	High	Extension Deficit < 5°	16 yrs.	ACL Repair with Augmentation	ACL Reconstruction(BPTB)	RR	0.95(0.72,1.26)	NS
Drogset,2006	High	Extension Deficit > 5°	16 yrs.	ACL Repair with Augmentation	ACL Reconstruction(BPTB)	RR	1.17(0.50,2.73)	NS
Drogset,2006	High	Flexion Deficit < 10°	5 yrs.	Primary ACL Repair	ACL Reconstruction(BPTB)	RR	1.03(0.89,1.19)	NS
Drogset,2006	High	Flexion Deficit > 10°	5 yrs.	Primary ACL Repair	ACL Reconstruction(BPTB)	RR	0.78(0.24,2.58)	NS
Drogset,2006	High	Flexion Deficit < 10°	16 yrs.	Primary ACL Repair	ACL Reconstruction(BPTB)	RR	1.08(0.91,1.28)	NS
Drogset,2006	High	Flexion Deficit > 10°	16 yrs.	Primary ACL Repair	ACL Reconstruction(BPTB)	RR	0.52(0.11,2.47)	NS
Drogset,2006	High	Flexion Deficit < 10°	5 yrs.	ACL Repair with Augmentation	ACL Reconstruction(BPTB)	RR	1.01(0.86,1.17)	NS
Drogset,2006	High	Flexion Deficit > 10°	5 yrs.	ACL Repair with Augmentation	ACL Reconstruction(BPTB)	RR	0.95(0.31,2.90)	NS
Drogset,2006	High	Flexion Deficit < 10°	16 yrs.	ACL Repair with Augmentation	ACL Reconstruction(BPTB)	RR	1.09(0.92,1.29)	NS
Drogset,2006	High	Flexion Deficit > 10°	16 yrs.	ACL Repair with Augmentation	ACL Reconstruction(BPTB)	RR	0.47(0.10,2.23)	NS

Reference Title	Quality	Outcome Details	Duration	Treatment 1 (Details)	Treatment 2 (Details)	Effect Measure	Result (95% CI)	Favored Treatment
Murray, 2020	High	IKDC Subjective Score	2 yrs.	Bridge-Enhanced ACL Repair(BEAR)	ACL Reconstruction	Mean Difference	4.1 (-1.42, 9.62)	NS
Murray, 2020	High	Side to Side Difference (mm)(KT-1000)	2 yrs.	Bridge-Enhanced ACL Repair(BEAR)	ACL Reconstruction	Mean Difference	-0.16 (-1.42, 1.10)	NS
Murray, 2020	High	Lachman Test Grade0/1	2 yrs.	Bridge-Enhanced ACL Repair(BEAR)	ACL Reconstruction	RR	1.05(0.95,1.17)	NS
Murray, 2020	High	Lachman Test Grade2/3	2 yrs.	Bridge-Enhanced ACL Repair(BEAR)	ACL Reconstruction	RR	0.27(0.03,2.83)	NS
Murray, 2020	High	Pivot-Shift Test Grade0/1	2 yrs.	Bridge-Enhanced ACL Repair(BEAR)	ACL Reconstruction	RR	0.00(0.00,0.00)	NS
Murray, 2020	High	Pivot-Shift Test Grade2/3	2 yrs.	Bridge-Enhanced ACL Repair(BEAR)	ACL Reconstruction	RD	0.00(0.00,0.00)	NS
Murray, 2020	High	IKDC (Objective) A/B	2 yrs.	Bridge-Enhanced ACL Repair(BEAR)	ACL Reconstruction	RR	1.00(0.84,1.19)	NS
Murray, 2020	High	IKDC (Objective) C/D	2 yrs.	Bridge-Enhanced ACL Repair(BEAR)	ACL Reconstruction	RR	1.00(0.27,3.67)	NS
Murray, 2020	High	Strength: Hamstring(% of contralateral side)	2 yrs.	Bridge-Enhanced ACL Repair(BEAR)	ACL Reconstruction	Mean Difference	35 (26.31, 43.69)	Bridge-Enhanced ACL Repair(BEAR)
Murray, 2020	High	Strength: Quadriceps(% of contralateral side)	2 yrs.	Bridge-Enhanced ACL Repair(BEAR)	ACL Reconstruction	Mean Difference	-1.4 (-6.76, 3.96)	NS
Murray, 2020	High	Single Leg Hop (% of non-op side)	2 yrs.	Bridge-Enhanced ACL Repair(BEAR)	ACL Reconstruction	Mean Difference	-2.5 (-9.24, 4.24)	NS
Murray, 2020	High	6-m Timed (%-op side)	2 yrs.	Bridge-Enhanced ACL Repair(BEAR)	ACL Reconstruction	Mean Difference	5.9 (1.58, 10.22)	Bridge-Enhanced ACL Repair(BEAR)
Kosters,2020	High	Side to Side Difference (mm)(Anterior Tibial Translation)	2 yrs.	ACL Repair with Dynamic Intraligamentary Stabilization	ACL Reconstruction(single bundle 4strand ST autograft)	Mean Difference	1 (0.44, 1.56)	ACL Reconstruction(single bundle 4strand ST autograft)
Kosters,2020	High	Tegner Activity Scale	2 yrs.	ACL Repair with Dynamic Intraligamentary Stabilization	ACL Reconstruction(single bundle 4strand ST autograft)	Author Reported - MW U Test	N/A	NS

Reference Title	Quality	Outcome Details	Duration	Treatment 1 (Details)	Treatment 2 (Details)	Effect Measure	Result (95% CI)	Favored Treatment
Kosters,2020	High	IKDC Subjective Score	2 yrs.	ACL Repair with Dynamic Intraligamentary Stabilization	ACL Reconstruction(single bundle 4strand ST autograft)	Author Reported - MW U Test	N/A	NS
Hoogeslad,2019	High	IKDC (Objective)	2 yrs.	ACL Repair with Dynamic Intraligamentary Stabilization	ACL Reconstruction(Hamstring - ST)	Author Reported - MW U Test	N/A	NS
Hoogeslad,2019	High	IKDC Subjective Score	2 yrs.	ACL Repair with Dynamic Intraligamentary Stabilization	ACL Reconstruction(Hamstring - ST)	Author Reported - MW U Test	N/A	NS
Hoogeslad,2019	High	KOOS (Symptoms)	2 yrs.	ACL Repair with Dynamic Intraligamentary Stabilization	ACL Reconstruction(Hamstring - ST)	Author Reported - MW U Test	N/A	NS
Hoogeslad,2019	High	KOOS (ADL)	2 yrs.	ACL Repair with Dynamic Intraligamentary Stabilization	ACL Reconstruction(Hamstring - ST)	Author Reported - MW U Test	N/A	NS
Hoogeslad,2019	High	KOOS (Sports)	2 yrs.	ACL Repair with Dynamic Intraligamentary Stabilization	ACL Reconstruction(Hamstring - ST)	Author Reported - MW U Test	N/A	NS
Hoogeslad,2019	High	Tegner Activity Scale	2 yrs.	ACL Repair with Dynamic Intraligamentary Stabilization	ACL Reconstruction(Hamstring - ST)	Author Reported - MW U Test	N/A	NS
Hoogeslad,2019	High	Side to Side Difference (mm)(Anterior Tibial Translation)	2 yrs.	ACL Repair with Dynamic Intraligamentary Stabilization	ACL Reconstruction(Hamstring - ST)	Author Reported - MW U Test	N/A	NS
Hoogeslad,2019	High	Limb Symmetry Index- Force Ratio(Quadriceps at 60deg/s)	2 yrs.	ACL Repair with Dynamic Intraligamentary Stabilization	ACL Reconstruction(Hamstring - ST)	Author Reported - MW U Test	N/A	NS
Hoogeslad,2019	High	Limb Symmetry Index- Force Ratio(Quadriceps at 180deg/s)	2 yrs.	ACL Repair with Dynamic Intraligamentary Stabilization	ACL Reconstruction(Hamstring - ST)	Author Reported - MW U Test	N/A	NS

Reference Title	Quality	Outcome Details	Duration	Treatment 1 (Details)	Treatment 2 (Details)	Effect Measure	Result (95% CI)	Favored Treatment
Hoogeslad,2019	High	Limb Symmetry Index- Force Ratio(Quadriceps at 300deg/s)	2 yrs.	ACL Repair with Dynamic Intraligamentary Stabilization	ACL Reconstruction(Hamstring - ST)	Author Reported - MW U Test	N/A	NS
Hoogeslad,2019	High	Limb Symmetry Index- Force Ratio(Hamstrings at 60deg/s)	2 yrs.	ACL Repair with Dynamic Intraligamentary Stabilization	ACL Reconstruction(Hamstring - ST)	Author Reported - MW U Test	N/A	NS
Hoogeslad,2019	High	Limb Symmetry Index- Force Ratio(Hamstrings at 180deg/s)	2 yrs.	ACL Repair with Dynamic Intraligamentary Stabilization	ACL Reconstruction(Hamstring - ST)	Author Reported - MW U Test	N/A	NS
Hoogeslad,2019	High	Limb Symmetry Index- Force Ratio(Hamstrings at 300deg/s)	2 yrs.	ACL Repair with Dynamic Intraligamentary Stabilization	ACL Reconstruction(Hamstring - ST)	Author Reported - MW U Test	N/A	NS
Hoogeslad,2019	High	Limb Symmetry Index- Hop (Single)	2 yrs.	ACL Repair with Dynamic Intraligamentary Stabilization	ACL Reconstruction(Hamstring - ST)	Author Reported - MW U Test	N/A	NS
Hoogeslad,2019	High	Limb Symmetry Index- Hop (Double)	2 yrs.	ACL Repair with Dynamic Intraligamentary Stabilization	ACL Reconstruction(Hamstring - ST)	Author Reported - MW U Test	N/A	NS
Hoogeslad,2019	High	Limb Symmetry Index- Hop (Side)	2 yrs.	ACL Repair with Dynamic Intraligamentary Stabilization	ACL Reconstruction(Hamstring - ST)	Author Reported - MW U Test	N/A	NS
Gagliardi,2019	Low	IKDC (Objective)	3 yrs.	ACL Repair with Suture Ligament Augmentation: SLA	ACL Reconstruction(Quadriceps Tendon - Patellar Bone): QPA	Author Reported - Wilcoxon Rank	N/A	NS
Achtnich,2016	Low	IKDC (Objective)	28 mos.	ACL Repair: Refixation with Suture Lasso SD	ACL Reconstruction (Hamstring - ST)	Author Reported – Chi Sq	N/A	NS
Demirag,2012	Moderate	Lachman Test Grade0/1	2 yrs.	ACL Repair(Augmentation w/HS Autograft)	ACL Reconstruction	RR	0.93(0.60,1.43)	NS

Reference Title	Quality	Outcome Details	Duration	Treatment 1 (Details)	Treatment 2 (Details)	Effect Measure	Result (95% CI)	Favored Treatment
Demirag,2012	Moderate	Pivot Shift Test Grade0/1	2 yrs.	ACL Repair(Augmentation w/HS Autograft)	ACL Reconstruction	RR	0.94(0.71,1.25)	NS
Demirag,2012	Moderate	IKDC Subjective Score	2 yrs.	ACL Repair(Augmentation w/HS Autograft)	ACL Reconstruction	Mean Difference	-0.1 (-1.90, 1.70)	NS
Demirag,2012	Moderate	Range of Motion	2 yrs.	ACL Repair(Augmentation w/HS Autograft)	ACL Reconstruction	Mean Difference	0 (-2.73, 2.73)	NS

Table 188: PICO 14 – Repair vs. Reconstruction – OA Progression

Reference Title	Quality	Outcome Details	Duration	Treatment 1 (Details)	Treatment 2 (Details)	Effect Measure	Result (95% CI)	Favored Treatment
Sporsheim,2019	High	OA Progression(Ahlback Classification)	30 yrs.	Primary ACL Repair	ACL Reconstruction(BPTB)	Author Reported -Kruskal Wallis /median test	N/A	NS
Sporsheim,2019	High	OA Progression(Ahlback Classification)	30 yrs.	ACL Repair with Augmentation	ACL Reconstruction(BPTB)	Author Reported -Kruskal Wallis /median test	N/A	NS

Table 189: PICO 14 – Repair vs. Reconstruction – Pain

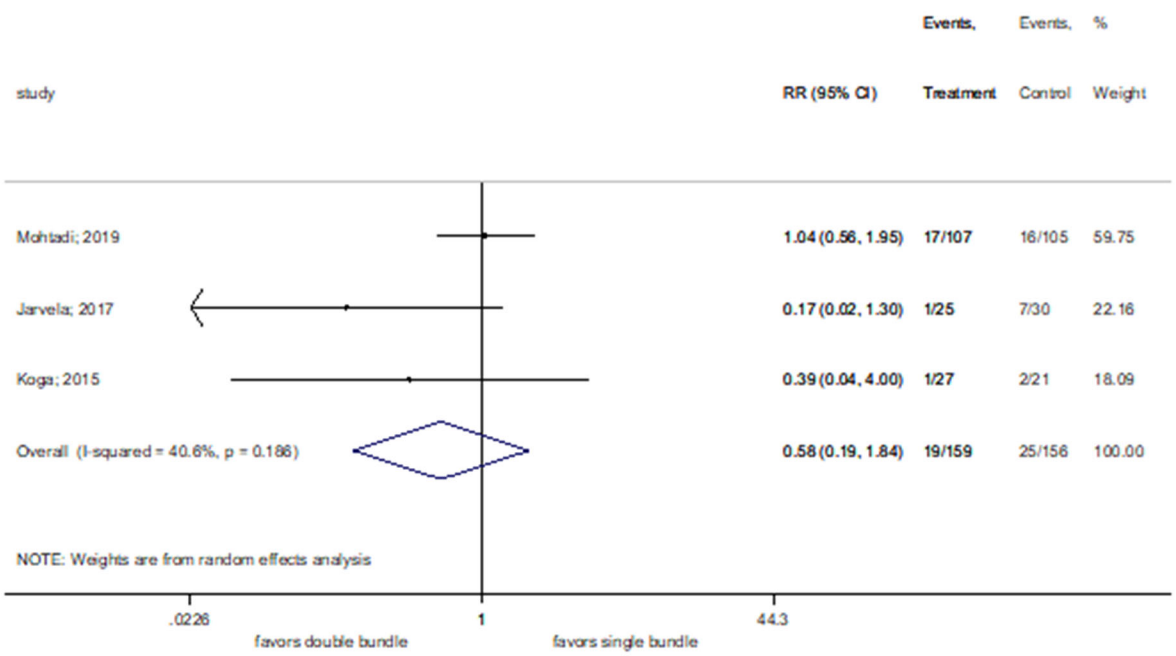
Reference Title	Quality	Outcome Details	Duration	Treatment 1 (Details)	Treatment 2 (Details)	Effect Measure	Result (95% CI)	Favored Treatment
Hoogeslad,2019	High	KOOS (Pain)	2 yrs.	ACL Repair with Dynamic Intraligamentary Stabilization	ACL Reconstruction(Hamstring - ST)	Author Reported -MW U Test	N/A	NS

Table 190: PICO 14 – Repair vs. Reconstruction – QOL

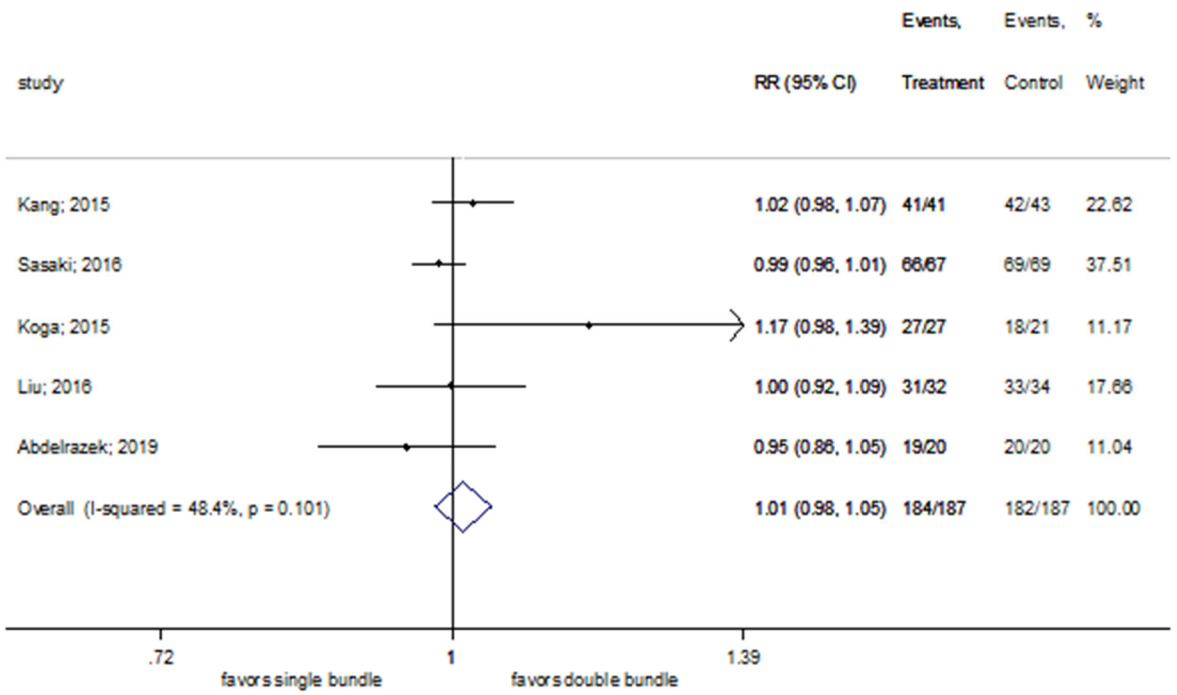
Reference Title	Quality	Outcome Details	Duration	Treatment 1 (Details)	Treatment 2 (Details)	Effect Measure	Result (95% CI)	Favored Treatment
Hoogeslad,2019	High	KOOs (QoL)	2 yrs.	ACL Repair with Dynamic Intraligamentary Stabilization	ACL Reconstruction(Hamstring - ST)	Author Reported -MW U Test	N/A	NS

Meta-Analysis

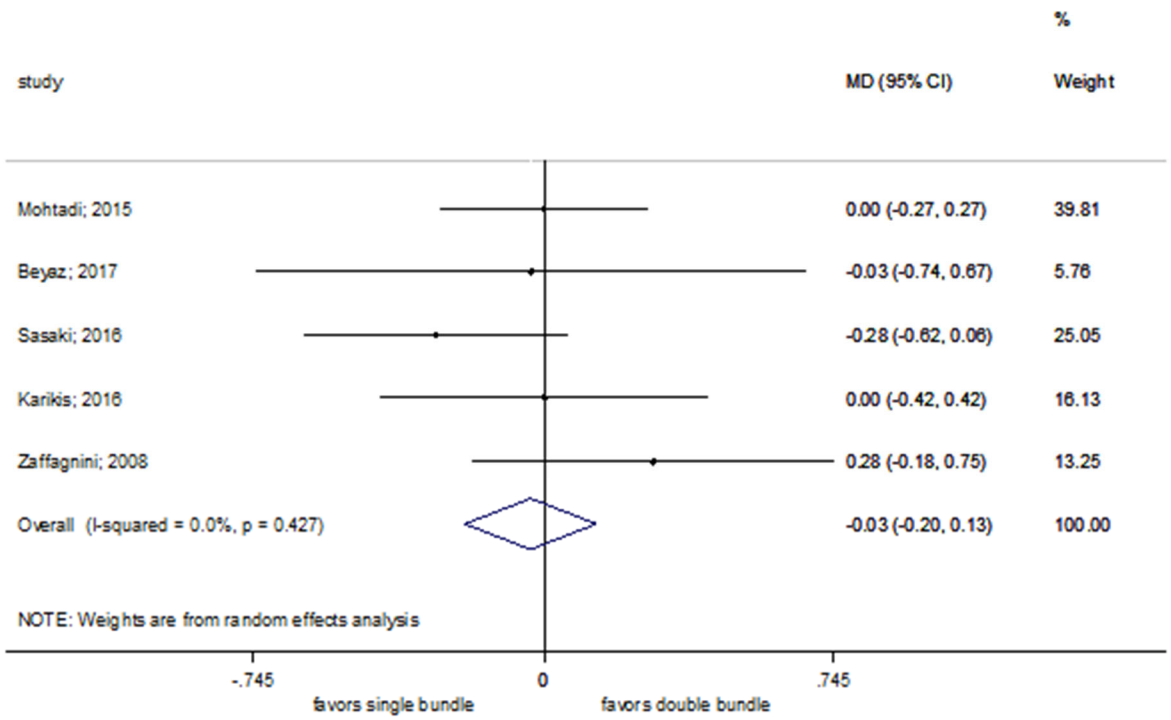
PICO 7 – Graft Rupture/Failure



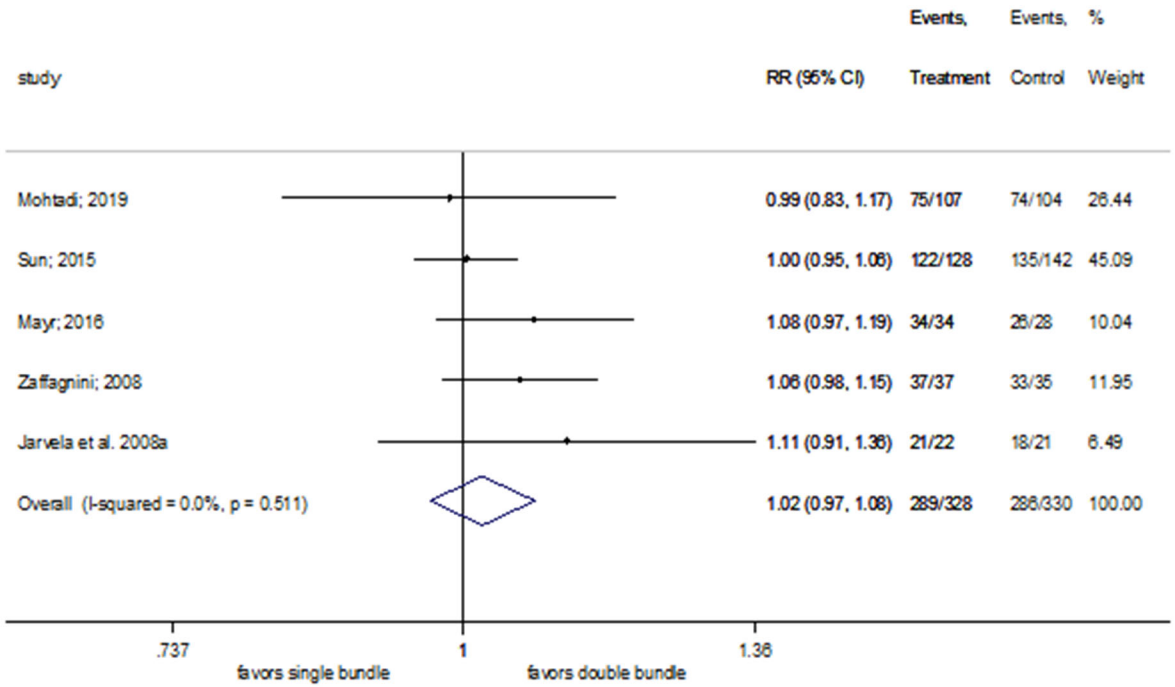
PICO 7 – Pivot Shift Stability 0/1



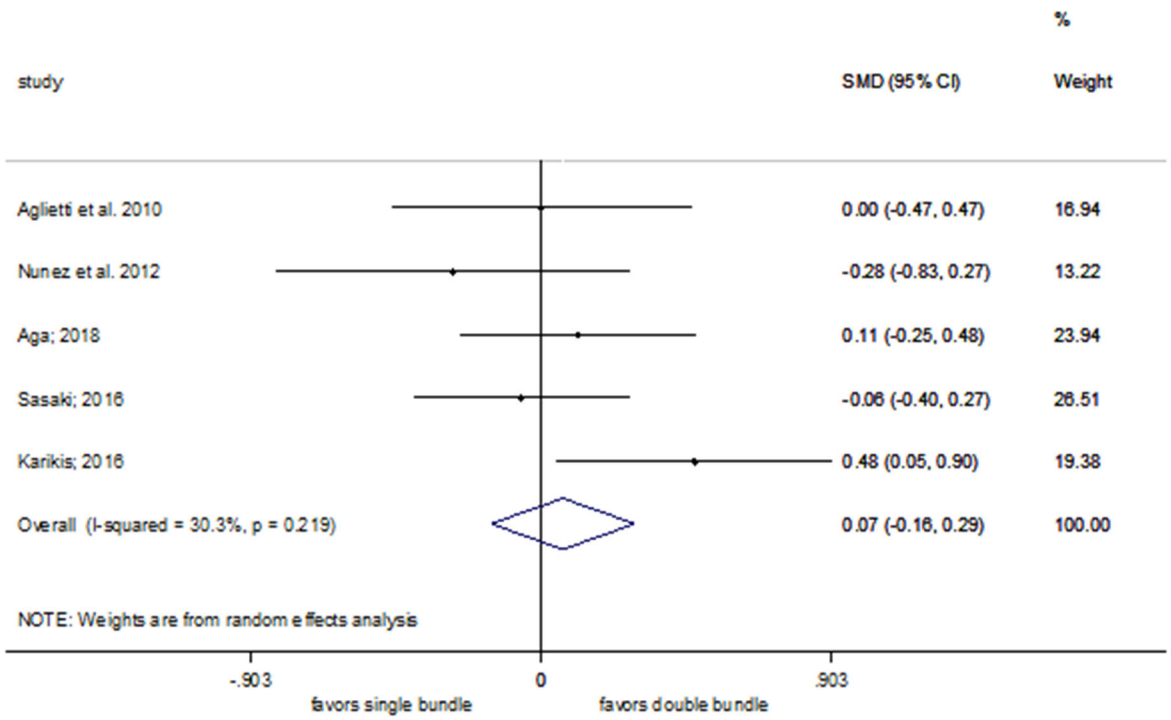
PICO 7 – Tegner Score



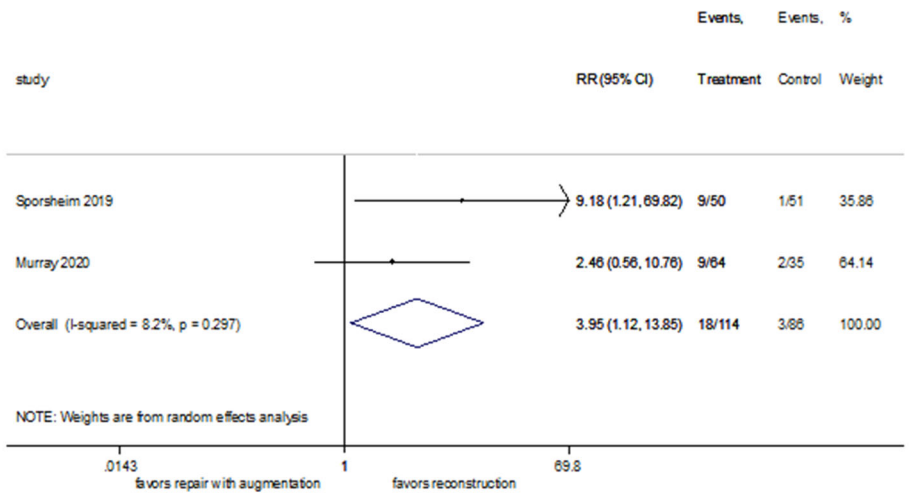
PICO 7 – IKDC Score Normal or Nearly Normal



PICO 7 – Pain Score



PICO 14 – Revision Surgery



2014 Guideline Data

Table 1: PICO 1 – Diagnostic Results: Anterior Cruciate Ligament Injuries with History and Physical

Author	Study Strength	Diagnostic Test	Positive Likelihood Ratio (95% CI)	Negative Likelihood Ratio (95% CI)	Sensitivity	Specificity
Juyal et al. 2013	High	Clinical examination	11.92(3.13,45.37)	0.09(0.02,0.34)	91%	92%
Rayan et al. 2009	Moderate	History, Joint line tenderness, positive McMurray's test, Lachman test, and Anterior drawer's test	88.93(5.61,1404.94)	0.24(0.16,0.35)	77%	100%
Cooperman et al. 1990	High	Lachman's trial one combined	1.32(0.75,2.30)	0.65(0.25,1.67)	69%	47%
Cooperman et al. 1990	High	Lachman's trial one Orthopedic surgeons	1.62(0.93,2.84)	0.44(0.15,1.29)	77%	53%
Cooperman et al. 1990	High	Lachman's trial one Physical therapists	1.11(0.64,1.92)	0.85(0.35,2.04)	64%	42%
Cooperman et al. 1990	High	Lachman's trial two combined	1.83(1,3.35)	0.40(0.14,1.16)	77%	58%
Cooperman et al. 1990	High	Lachman's trial two Orthopedic surgeons	1.62(0.73,1.62)	0.44(0.15,1.29)	85%	58%
Cooperman et al. 1990	High	Lachman's trial two Physical therapists	1.46(0.8,2.65)	0.58(0.23,1.47)	69%	53%
Shelbourne et al. 2009	High	Lateral joint line tenderness	1.02(0.96,1.08)	0.98(0.90,1.06)	57%	44%
Shelbourne et al. 2009	High	Lateral joint line tenderness	0.96(0.89,1.03)	1.04(0.97,1.11)	46%	52%
Shelbourne et al. 2009	High	Medial joint line tenderness	0.93(0.86,1.01)	1.05(0.99,1.22)	41%	57%
Shelbourne et al. 2009	High	Medial joint line tenderness	1.10(1.03,1.17)	0.90(0.84,0.97)	55%	50%

Table 2: PICO 1 – Diagnostic Results: Medial Ligament Injuries with History and Physical

Author	Study Strength	Diagnostic Test	Positive Likelihood Ratio (95% CI)	Negative Likelihood Ratio (95% CI)	Sensitivity	Specificity
Pookarnjanamorakot et al. 2004	Low	Apley test	5(0.31,79.43)	0.86(0.75,0.98)	17%	99%
Pookarnjanamorakot et al. 2004	Low	Childress sign	1.70(1.03,2.82)	0.52(0.34,0.84)	68%	60%
Juyal et al. 2013	High	Clinical examination (Lachman test, Anterior/posterior drawer test, McMurray test, Apley's gliding test, Apley's distraction test, Valgus stress instability, Varus stress test instability, Squat test)	1.93(1.28,2.9)	0.19(0.05,0.73)	90%	53%
Pookarnjanamorakot et al. 2004	Low	History of Locking	3(0.75,12.03)	0.83(0.7,0.98)	24%	92%
Pookarnjanamorakot et al. 2004	High	History of Swelling	3(1,9.04)	0.73(0.58,0.91)	36%	88%
Rayan et al. 2009	High	History, Joint line tenderness, positive McMurray's test, Lachman test, and Anterior drawer's test	42.29(2.72,657.28)	0.18(0.08,0.41)	87%	87%
Pookarnjanamorakot et al. 2004	Low	Joint line tenderness	6.67(0.94,47.17)	0.76(0.65,0.89)	27%	96%
Pookarnjanamorakot et al. 2004	Low	McMurray	3.5(0.88,13.88)	0.78(0.65,0.94)	28%	92%
Pookarnjanamorakot et al. 2004	Low	Merke's sign	3.37(1.36,8.59)	0.54(0.4,0.73)	54%	84%
Pookarnjanamorakot et al. 2004	Low	Steinmann I sign	13.85(0.87,219.84)	0.73(0.62,0.85)	29%	100%

Table 3: PICO 1 – Diagnostic Results: Lateral Ligament Injuries with History and Physical

Author	Study Strength	Diagnostic Test	Positive Likelihood Ratio (95% CI)	Negative Likelihood Ratio (95% CI)	Sensitivity	Specificity
Rayan et al. 2009	High	History, Joint line tenderness, positive McMurray's test, Lachman test, and Anterior drawer's test	11.14(4.50,27.59)	0.46(0.31,0.68)	56%	94%

Table 4: PICO 4 – NA

Author	Study Strength	Outcome	Treatment Group 1	n1	Mean(sd)1 or (E1/N1 (%))	Treatment Group 2	n2	Mean(sd)2 or (E2/N2 (%))	Results (Mean difference or RR, OR)	Favors
Wirth et al. 2002	Low	Lysholm score	Medial meniscal transplantation combined	23	75 (21)	ACL reconstruction and advancement of the medial collateral ligament (resected)	11	78 (15)	-3(-17.40,11.40)	NS
Wirth et al. 2002	Low	Lysholm score	Medial meniscal transplantation combined	23	75 (21)	ACL reconstruction but menisci intact (Intact)	10	86 (12)	-11(-25.5,3.5)	NS

Table 5: PICO 4 – NA

Reference Title	Quality	Outcome Details	Duration	Treatment 1 (Details)	Treatment 2 (Details)	Effect Measure	Result (95% CI)	Favored Treatment
Shelbourne,2004	Low	IKDC Subjective Score	9 yrs.	Meniscal Repair	Meniscal Resection	Mean Difference	3.8 (-2.35, 9.95)	NS
Aglietti, 1994	Low	Instability	2 yrs.	Meniscal Repair	Meniscal Resection: Partial	Author Reported- chi sq	N/A	NS
Wirth, 2002	Low	Lysholm Knee Score	Postop .	Meniscal Repair	Meniscal Resection	Author Reported- t test	-3.00(-17.40,11.40)	NS

Table 6: PICO 6 – NA

Author	Study Strength	Outcome Measured	Treatment Group 1	N1	Mean(sd)1 or (E1/N1 (%))	Treatment Group 2	N2	Mean (sd)2 or (E2/N2 (%))	Results (Mean difference or RR)	Favors
Bottoni et al. 2008	High	Range of Motion: Extension Deficit (deg)	Acute surgery: earliest possible date	34	0.6(1.6)	Delayed Surgery: Minimum 6 weeks from injury	35	1.5(4.2)	-0.9(-2.44,0.64)	NS
Bottoni et al. 2008	High	Range of Motion: Flexion Deficit (deg)	Acute surgery: earliest possible date	34	2.1(3.9)	Delayed Surgery: Minimum 6 weeks from injury	35	2.6(4.8)	-0.5(-2.60,1.60)	NS
Bottoni et al. 2008	High	Stability: KT-1000 (mm)	Acute surgery: earliest possible date	34	1.2(1.8)	Delayed Surgery: Minimum 6 weeks from injury	35	0.88(1.1)	0.32(-0.39,1.03)	NS
Bottoni et al. 2008	High	Meniscal Co-Morbidities: Meniscal Tears Found	Acute surgery: earliest possible date	34	32/34(0.91)	Delayed Surgery: Minimum 6 weeks from injury	35	24/35(69%)	1.37(1.08,1.74)	Favors Delayed
Bottoni et al. 2008	High	Function: SANE Score	Acute surgery: earliest possible date	34	83.1(NR)	Delayed Surgery: Minimum 6 weeks from injury	35	81.4(NR)	Reported p=0.66	Reported NS
Bottoni et al. 2008	High	Function: Lysholm Score	Acute surgery: earliest possible date	34	80.6(NR)	Delayed Surgery: Minimum 6 weeks from injury	35	83.4(NR)	Reported p=0.61	Reported NS
Bottoni et al. 2008	High	Function: Tegner Score	Acute surgery: earliest possible date	34	5.8(NR)	Delayed Surgery: Minimum 6 weeks from injury	35	4.9(NR)	Reported p=0.34	Reported NS

Table 7: PICO 6 – NA

Author	Study Strength	Outcome Measured	Treatment Group 1	N1	Mean (sd)1 or (E1/N1 (%))	Treatment Group 2	n2	Mean(sd)2 or (E2/N2 (%))	Results (Mean difference or RR)	Favors
Barenius et al. 2010	Moderate	Meniscal injury	Early reconstruction <5 months	46	17/46(37%)	Late reconstruction >5 months	107	66/107(62%)	0.599(0.399,0.899)	Favors early reconstruction
Barenius et al. 2010	Moderate	Tegner activity level	Early reconstruction <5 months	46	5.74(2.25)	Late reconstruction >5 months	107	4.01(1.3)	1.73(1.16,2.30)	Favors early reconstruction
Barenius et al. 2010	Moderate	Activities of daily living (KOOS)	Early reconstruction <5 months	46	NR	Late reconstruction >5 months	107	NR	NA	Favors early reconstruction
Barenius et al. 2010	Moderate	KOOS (Pain, Symptoms, Sport, QoL)	Early reconstruction <5 months	46	NR	Late reconstruction >5 months	107	NR	NA	NS
Barenius et al. 2010	Moderate	SF-35(Physical functioning, Bodily pain, Social functioning)	Early reconstruction <5 months	46	NR	Late reconstruction >5 months	107	NR	NA	Favors early reconstruction
Barenius et al. 2010	Moderate	SF-36(RP, GH, VT, RE,MH)	Early reconstruction <5 months	46	NR	Late reconstruction >5 months	107	NR	NA	NS
Daniel et al. 1994	Low	Participate in basketball 50 hours per year or more	Early reconstruction <90 days	45	5/45(11%)	Late reconstruction >90 days	33	3/33(9%)	1.22(0.31,4.75)	NS
Daniel et al. 1994	Low	Participate in football 50 hours per year or more	Early reconstruction <90 days	45	0/45(0%)	Late reconstruction >90 days	33	0/33(0%)	0.74(0.01,36.33)	NS
Daniel et al. 1994	Low	Participate in football 50 hours per year or more	Early reconstruction <90 days	45	1/45(2%)	Late reconstruction >90 days	33	0/33(0%)	2.22(0.09,52.78)	NS
Daniel et al. 1994	Low	Participate in baseball 50 hours per year or more	Early reconstruction <90 days	45	4/45(9%)	Late reconstruction >90 days	33	2/33(6%)	1.47(0.28,7.53	NS
Daniel et al. 1994	Low	Participate in racquet sports 50 hours per year or more	Early reconstruction <90 days	45	6/45(13%)	Late reconstruction >90 days	33	6/33(18%)	0.73(0.26,2.07)	NS
Daniel et al. 1994	Low	Participate in snow ski sports 50 hours per year or more	Early reconstruction <90 days	45	1/45(2%)	Late reconstruction >90 days	33	2/33(6%)	0.36(0.03,3.8)	NS
Daniel et al. 1994	Low	Pain (more than mild and infrequent)	Early reconstruction <90 days	45	12/45(27%)	Late reconstruction >90 days	33	8/33(24%)	1.1(0.5,2.07)	NS
Daniel et al. 1994	Low	Swelling (more than mild and infrequent)	Early reconstruction <90 days	45	16/45(36%)	Late reconstruction >90 days	33	11/33(33%)	1.06(0.57,1.99)	NS
Daniel et al. 1994	Low	Giving way with sports	Early reconstruction <90 days	45	9/45(20%)	Late reconstruction >90 days	33	1/33(3%)	6.6(0.88,49.58)	NS

Author	Study Strength	Outcome Measured	Treatment Group 1	N1	Mean (sd)1 or (E1/N1 (%))	Treatment Group 2	n2	Mean(sd)2 or (E2/N2 (%))	Results (Mean difference or RR)	Favors
Daniel et al. 1994	Low	Giving way with ADL	Early reconstruction <90 days	45	7/45(16%)	Late reconstruction >90 days	33	1/33(3%)	5.13(0.66,39.74)	NS
Daniel et al. 1994	Low	Walk impairments	Early reconstruction <90 days	45	5/45(11%)	Late reconstruction >90 days	33	4/33(12%)	0.91(0.26,3.15)	NS
Daniel et al. 1994	Low	Climb impairments	Early reconstruction <90 days	45	16/45(36%)	Late reconstruction >90 days	33	8/33(24%)	1.46(0.71,3.01)	NS
Daniel et al. 1994	Low	Stairs impairments	Early reconstruction <90 days	45	11/45(24%)	Late reconstruction >90 days	33	8/33(24%)	1.0(0.45,2.2)	NS
Daniel et al. 1994	Low	Kneel impairments	Early reconstruction <90 days	45	29/45(64%)	Late reconstruction >90 days	33	21/33(64%)	1.0(0.72,1.42)	NS
Daniel et al. 1994	Low	Squat impairments	Early reconstruction <90 days	45	18/45(40%)	Late reconstruction >90 days	33	18/33(55%)	0.73(0.45,1.18)	NS
Daniel et al. 1994	Low	Run impairments	Early reconstruction <90 days	45	15/45(33%)	Late reconstruction >90 days	33	13/33(39%)	0.84(0.47,1.53)	NS
Daniel et al. 1994	Low	Jump impairments	Early reconstruction <90 days	45	15/45(33%)	Late reconstruction >90 days	33	12/33(36%)	0.91(0.5,1.69)	NS
Daniel et al. 1994	Low	Cut impairments	Early reconstruction <90 days	45	19/45(42%)	Late reconstruction >90 days	33	17/33(52%)	0.82(0.5,1.32)	NS
Daniel et al. 1994	Low	Walk impairments more than mild	Early reconstruction <90 days	45	0/45(0%)	Late reconstruction >90 days	33	0/33(0%)	0.74(0.01,36.3)	NS
Daniel et al. 1994	Low	Climb impairments more than mild	Early reconstruction <90 days	45	2/45(4%)	Late reconstruction >90 days	33	0/33(0%)	3.7(0.18,74.52)	NS
Daniel et al. 1994	Low	Stairs impairments more than mild	Early reconstruction <90 days	45	0/45(0%)	Late reconstruction >90 days	33	1/33(3%)	0.25(0.01,5.86)	NS
Daniel et al. 1994	Low	Kneel impairments more than mild	Early reconstruction <90 days	45	7/45(16%)	Late reconstruction >90 days	33	4/33(12%)	1.28(0.4,4)	NS
Daniel et al. 1994	Low	Squat impairments more than mild	Early reconstruction <90 days	45	6/45(13%)	Late reconstruction >90 days	33	3/33(9%)	1.47(0.39,5.4)	NS
Daniel et al. 1994	Low	Run impairments more than mild	Early reconstruction <90 days	45	4/45(9%)	Late reconstruction >90 days	33	6/33(18%)	0.49(0.39,5.44)	NS

Author	Study Strength	Outcome Measured	Treatment Group 1	N1	Mean (sd)1 or (E1/N1 (%))	Treatment Group 2	n2	Mean(sd)2 or (E2/N2 (%))	Results (Mean difference or RR)	Favors
Daniel et al. 1994	Low	Jump impairments more than mild	Early reconstruction <90 days	45	4/45(9%)	Late reconstruction >90 days	33	3/33(9%)	0.98(0.23,40	NS
Daniel et al. 1994	Low	Cut impairments more than mild	Early reconstruction <90 days	45	6/45(13%)	Late reconstruction >90 days	33	10/33(30%)	0.44(0.177,1.09)	NS
Daniel et al. 1994	Low	Functional (Hop test ≥0.9)	Early reconstruction <90 days	41	34/41(83%)	Late reconstruction >90 days	33	19/33(59%)	0.75(0.64,0.89)	Favors early reconstruction
Daniel et al. 1994	Low	Functional (Quadriceps ≥0.8)	Early reconstruction <90 days	41	37/41(90%)	Late reconstruction >90 days	33	27/33(84%)	0.82(0.71,0.94)	Favors early reconstruction
Daniel et al. 1994	Low	Functional (Hamstring ≥0.8)	Early reconstruction <90 days	41	36/41(92%)	Late reconstruction >90 days	33	30/33(94%)	0.8(0.69,0.92)	Favors early reconstruction
Daniel et al. 1994	Low	Stability (Quadriceps active KT-1000 <3mm 89N)	Early reconstruction <90 days	43	21/43(49%)	Late reconstruction >90 days	33	18/33(55%)	0.47(0.34,0.64)	Favors early reconstruction
Daniel et al. 1994	Low	Stability (Quadriceps KT-1000 <3mm 89N)	Early reconstruction <90 days	43	27/43(63%)	Late reconstruction >90 days	33	20/33(61%)	0.6(0.47,0.76)	Favors early reconstruction
Daniel et al. 1994	Low	Stability (Quadriceps KT-1000 <3mm 134N)	Early reconstruction <90 days	43	21/43(49%)	Late reconstruction >90 days	33	15/33(45%)	0.47(0.34,0.64)	Favors early reconstruction
Daniel et al. 1994	Low	Stability (Quadriceps KT-1000 <3mm Max)	Early reconstruction <90 days	43	14/43(33%)	Late reconstruction >90 days	33	10/33(30%)	0.3(0.2,0.48)	Favors early reconstruction
Daniel et al. 1994	Low	Stability (Pivot-shift)	Early reconstruction <90 days	43	28/43(64%)	Late reconstruction >90 days	33	10/33(30%)	0.62(0.49,0.78)	Favors early reconstruction
Fithian et al. 2005	Low	IKDC	Early reconstruction <3 months	63	NR	Late reconstruction >3 months	33	NR	NA	NS
Fithian et al. 2005	Low	Lysholm score	Early reconstruction <3 months	63	91(10)	Late reconstruction >3 months	33	91(8)	0(-3.9,3.9)	NS
Fithian et al. 2005	Low	Tegner activity level	Early reconstruction <3 months	63	NR	Late reconstruction >3 months	33	NR	NA	Favor of early reconstruction
Fithian et al. 2005	Low	SF-36 Physical function	Early reconstruction <3 months	63	92(13)	Late reconstruction >3 months	33	87(19)	5(-1.53,11.53)	NS
Fithian et al. 2005	Low	SF-36 Role physical	Early reconstruction <3 months	63	92(24)	Late reconstruction >3 months	33	94(20)	-2(-11.6,7.69)	NS

Author	Study Strength	Outcome Measured	Treatment Group 1	N1	Mean (sd)1 or (E1/N1 (%))	Treatment Group 2	n2	Mean(sd)2 or (E2/N2 (%))	Results (Mean difference or RR)	Favors
Fithian et al. 2005	Low	SF-36 Pain	Early reconstruction <3 months	63	64(30)	Late reconstruction >3 months	33	64(29)	0(-12.63,12.65)	NS
Fithian et al. 2005	Low	SF-36 General health	Early reconstruction <3 months	63	83(14)	Late reconstruction >3 months	33	78(18)	5(-1.6,11.6)	NS
Fithian et al. 2005	Low	SF-36 Vitality	Early reconstruction <3 months	63	71(15)	Late reconstruction >3 months	33	68(19)	3(-4.002,10.02)	NS
Fithian et al. 2005	Low	SF-36 Social function	Early reconstruction <3 months	63	95(12)	Late reconstruction >3 months	33	91(14)	4(-1.42,9.42)	NS
Fithian et al. 2005	Low	SF-36 Mental health	Early reconstruction <3 months	63	84(10)	Late reconstruction >3 months	33	78(18)	6(0.34,11.66)	NS
Fithian et al. 2005	Low	SF-36 Emotion	Early reconstruction <3 months	63	95(17)	Late reconstruction >3 months	33	94(18)	1(-6.4,8.39)	NS
Fithian et al. 2005	Low	Instability	Early reconstruction <3 months	63	NR	Late reconstruction >3 months	33	NR	NA	NS

Table 8: PICO 6 – NA

Author	Study Strength	Outcome	Treatment Group 1	N1	Mean(sd)1 or (E1/N1 (%))	Treatment Group 2	n2	Mean(sd)2 or (E2/N2 (%))	Results (Mean difference or RR)	Favors
Frobell et al. 2010	High	Function in activities of daily living (KOOS)	Rehabilitation plus early ACL reconstruction	60	93.5(11.42)	Delayed ACL reconstruction	23	94.4(8.67)	-0.9(-4.56,2.76)	NS
Frobell et al. 2010	High	Function in sports and recreation (KOOS)	Rehabilitation plus early ACL reconstruction	60	71.8(26.7)	Delayed ACL reconstruction	23	68.5(27.4)	3.3(-6.43,13.04)	NS
Frobell et al. 2010	High	Knee-related quality of life (KOOS)	Rehabilitation plus early ACL reconstruction	60	67.3(23.22)	Delayed ACL reconstruction	23	65.5(20.8)	1.8(-6.15,9.75)	NS
Frobell et al. 2010	High	Mean change in KOOS from baseline	Rehabilitation plus early ACL reconstruction	60	39(18.4)	Delayed ACL reconstruction	23	39.8(17.9)	-0.8(-7.34,5.74)	NS
Frobell et al. 2010	High	Mental component SF-36	Rehabilitation plus early ACL reconstruction	60	88.3(12.97)	Delayed ACL reconstruction	23	86(15.38)	2.3(-2.81,7.41)	NS
Frobell et al. 2010	High	Pain (KOOS)	Rehabilitation plus early ACL reconstruction	60	87.2(15.29)	Delayed ACL reconstruction	23	86.6(14.1)	0.6(-4.7,5.74)	NS
Frobell et al. 2010	High	Physical component SF-36	Rehabilitation plus early ACL reconstruction	60	82.1(12.97)	Delayed ACL reconstruction	23	76.7(18.8)	5.4(-0.39,11.19)	NS
Frobell et al. 2010	High	Return to pre-injury activity level or higher	Rehabilitation plus early ACL reconstruction	60	27/60(44%)	Delayed ACL reconstruction	23	7/23(30%)	1.48(0.75,2.91)	NS
Frobell et al. 2010	High	Severely decreased knee related quality of life	Rehabilitation plus early ACL reconstruction	60	11/60(18%)	Delayed ACL reconstruction	23	11/23(48%)	0.38(0.19,0.76)	NS
Frobell et al. 2010	High	Stability (KT-1000 mm)	Rehabilitation plus early ACL reconstruction	60	6.6(2.32)	Delayed ACL reconstruction	23	7.1(2.54)	-0.5(-1.37,0.37)	NS
Frobell et al. 2010	High	Stability (Normal Lachman test)	Rehabilitation plus early ACL reconstruction	60	39/60(65%)	Delayed ACL reconstruction	23	15/23(65%)	0.99(0.7,1.42)	Favors early ACLR
Frobell et al. 2010	High	Stability (Normal pivot shift test)	Rehabilitation plus early ACL reconstruction	60	45/60(75%)	Delayed ACL reconstruction	23	19/23(83%)	0.9(0.7,1.15)	Favors early ACLR
Frobell et al. 2010	High	Symptoms (KOOS)	Rehabilitation plus early ACL reconstruction	60	78.7(20.32)	Delayed ACL reconstruction	23	81.2(16.76)	-2.5(-9.22,4.22)	NS
Frobell et al. 2010	High	Tegner activity level (median and interquartile range)	Rehabilitation plus early ACL reconstruction	60	6.5(1.25)	Delayed ACL reconstruction	23	5(0.75)	1.5(1.13,1.86)	Favors early

Table 9: PICO 7 – NA

Author	Study Strength	Outcome	Treatment Group 1	n1	Mean (sd)1 or (E1/N1 (%))	Treatment Group 2	n2	Mean (sd)2 or (E2/N2 (%))	Results (Mean difference or RR)	Favors
Aglietti et al. 2007	Low	Failure	Double bundle single incision	25	1/25 (4%)	Single bundle single incision	25	2/25 (8%)	0.500(0.048,5.168)	NS
Aglietti et al. 2007	Low	IKDC sports I highly competitive	Double bundle single incision	25	10/25 (40%)	Single bundle single incision	25	10/25 (40%)	1.000(0.507,1.972)	NS
Aglietti et al. 2007	Low	IKDC sports II well trained and frequently in sporting	Double bundle single incision	25	7/25 (28%)	Single bundle single incision	25	7/25 (28%)	1.000(0.411,2.433)	NS
Aglietti et al. 2007	Low	IKDC sports III sporting sometimes	Double bundle single incision	25	5/25 (20%)	Single bundle single incision	25	5/25 (20%)	1.000(0.330,3.03)	NS
Aglietti et al. 2007	Low	IKDC sports IV non-sporting	Double bundle single incision	25	3/25 (12%)	Single bundle single incision	25	3/25 (12%)	1.000(0.223,4.487)	NS
Aglietti et al. 2007	Low	IKDC subjective	Double bundle single incision	25	79	Single bundle single incision	25	75	NA	NS
Aglietti et al. 2007	Low	KOOS activities of daily living	Double bundle single incision	25	95(8)	Single bundle single incision	25	97(4)	-2(-5.593,1.5930)	NS
Aglietti et al. 2007	Low	KOOS pain	Double bundle single incision	25	91(10)	Single bundle single incision	25	91(10)	0(-5.681,5.6810)	NS
Aglietti et al. 2007	Low	KOOS quality of life	Double bundle single incision	25	71(24)	Single bundle single incision	25	69(24)	2(-11.63,15.634)	NS
Aglietti et al. 2007	Low	KOOS sports activity	Double bundle single incision	25	81(21)	Single bundle single incision	25	81(15)	0(-10.36,10.366)	NS
Aglietti et al. 2007	Low	KOOS symptoms	Double bundle single incision	25	87(9)	Single bundle single incision	25	87(11)	0(-5.709,5.7093)	NS
Aglietti et al. 2007	Low	Kt-1000 0-2 mm	Double bundle single incision	25	16/25 (64%)	Single bundle single incision	24	14/24 (58%)	1.097(0.701,1.717)	NS
Aglietti et al. 2007	Low	Kt-1000 > 6 mm	Double bundle single incision	25	1/25 (4%)	Single bundle single incision	24	2/24 (8%)	0.480(0.047,4.954)	NS
Aglietti et al. 2007	Low	Kt-1000 3-5 mm	Double bundle single incision	25	8/25 (32%)	Single bundle single incision	24	8/24 (33%)	0.960(0.43,2.145)	NS
Aglietti et al. 2007	Low	Pivot Shift Sign Absent	Double bundle single incision	25	19/25 (76%)	Single bundle single incision	24	14/24 (58%)	1.303(0.87,1.951)	NS
Aglietti et al. 2007	Low	Pivot Shift Sign Clunk	Double bundle single incision	25	1/25 (4%)	Single bundle single incision	24	2/24 (8%)	0.480(0.047,4.954)	NS
Aglietti et al. 2007	Low	Pivot Shift Sign Glide	Double bundle single incision	25	5/25 (20%)	Single bundle single incision	24	8/24 (33%)	0.600(0.228,1.578)	NS
Aglietti et al. 2010	High	IKDC subjective	Double bundle	35	83(15)	Single bundle	35	78(13)	5(-1.69,11.69)	NS
Aglietti et al. 2010	High	KOOS activities of daily living	Double bundle	35	98(2)	Single bundle	35	95(7)	3(0.54,5.45)	Favors DB
Aglietti et al. 2010	High	KOOS pain	Double bundle	35	93(8)	Single bundle	35	93(7)	0(-3.58,3.58)	NS
Aglietti et al. 2010	High	KOOS quality of life	Double bundle	35	77(17)	Single bundle	35	80(18)	-3(-11.34,5.34)	NS
Aglietti et al. 2010	High	KOOS sports activity	Double bundle	35	86(16)	Single bundle	35	88(12)	-2(-8.74,4.74)	NS

Author	Study Strength	Outcome	Treatment Group 1	n1	Mean (sd)1 or (E1/N1 (%))	Treatment Group 2	n2	Mean (sd)2 or (E2/N2 (%))	Results (Mean difference or RR)	Favors
Aglietti et al. 2010	High	KOOS symptoms	Double bundle	35	90(9)	Single bundle	35	90(8)	0(-4.06,4.06)	NS
Aglietti et al. 2010	High	Pain (VAS)	Double bundle	35	8.6 (2.2)	Single bundle	35	7.6 (2.2)	1(-0.04,2.04)	NS
Aglietti et al. 2010	High	Sport activity level I	Double bundle	35	17/35(48%)	Single bundle	35	10/35(29%)	1.7(0.91,3.176)	NS
Aglietti et al. 2010	High	Sport activity level II	Double bundle	35	6/35(17%)	Single bundle	35	7/35(20%)	0.857(0.32,2.294)	NS
Aglietti et al. 2010	High	Sport activity level III	Double bundle	35	10/35(26%)	Single bundle	35	14/35(40%)	0.714(0.368,1.386)	NS
Aglietti et al. 2010	High	Sport activity level IV	Double bundle	35	2/35(6%)	Single bundle	35	4/35(11%)	0.5(0.098,2.556)	NS
Hussein et al. 2012	Low	IKDC no. A (%)	Double bundle	64	56/64(88%)	Single bundle	30	26/30(87%)	1(0.85,1.19)	NS
Hussein et al. 2012	Low	IKDC no. B (%)	Double bundle	64	8/64(13%)	Single bundle	30	4/30(13%)	0.93(0.3,2.87)	NS
Hussein et al. 2012	Low	IKDC subjective	Double bundle	64	93.3(5.9)	Single bundle	30	93.1(5.2)	0.2(-2.10,2.51)	NS
Hussein et al. 2012	Low	Lysholm score	Double bundle	64	93.9(4.3)	Single bundle	30	93.5(3.3)	0.4(-1.25,2.50)	NS
Ibrahim et al. 2009	High	IKDC subjective	Double bundle	50	NR	Single bundle	50	NR	NA	NS
Ibrahim et al. 2009	High	Lysholm overall	Double bundle	50	NR	Single bundle	50	NR	NA	NS
Ibrahim et al. 2009	High	Tegner activity	Double bundle	50	NR	Single bundle	50	NR	NA	NS
Nunez et al. 2012	High	IKDC subjective	Double bundle	29	70(10.5)	Single bundle	23	69.7(10.6)	0.3(-5.6,6.2)	NS
Nunez et al. 2012	High	SF-36 bodily pain	Double bundle	29	79.8(18.2)	Single bundle	23	84.6(15.5)	-4.8(-14.36,4.76)	NS
Nunez et al. 2012	High	SF-36 emotional role	Double bundle	29	92.0(23.0)	Single bundle	23	98.6(7.0)	-6.6(-16.58,3.39)	NS
Nunez et al. 2012	High	SF-36 general health	Double bundle	29	85.5(14.1)	Single bundle	23	89.7(10.8)	-4.2(-11.34,2.94)	NS
Nunez et al. 2012	High	SF-36 mental health	Double bundle	29	78.1(19.2)	Single bundle	23	83(14)	-4.9(-14.48,4.68)	NS
Nunez et al. 2012	High	SF-36 physical function	Double bundle	29	90.9(11.6)	Single bundle	23	89.8(12.4)	1.1(-5.6,7.8)	NS
Nunez et al. 2012	High	SF-36 physical role	Double bundle	29	84.5(31.6)	Single bundle	23	90.2(25.8)	-5.7(-22.0,10.65)	NS
Nunez et al. 2012	High	SF-36 social function	Double bundle	29	91.8(13.9)	Single bundle	23	95.1(8.2)	-3.3(-9.87,3.27)	NS
Nunez et al. 2012	High	SF-36 vitality	Double bundle	29	83.6(15.5)	Single bundle	23	83.3(14.9)	0.3(-8.23,8.83)	NS
Park et al. 2010	Low	IKDC subjective	Double bundle	63	76.8(15.3)	Single bundle	50	69.8(19.8)	7(0.46,13.54)	Favors DB

Author	Study Strength	Outcome	Treatment Group 1	n1	Mean (sd)1 or (E1/N1 (%))	Treatment Group 2	n2	Mean (sd)2 or (E2/N2 (%))	Results (Mean difference or RR)	Favors
Park et al. 2010	Low	Orthopadische Arbeitsgruppe Knie (OAK)	Double bundle	63	89.5(6)	Single bundle	50	89.4(7.7)	0.1(-2.45,2.26)	NS
Park et al. 2010	Low	Tegner activity	Double bundle	63	5.4(2.0)	Single bundle	50	5.6(2.2)	-0.2(-0.98,0.584)	NS
Sastre et al. 2010	Moderate	IKDC subjective	Double bundle	20	80(4)	Single bundle	20	81(3)	-1(-3.26,1.26)	NS
Suomalainen et al. 2011	High	Failure	Double bundle	61	1/61 (2%)	Single bundle	60	7/60 (12%)	0.141 (0.018,1.108)	NS
Suomalainen et al. 2011	High	IKDC score abnormal	Double bundle	61	11/61 (18%)	Single bundle	60	10/60 (17%)	1.082 (0.497,2.357)	NS
Suomalainen et al. 2011	High	IKDC score nearly normal	Double bundle	61	23/61 (38%)	Single bundle	60	26/60 (43%)	0.870 (0.564,1.342)	NS
Suomalainen et al. 2011	High	IKDC score normal	Double bundle	61	25/61 (41%)	Single bundle	60	24/60 (40%)	1.025 (0.665,1.578)	NS
Suomalainen et al. 2011	High	IKDC score severely abnormal	Double bundle	61	2/61 (3%)	Single bundle	60	0/60 (0%)	4.919 (0.241,100.373)	NS
Suomalainen et al. 2011	High	Lysholm score	Double bundle	61	88	Single bundle	60	88	NA	NS
Suomalainen et al. 2011	High	Stability KT-1000 (IKDC) Abnormal	Double bundle	61	9/61 (15%)	Single bundle	60	Jul-60	1.265 (0.503,3.177)	NS
Suomalainen et al. 2011	High	Stability KT-1000 (IKDC) Nearly Normal	Double bundle	61	12/61 (20%)	Single bundle	60	16/60 (27%)	0.738 (0.382,1.425)	NS
Suomalainen et al. 2011	High	Stability KT-1000 (IKDC) Normal	Double bundle	61	40/61 (66%)	Single bundle	60	37/60 (62%)	1.063 (0.812,1.393)	NS
Suomalainen et al. 2011	High	Stability KT-1000 (IKDC) Severely Abnormal	Double bundle	61	0/61 (0%)	Single bundle	60	0/60 (0%)	NA	NS
Suomalainen et al. 2011	High	Stability KT-1000 Mean	Double bundle	61	2.0 (3.0)	Single bundle	60	2.0 (2.4)	0(-0.98,0.98)	NS
Suomalainen et al. 2011	High	Stability Pivot-Shift Test Abnormal	Double bundle	61	3/61 (5%)	Single bundle	60	4/60 (7%)	0.738 (0.172,3.157)	NS
Suomalainen et al. 2011	High	Stability Pivot-Shift Test Nearly Normal	Double bundle	61	17/61 (28%)	Single bundle	60	18/60 (30%)	0.929 (0.531,1.625)	NS
Suomalainen et al. 2011	High	Stability Pivot-Shift Test Normal	Double bundle	61	41/61 (67%)	Single bundle	60	38/60 (63%)	1.061 (0.818,1.377)	NS
Suomalainen et al. 2011	High	Stability Pivot-Shift Test Severely Abnormal	Double bundle	61	0/61 (0%)	Single bundle	60	0/60 (0%)	NA	NS
Adachi et al. 2004	High	Difference in anterior laxity relative to normal knee at 20° of flexion in mm	Double-bundle	53	1.3 (2.5)	Single-bundle	55	1.2 (2.5)	(-0.854, 1.05)	NS
Adachi et al. 2004	High	Side-to-Side differences of anterior laxity with the knee at 70° of flexion in mm	Double-bundle	53	1.2 (1.6)	Single-bundle	55	1.5 (2.0)	(-0.992, 0.392)	NS
Adachi et al. 2004	High	Final inaccuracy at low angles in degrees	Double-bundle	53	0.68 (1.4)	Single-bundle	55	0.75 (1.4)	(-0.604, 0.464)	NS
Adachi et al. 2004	High	Final inaccuracy at greater angles in degrees	Double-bundle	53	0.67 (1.1)	Single-bundle	55	0.64 (1.1)	(-0.39, 0.45)	NS
Adachi et al. 2004	High	Incidence of notchplasty	Double-bundle	53	10/53 (19%)	Single-bundle	55	20/55 (36%)	P = 0.0454	Favors single-bundle

Table 10: PICO 7 – 3 and 5 Year Follow-Up – NA

Author	Study Strength	Outcome	Treatment Group 1	n1	Mean(sd)1 or (E1/N1 (%))	Treatment Group 2	n2	Mean(sd)2 or (E2/N2 (%))	Results (Mean difference or RR)	Favors
Suomalainen et al. 2012	High	Failure	Single bundle with bioabsorbable screw	28	7/28 (25%)	Single bundle with metallic screw	27	3/27 (11%)	2.250(0.648,7.813)	NS
Suomalainen et al. 2012	High	Failure	Double bundle	21	1/21 (5%)	Single bundle with bioabsorbable screw	28	7/28 (25%)	0.190(0.025,1.432)	NS
Suomalainen et al. 2012	High	Failure	Double bundle	21	1/21 (5%)	Single bundle with metallic screw	27	3/27 (11%)	0.429(0.048,3.83)	NS
Suomalainen et al. 2012	High	IKDC A(normal)	Double bundle	20	5/20 (25%)	Single bundle with bioabsorbable screw	21	3/21 (14%)	1.750(0.480,6.381)	NS
Suomalainen et al. 2012	High	IKDC A(normal)	Double bundle	20	5/20 (25%)	Single bundle with metallic screw	24	3/24 (13%)	2.000(0.544,7.357)	NS
Suomalainen et al. 2012	High	IKDC A(normal)	Single bundle with bioabsorbable screw	21	3/21 (14%)	Single bundle with metallic screw	24	3/24 (13%)	1.143(0.258,5.067)	NS
Suomalainen et al. 2012	High	IKDC B(nearly normal)	Double bundle	20	11/20 (55%)	Single bundle with bioabsorbable screw	21	13/21 (62%)	0.888(0.529,1.493)	NS
Suomalainen et al. 2012	High	IKDC B(nearly normal)	Double bundle	20	11/20 (55%)	Single bundle with metallic screw	24	12/24 (50%)	1.100(0.626,1.932)	NS
Suomalainen et al. 2012	High	IKDC B(nearly normal)	Single bundle with bioabsorbable screw	21	13/21(62%)	Single bundle with metallic screw	24	12/24(50%)	1.238(0.734,2.087)	NS
Suomalainen et al. 2012	High	IKDC C(abnormal)	Double bundle	20	4/20(20%)	Single bundle with bioabsorbable screw	21	5/21(24%)	0.840(0.262,2.689)	NS
Suomalainen et al. 2012	High	IKDC C(abnormal)	Double bundle	20	4/20(20%)	Single bundle with metallic screw	24	24-Sep	0.533(0.193,1.475)	NS
Suomalainen et al. 2012	High	IKDC C(abnormal)	Single bundle with bioabsorbable screw	21	5/21(24%)	Single bundle with metallic screw	24	9/24(38%)	0.635(0.252,1.598)	NS
Suomalainen et al. 2012	High	Lateral femorotibial compartment (Grade I arthrosis)	Double bundle	20	1/20(5%)	Single bundle with bioabsorbable screw	21	2/21(10%)	0.525(0.052,5.348)	NS
Suomalainen et al. 2012	High	Lateral femorotibial compartment (Grade I arthrosis)	Double bundle	20	1/20(5%)	Single bundle with metallic screw	24	3/24(13%)	0.400(0.045,3.553)	NS
Suomalainen et al. 2012	High	Lateral femorotibial compartment (Grade I arthrosis)	Single bundle with bioabsorbable screw	21	2/21(10%)	Single bundle with metallic screw	24	3/24(13%)	0.762(0.140,4.132)	NS
Suomalainen et al. 2012	High	Lateral femorotibial compartment (Grade II arthrosis)	Double bundle	20	1/20(5%)	Single bundle with bioabsorbable screw	21	2/21(10%)	0.525(0.052,5.348)	NS
Suomalainen et al. 2012	High	Lateral femorotibial compartment (Grade II arthrosis)	Double bundle	20	1/20(5%)	Single bundle with metallic screw	24	0/24(0%)	3.571(0.153,83.142)	NS
Suomalainen et al. 2012	High	Lateral femorotibial compartment (Grade II arthrosis)	Single bundle with bioabsorbable screw	21	2/21(10%)	Single bundle with metallic screw	24	0/24(0%)	5.682(0.288,112.066)	NS
Suomalainen et al. 2012	High	Lateral femorotibial compartment (Grade III-IV arthrosis)	Double bundle	20	0/20(0%)	Single bundle with bioabsorbable screw	21	0/21(0%)	NA	NS
Suomalainen et al. 2012	High	Lateral femorotibial compartment (Grade III-IV arthrosis)	Double bundle	20	0/20(0%)	Single bundle with metallic screw	24	1/24(4%)	0.397(0.017,9.238)	NS
Suomalainen et al. 2012	High	Lateral femorotibial compartment (Grade III-IV arthrosis)	Single bundle with bioabsorbable screw	21	0/21(0%)	Single bundle with metallic screw	24	1/24(4%)	0.379(0.016,8.83)	NS
Suomalainen et al. 2012	High	Lateral femorotibial compartment (Normal)	Double bundle	20	18/20(90%)	Single bundle with bioabsorbable screw	21	17/21(81%)	1.112(0.863,1.433)	NS

Author	Study Strength	Outcome	Treatment Group 1	n1	Mean(sd)1 or (E1/N1 (%))	Treatment Group 2	n2	Mean(sd)2 or (E2/N2 (%))	Results (Mean difference or RR)	Favors
Suomalainen et al. 2012	High	Lateral femorotibial compartment (Normal)	Double bundle	20	18/20(90%)	Single bundle with metallic screw	24	20/24(83%)	1.080(0.857,1.361)	NS
Suomalainen et al. 2012	High	Lateral femorotibial compartment (Normal)	Single bundle with bioabsorbable screw	21	17/21(81%)	Single bundle with metallic screw	24	20/24(83%)	0.971(0.739,1.278)	NS
Suomalainen et al. 2012	High	Lysholm score	Double bundle	20	90 (9)	Single bundle with bioabsorbable screw	21	86 (13)	4(-3.08,11.08)	NS
Suomalainen et al. 2012	High	Lysholm score	Double bundle	20	90 (9)	Single bundle with metallic screw	24	87 (17)	3(-5.52,11.52)	NS
Suomalainen et al. 2012	High	Lysholm score	Single bundle with bioabsorbable screw	21	86 (13)	Single bundle with metallic screw	24	87 (17)	-1(-1019,8.19)	NS
Suomalainen et al. 2012	High	Medial femorotibial compartment (Grade I arthrosis)	Double bundle	20	3/20 (15%)	Single bundle with bioabsorbable screw	21	5/21 (24%)	0.630(0.173,2.297)	NS
Suomalainen et al. 2012	High	Medial femorotibial compartment (Grade I arthrosis)	Double bundle	20	3/20 (15%)	Single bundle with metallic screw	24	6/24 (25%)	0.600(0.171,2.099)	NS
Suomalainen et al. 2012	High	Medial femorotibial compartment (Grade I arthrosis)	Single bundle with bioabsorbable screw	21	5/21 (24%)	Single bundle with metallic screw	24	6/24 (25%)	0.952(0.339,2.674)	NS
Suomalainen et al. 2012	High	Medial femorotibial compartment (Grade II arthrosis)	Double bundle	20	1/20 (5%)	Single bundle with bioabsorbable screw	21	1/21 (5%)	1.050(0.070,15.676)	NS
Suomalainen et al. 2012	High	Medial femorotibial compartment (Grade II arthrosis)	Double bundle	20	1/20 (5%)	Single bundle with metallic screw	24	1/24 (4%)	1.200(0.080,17.991)	NS
Suomalainen et al. 2012	High	Medial femorotibial compartment (Grade II arthrosis)	Single bundle with bioabsorbable screw	21	1/21 (5%)	Single bundle with metallic screw	24	1/24 (4%)	1.143(0.076,17.163)	NS
Suomalainen et al. 2012	High	Medial femorotibial compartment (Grade III-IV arthrosis)	Double bundle	20	0/20 (0%)	Single bundle with bioabsorbable screw	21	0/21 (0%)	NA	NS
Suomalainen et al. 2012	High	Medial femorotibial compartment (Grade III-IV arthrosis)	Double bundle	20	0/20 (0%)	Single bundle with metallic screw	24	1/24 (4%)	0.397(0.017,9.238)	NS
Suomalainen et al. 2012	High	Medial femorotibial compartment (Grade III-IV arthrosis)	Single bundle with bioabsorbable screw	21	0/21 (0%)	Single bundle with metallic screw	24	1/24 (4%)	0.379(0.016,8.830)	NS
Suomalainen et al. 2012	High	Medial femorotibial compartment (Normal)	Double bundle	20	16/20 (80%)	Single bundle with bioabsorbable screw	21	15/21 (71%)	1.120(0.791,1.586)	NS
Suomalainen et al. 2012	High	Medial femorotibial compartment (Normal)	Double bundle	20	16/20 (80%)	Single bundle with metallic screw	24	15/24 (63%)	1.280(0.876,1.871)	NS
Suomalainen et al. 2012	High	Medial femorotibial compartment (Normal)	Single bundle with bioabsorbable screw	21	15/21 (71%)	Single bundle with metallic screw	24	15/24 (63%)	1.143(0.757,1.724)	NS
Suomalainen et al. 2012	High	Patellofemoral compartment (Grade I arthrosis)	Double bundle	20	4/20 (20%)	Single bundle with bioabsorbable screw	21	7/21 (33%)	0.600(0.207,1.740)	NS
Suomalainen et al. 2012	High	Patellofemoral compartment (Grade I arthrosis)	Double bundle	20	4/20 (20%)	Single bundle with metallic screw	24	4/24 (17%)	1.200(0.343,4.199)	NS
Suomalainen et al. 2012	High	Patellofemoral compartment (Grade I arthrosis)	Single bundle with bioabsorbable screw	21	7/21 (33%)	Single bundle with metallic screw	24	4/24 (17%)	2.000(0.679,5.889)	NS
Suomalainen et al. 2012	High	Patellofemoral compartment (Grade II arthrosis)	Double bundle	20	1/20 (5%)	Single bundle with bioabsorbable screw	21	1/21 (5%)	1.050(0.070,15.676)	NS
Suomalainen et al. 2012	High	Patellofemoral compartment (Grade II arthrosis)	Double bundle	20	1/20 (5%)	Single bundle with metallic screw	24	2/24 (8%)	0.600(0.059,6.142)	NS
Suomalainen et al. 2012	High	Patellofemoral compartment (Grade II arthrosis)	Single bundle with bioabsorbable screw	21	1/21 (5%)	Single bundle with metallic screw	24	2/24 (8%)	0.571(0.056,5.861)	NS

Author	Study Strength	Outcome	Treatment Group 1	n1	Mean(sd)1 or (E1/N1 (%))	Treatment Group 2	n2	Mean(sd)2 or (E2/N2 (%))	Results (Mean difference or RR)	Favors
Suomalainen et al. 2012	High	Patellofemoral compartment (Grade III-IV arthrosis)	Double bundle	20	0/20 (0%)	Single bundle with bioabsorbable screw	21	0/21 (0%)	NA	NS
Suomalainen et al. 2012	High	Patellofemoral compartment (Grade III-IV arthrosis)	Double bundle	20	0/20 (0%)	Single bundle with metallic screw	24	0/24 (0%)	NA	NS
Suomalainen et al. 2012	High	Patellofemoral compartment (Grade III-IV arthrosis)	Single bundle with bioabsorbable screw	21	0/21 (0%)	Single bundle with metallic screw	24	0/24 (0%)	NA	NS
Suomalainen et al. 2012	High	Patellofemoral compartment (Normal)	Double bundle	20	15/20 (75%)	Single bundle with bioabsorbable screw	21	13/21 (62%)	1.212(0.796,1.844)	NS
Suomalainen et al. 2012	High	Patellofemoral compartment (Normal)	Double bundle	20	15/20 (75%)	Single bundle with metallic screw	24	18/24 (75%)	1.000(0.710,1.409)	NS
Suomalainen et al. 2012	High	Patellofemoral compartment (Normal)	Single bundle with bioabsorbable screw	21	13/21 (62%)	Single bundle with metallic screw	24	18/24 (75%)	0.825(0.549,1.240)	NS
Suomalainen et al. 2012	High	Stability KT-1000 mean	Double bundle	20	1.6 (3.0)	Single bundle with bioabsorbable screw	21	2.2 (2.8)	-0.6(-2.42,1.41)	NS
Suomalainen et al. 2012	High	Stability KT-1000 mean	Double bundle	20	1.6 (3.0)	Single bundle with metallic screw	24	2.3 (3.8)	-0.7(-2.81,1.41)	NS
Suomalainen et al. 2012	High	Stability KT-1000 mean	Single bundle with bioabsorbable screw	21	2.2 (2.8)	Single bundle with metallic screw	24	2.3 (3.8)	0.5(-1.53,2.53)	NS
Suomalainen et al. 2012	High	Stability Pivot-Shift Test (Abnormal)	Double bundle	20	3/20 (15%)	Single bundle with bioabsorbable screw	21	2/21 (10%)	1.575(0.293,8.460)	NS
Suomalainen et al. 2012	High	Stability Pivot-Shift Test (Abnormal)	Double bundle	20	3/20 (15%)	Single bundle with metallic screw	24	6/24 (25%)	0.600(0.171,2.099)	NS
Suomalainen et al. 2012	High	Stability Pivot-Shift Test (Abnormal)	Single bundle with bioabsorbable screw	21	21-Feb	Single bundle with metallic screw	24	6/24 (25%)	0.381(0.086,1.689)	NS

Table 11: PICO 7 – Tibialis Anterior Allograft – NA

Author	Study Strength	Outcome	Treatment Group 1	n1	Mean(sd)1 or (E1/N1 (%))	Treatment Group 2	n2	Mean(sd)2 or (E2/N2 (%))	Results (Mean difference or RR)	Favors
Song et al. 2009	Low	Extension limitation ROM	Double bundle	19	0.8 (1.9)	Single bundle	19	0.5 (1.6)	0.3(-0.85,1.45)	NS
Song et al. 2009	Low	Lachman stability: Grade 0	Double bundle	19	14/19 (73%)	Single bundle	19	12/19 (63%)	1.167(0.754,1.804)	NS
Song et al. 2009	Low	Lachman stability: Grade 1+	Double bundle	19	4/19 (21%)	Single bundle	19	5/19 (26%)	0.800(0.253,2.529)	NS
Song et al. 2009	Low	Lachman stability: Grade 2+	Double bundle	19	1/19 (5%)	Single bundle	19	2/19 (11%)	0.500(0.049,5.061)	NS
Song et al. 2009	Low	Lachman stability: Grade 3+	Double bundle	19	0/19 (0%)	Single bundle	19	0/19 (0%)	NA	NS
Song et al. 2009	Low	Lysholm score	Double bundle	19	93.3 (6.2)	Single bundle	19	92.5 (7.7)	0.8(-3.79,5.39)	NS
Song et al. 2009	Low	Pivot-Shift stability: Grade 0	Double bundle	19	14/19 (73%)	Single bundle	19	11/19 (58%)	1.273 (0.797,2.033)	NS
Song et al. 2009	Low	Pivot-Shift stability: Grade 1+	Double bundle	19	4/19 (21%)	Single bundle	19	6/19 (32%)	0.667 (0.223,1.990)	NS
Song et al. 2009	Low	Pivot-Shift stability: Grade 2+	Double bundle	19	1/19 (5%)	Single bundle	19	2/19 (11%)	0.500 (0.049,5.061)	NS
Song et al. 2009	Low	Pivot-Shift stability: Grade 3+	Double bundle	19	0/19 (0%)	Single bundle	19	0/19 (0%)	NA	NS
Song et al. 2009	Low	Side-to-Side difference ROM	Double bundle	19	2.7 (1.9)	Single bundle	19	2.8 (2.0)	-0.1(-1.38,1.18)	NS
Song et al. 2009	Low	Tegner activity score	Double bundle	19	6.9 (1.1)	Single bundle	19	6.9 (1.3)	0(-0.79,0.790	NS

Table 12: PICO 9 – Postoperative Bracing

Author	Study Strength	Outcome	Treatment Group 1	n1	Mean(sd)1 or (E1/N1 (%))	Treatment Group 2	n2	Mean(sd)2 or (E2/N2 (%))	Results (Mean difference or RR)	Favors
McDevitt et al. 2004	High	Return to sport	No brace	48	47/48(98%)	Brace	47	47/47(100%)	0.98(0.94,1.02)	NS
McDevitt et al. 2004	High	Subsequent injuries	No brace	48	45/48(94%)	Brace	47	45/47(96%)	0.98(0.89,1.07)	NS
McDevitt et al. 2004	High	Range of motion (Loss of knee extension)	No brace	48	1/48(2%)	Brace	47	2/47(4%)	0.49(0.045,5.22)	NS
McDevitt et al. 2004	High	Prone heel height difference (mean and range)	No brace	48	2.9cm(0 to 5)	Brace	47	2.3cm(-1.5 to 4)	NA	NS
McDevitt et al. 2004	High	Strength (Isokinetic testing knee concentric peak torque >90% of the opposite knee)	No brace	48	NR	Brace	47	NR	NA	NS
McDevitt et al. 2004	High	Function (Single-legged hop for distance mean and range)	No brace	48	95%(92%-104%)	Brace	47	96%(94%-105%)	NA	NS
McDevitt et al. 2004	High	Lysholm knee score (mean and range)	No brace	48	93(79-100)	Brace	47	94(86-100)	NA	NS
McDevitt et al. 2004	High	Stability (KT-1000 manual maximum side to side difference)	No brace	48	0-5mm	Brace	47	-4 to 5mm	NA	NS
McDevitt et al. 2004	High	IKDC	No brace	48	NR	Brace	47	NR	NA	NS
McDevitt et al. 2004	High	IKDC (Normal or nearly normal)	No brace	48	98%	Brace	47	98%	NA	NS
McDevitt et al. 2004	High	Lachman test (2+)	No brace	48	1/48(2%)	Brace	47	1/47(2%)	0.97(0.06,15.2)	NS
McDevitt et al. 2004	High	Pivot shift test (2+)	No brace	48	1/48(2%)	Brace	47	2/47(4%)	0.49(0.04,5.22)	NS
Birmingham et al. 2008	High	Symptoms and physical complaints (ACL-QOL)	Brace	62	83.7(17.6)	Sleeve	65	84.1(17.4)	-0.4(-6.55,5.75)	NS
Birmingham et al. 2008	High	Work/school related concerns (ACL-QOL)	Brace	62	80.8(19.7)	Sleeve	65	82.9(20.9)	-2.1(-9.24,5.04)	NS
Birmingham et al. 2008	High	Recreational activities and sport (ACL-QOL)	Brace	62	63.8(27.3)	Sleeve	65	69(25.8)	-5.2(-14.52,4.12)	NS
Birmingham et al. 2008	High	Lifestyle (ACL-QOL)	Brace	62	80.3(22.1)	Sleeve	65	80.2(19.6)	0.1(-7.23,7.43)	NS
Birmingham et al. 2008	High	Social and emotional (ACL-QOL)	Brace	62	70.9(24.3)	Sleeve	65	73.6(23.2)	-2.7(-11.04,5.64)	NS
Birmingham et al. 2008	High	ACL-QOL total	Brace	62	76.1(19.1)	Sleeve	65	77.6(19.3)	-1.5(-8.25,5.25)	NS
Birmingham et al. 2008	High	Stability (KT-1000 side to side difference mm)	Brace	62	2.3(2.3)	Sleeve	65	2.3(2.5)	0(-0.84,0.84)	NS
Birmingham et al. 2008	High	Limb symmetry index (%)	Brace	62	95.2%(22%)	Sleeve	65	96%(16.2%)	NA	NS
Birmingham et al. 2008	High	Stability (Lachman Normal)	Brace	62	24/62(44%)	Sleeve	65	25/65(43%)	1.01(0.65,1.56)	NS
Birmingham et al. 2008	High	Stability (Lachman Nearly normal +)	Brace	62	28/62(51%)	Sleeve	65	31/65(53%)	0.95(0.65,1.38)	NS
Birmingham et al. 2008	High	Stability (Lachman Abnormal ++)	Brace	62	3/62(6%)	Sleeve	65	2/65(3%)	1.57(0.27,9.1)	NS
Birmingham et al. 2008	High	Stability (Lachman Severely abnormal +++)	Brace	62	0/62(0%)	Sleeve	65	0/65(0%)	NA	NS
Birmingham et al. 2008	High	Stability (Pivot shift Normal)	Brace	62	32/62(59%)	Sleeve	65	38/65(67%)	0.88(0.64,1.21)	NS
Birmingham et al. 2008	High	Stability (Pivot shift Nearly normal glide)	Brace	62	20/62(37%)	Sleeve	65	16/65(28%)	1.31(0.75,2.29)	NS

Author	Study Strength	Outcome	Treatment Group 1	n1	Mean(sd)1 or (E1/N1 (%))	Treatment Group 2	n2	Mean(sd)2 or (E2/N2 (%))	Results (Mean difference or RR)	Favors
Birmingham et al. 2008	High	Stability (Pivot shift Abnormal clunk)	Brace	62	2/62(4%)	Sleeve	65	3/65(5%)	0.7(0.12,4.04)	NS
Birmingham et al. 2008	High	Stability (Pivot shift Severely abnormal gross)	Brace	62	0/62(0%)	Sleeve	65	0/62(0%)	NA	NS
Birmingham et al. 2008	High	Range of motion (Extension loss in degrees compared to contralateral knee)	Brace	62	2.2(2.8)	Sleeve	65	3.6(5.6)	-1.4(-2.97,0.17)	NS
Birmingham et al. 2008	High	Range of motion (Flexion loss in degrees compared to contralateral knee)	Brace	62	3.2(10.7)	Sleeve	65	3.2(10.7)	0(-3.76,3.76)	NS
Birmingham et al. 2008	High	Tegner activity score	Brace	62	6.3(1.8)	Sleeve	65	6.4(1.9)	-0.1(-0.75,0.55)	NS
Birmingham et al. 2008	High	Failure	Brace	62	3/62(5%)	Sleeve	65	3/65(5%)	1.05(0.22,4.99)	NS

Table 13: PICO 10 – ACL Injury Prevention (Prophylactic Brace)

Author	Outcome	Follow-up	Treatment Group 1	n1	Mean (sd)1 or (E1/N1(%))	Treatment Group 2	n2	Mean (sd)2 or (E2/N2(%))	Results (Mean Difference or RR)	Favors
Sitler et al. 1990	ACL Injury	One Season (1986)	Prophylactic Knee Brace	691	2/691(0.3%)	No Brace	705	5/705(0.7%)	0.4(0.08,2.09)	NS
Sitler et al. 1990	ACL Injury	One Season (1987)	Prophylactic Knee Brace	691	2/691(0.3%)	No Brace	705	7/705(0.9%)	0.3(0.06,1.39)	NS
Sitler et al. 1990	ACL Injury	2 Years Combined	Prophylactic Knee Brace	691	4/691(0.6%)	No Brace	705	12/705(1.7%)	0.34(0.11,1.05)	NS
Sitler et al. 1990	Medial Collateral Ligament Injury	One Season (1986)	Prophylactic Knee Brace	691	6/691(0.9%)	No Brace	705	5/705(0.7%)	11/705(1.6%)	NS
Sitler et al. 1990	Medial Collateral Ligament Injury	One Season (1987)	Prophylactic Knee Brace	691	6/691(0.9%)	No Brace	705	7/705(0.9%)	14/705(2.03%)	NS
Sitler et al. 1990	Medial Collateral Ligament Injury	2 Years Combined	Prophylactic Knee Brace	691	12/691(1.77%)	No Brace	705	12/705(1.7%)	25/705(3.68%)	NS
Sitler et al. 1990	Lateral Collateral Ligament Injury	One Season (1986)	Prophylactic Knee Brace	691	0/691(0%)	No Brace	705	2/705(0.3%)	0.2(0.00,4.24)	NS
Sitler et al. 1990	Lateral Collateral Ligament Injury	One Season (1987)	Prophylactic Knee Brace	691	1/691(0.14%)	No Brace	705	3/705(0.4%)	0.34(0.11,1.05)	NS
Sitler et al. 1990	Lateral Collateral Ligament Injury	2 Years Combined	Prophylactic Knee Brace	691	1/691(0.14%)	No Brace	705	5/705(0.7%)	0.2(0.09,0.49)	NS
Sitler et al. 1990	Posterior Collateral Ligament Injury	One Season (1986)	Prophylactic Knee Brace	691	0/691(0%)	No Brace	705	2/705(0.3%)	0.2(0.009,4.24)	NS
Sitler et al. 1990	Posterior Collateral Ligament Injury	One Season (1987)	Prophylactic Knee Brace	691	0/691(0%)	No Brace	705	1/705(0.14%)	0.34(0.01,8.33)	NS
Sitler et al. 1990	Posterior Collateral Ligament Injury	2 Years Combined	Prophylactic Knee Brace	691	0/691(0%)	No Brace	705	3/705(0.4%)	0.14(0.007,2.81)	NS
Sitler et al. 1990	Medial Meniscus Injury	One Season (1986)	Prophylactic Knee Brace	691	0/691(0%)	No Brace	705	1/705(0.14%)	0.34(0.014)	NS
Sitler et al. 1990	Medial Meniscus Injury	One Season (1987)	Prophylactic Knee Brace	691	1/691(0.14%)	No Brace	705	1/705(0.14%)	1.02(0.14,7.24)	NS
Sitler et al. 1990	Medial Meniscus Injury	2 Years Combined	Prophylactic Knee Brace	691	1/691(0.14%)	No Brace	705	2/705(0.3%)	0.51(0.13,2.04)	NS
Sitler et al. 1990	Lateral Meniscus Injury	One Season (1986)	Prophylactic Knee Brace	691	1/691(0.14%)	No Brace	705	2/705(0.3%)	0.51(0.13,2.04)	NS
Sitler et al. 1990	Lateral Meniscus Injury	One Season (1987)	Prophylactic Knee Brace	691	1/691(0.14%)	No Brace	705	2/705(0.3%)	0.51(0.13,2.04)	NS
Sitler et al. 1990	Lateral Meniscus Injury	2 Years Combined	Prophylactic Knee Brace	691	2/691(0.3%)	No Brace	705	4/705(0.57%)	0.51(0.19,1.36)	NS
Sitler et al. 1990	Any Ligament Injury	One Season (1986)	Prophylactic Knee Brace	691	9/691(1.3%)	No Brace	705	23/705(0.3%)	0.4(0.27,0.6)	NS
Sitler et al. 1990	Any Ligament Injury	One Season (1987)	Prophylactic Knee Brace	691	11/691(1.6%)	No Brace	705	28/705(0.4%)	0.4(0.28,0.58)	NS
Sitler et al. 1990	Any Ligament Injury	2 Years Combined	Prophylactic Knee Brace	691	20/691(2.9%)	No Brace	705	51/705(7.2%)	0.4(0.31,0.52)	NS
Deppen et al. 1994	ACL Tear	4 Years	Prophylactic Knee Brace	21640 Exposures	2	No Brace	19484 Exposures	6	NA	NS

Author	Outcome	Follow-up	Treatment Group 1	n1	Mean (sd)1 or (E1/N1(%))	Treatment Group 2	n2	Mean (sd)2 or (E2/N2(%))	Results (Mean Difference or RR)	Favors
Deppen et al. 1995	Meniscus Tears	4 Years	Prophylactic Knee Brace	21640 Exposures	1	No Brace	19484 Exposures	2	NA	NS
Deppen et al. 1996	Medial Collateral Ligament Sprain (Grade 2)	4 Years	Prophylactic Knee Brace	21640 Exposures	5	No Brace	19484 Exposures	0	NA	NS
Deppen et al. 1997	Medial Collateral Ligament Sprain (Grade 1)	4 Years	Prophylactic Knee Brace	21640 Exposures	11	No Brace	19484 Exposures	10	NA	NS
Deppen et al. 1998	Contusions	4 Years	Prophylactic Knee Brace	21640 Exposures	2	No Brace	19484 Exposures	4	NA	NS
Deppen et al. 1999	Other	4 Years	Prophylactic Knee Brace	21640 Exposures	2	No Brace	19484 Exposures	4	NA	NS
Deppen et al. 2000	Total	4 Years	Prophylactic Knee Brace	21640 Exposures	23	No Brace	19484 Exposures	26	NA	NS

Table 14: PICO 11 – Training vs. No Training – Adverse Events

Author	Outcome	Sports	Treatment Group 1	n1	Mean(sd)1 or (E1/N1 (%))	Treatment Group 2	n2	Mean(sd)2 or (E2/N2 (%))	Results (Mean difference or RR)	Favors
Heidt et al. 2000	ACL tear	Soccer	Frappier acceleration training program	42	1/42(2.4%)	Untrained	258	8/258(3.1%)	0.77(0.09,5.98)	NS
Heidt et al. 2000	MCL sprain or tear	Soccer	Frappier acceleration training program	42	1/42(2.4%)	Untrained	258	6/258(2.3%)	1(0.13,8.29)	NS
Heidt et al. 2000	Chondromalacia patellae	Soccer	Frappier acceleration training program	42	0/42(0%)	Untrained	258	6/258(2.3%)	0.46(0.26,8.08)	NS
Heidt et al. 2000	Meniscal tear	Soccer	Frappier acceleration training program	42	0/42(0%)	Untrained	258	3/258(1.2%)	0.86(0.04,16.37)	NS
Heidt et al. 2000	Contusion	Soccer	Frappier acceleration training program	42	0/42(0%)	Untrained	258	3/258(1.2%)	0.86(0.04,16.37)	NS
Heidt et al. 2000	Bursitis	Soccer	Frappier acceleration training program	42	1/42(2.4%)	Untrained	258	0/258(0%)	18.07(0.75,436.41)	NS
Heidt et al. 2000	Strain	Soccer	Frappier acceleration training program	42	0/42(0%)	Untrained	258	1/258(0.4%)	2(0.083,48.49)	NS
Heidt et al. 2000	Patellar subluxation	Soccer	Frappier acceleration training program	42	0/42(0%)	Untrained	258	1/258(0.4%)	2(0.083,48.49)	NS
Heidt et al. 2000	Patellar dislocation	Soccer	Frappier acceleration training program	42	0/42(0%)	Untrained	258	1/258(0.4%)	2(0.083,48.49)	NS
Hewette et al. 1999	ACL injury only	Soccer, Volleyball, Basketball	Preseason neuromuscular training program	366	1/366(0.2%)	Untrained	463	5/463(1%)	2(0.08,48.49)	NS
Hewette et al. 1999	ACL and MCL injury	Soccer, Volleyball, Basketball	Preseason neuromuscular training program	366	1/366(0.2%)	Untrained	463	0/463(0%)	3.79(0.15,92.84)	NS
Hewette et al. 1999	ACL injury	Volleyball	Preseason neuromuscular training program	185	0/185(0%)	Untrained	81	0/81(0%)	NA	NS
Hewette et al. 1999	ACL injury	Soccer	Preseason neuromuscular training program	97	0/185(0%)	Untrained	193	2/81(2.5%)	0.08(0.004,1.81)	NS
Hewette et al. 1999	MCL injury	Soccer	Preseason neuromuscular training program	97	0/97(0%)	Untrained	193	3/193(1.5%)	0.28(0.015,5.50)	NS
Hewette et al. 1999	ACL injury	Basketball	Preseason neuromuscular training program	84	1/84(1.2%)	Untrained	189	3/189(1.6%)	0.75(0.08,7.1)	NS
Hewette et al. 1999	ACL/MCL injury	Basketball	Preseason neuromuscular training program	84	1/84(1.2%)	Untrained	189	0/189(0%)	6.7(0.27,162.94)	NS
Hewette et al. 1999	MCL injury	Basketball	Preseason neuromuscular training program	84	0/84(0%)	Untrained	189	2/189(1%)	0.45(0.02,9.3)	NS
Hewette et al. 1999	ACL injury	Soccer	Untrained	436	1/436(0.2%)					
Hewette et al. 1999	MCL injury	Basketball	Untrained	436	1/436(0.2%)					

Author	Outcome	Sports	Treatment Group 1	n1	Mean(sd)1 or (E1/N1 (%))	Treatment Group 2	n2	Mean(sd)2 or (E2/N2 (%))	Results (Mean difference or RR)	Favors
Olsen et al. 2005	ACL injury	Handball	Structured warm up program	958	3/958(0.3%)	Training as usual	879	10/879(1.13%)	0.27(0.07,0.99)	Favors warm up program
Soderman et al. 2000	ACL injury	Soccer	Balance board training	62	3/62(4.8%)	Training as usual	78	1/78(1.3%)	3.7(0.4,35.4)	NS
Soderman et al. 2000	ACL and MCL injury	Soccer	Balance board training	62	1/62(1.6%)	Training as usual	78	0/78(0%)	3.76(0.15,90.7)	NS
Soderman et al. 2000	MCL injury	Soccer	Balance board training	62	1/62(1.6%)	Training as usual	78	1/78(1.3%)	1.26(0.08,19.7)	NS
Soderman et al. 2000	LCL injury	Soccer	Balance board training	62	2/62(3.2%)	Training as usual	78	0/78(0%)	6.27(0.3,128.26)	NS
Soderman et al. 2000	Contusion	Soccer	Balance board training	62	1/62(1.6%)	Training as usual	78	4/78(5.1%)	0.31(0.03,2.74)	NS
Petersen et al. 2005	All knee injuries	Handball	Prevention training program	134	5/134(3%)	Training as usual	142	9/142(6%)	0.59(0.2,1.71)	NS
Petersen et al. 2005	All knee injuries from 1000 h exposure	Handball	Prevention training program	134	0.18	Training as usual	142	0.56	NA	
Petersen et al. 2005	ACL injury	Handball	Prevention training program	134	1/134(0.7%)	Training as usual	142	5/142(3%)	0.21(0.03,1.79)	NS
Petersen et al. 2005	ACL injury from 1000h of exposures	Handball	Prevention training program	134	0.04	Training as usual	142	0.21	NA	
Petersen et al. 2005	PCL injury	Handball	Prevention training program	134	0/134(0%)	Training as usual	142	0/142(0%)	NA	NS
Petersen et al. 2005	PCL injury from 1000h of exposures	Handball	Prevention training program	134	NA	Training as usual	142	NA		
Petersen et al. 2005	MCL/LCL injury	Handball	Prevention training program	134	1/134(0.7%)	Training as usual	142	1/142(0.07%)	1.06(0.07,16.77)	NS
Petersen et al. 2005	PCL injury from 1000h of exposures	Handball	Prevention training program	134	0.04	Training as usual	142	0.04	NA	NS
Petersen et al. 2005	Meniscus injury	Handball	Prevention training program	134	1/134(0.7%)	Training as usual	142	2/142(1.5%)	0.53(0.05,5.78)	NS
Petersen et al. 2005	Meniscus injury from 1000h of exposures	Handball	Prevention training program	134	0.04	Training as usual	142	0.08	NA	NS
Petersen et al. 2005	Other injury	Handball	Prevention training program	134	1/134(0.7%)	Training as usual	142	2/142(1.5%)	0.53(0.05,5.78)	NS
Petersen et al. 2005	Other injury from 1000h exposure	Handball	Prevention training program	134	0.04	Training as usual	142	0.08	NA	NA
Gilchrist et al. 2008	All knee injuries	Soccer	PEP training program	583	40/583(7%)	Training as usual	852	58/852(7%)	1.01(0.68,1.49)	NS
Gilchrist et al. 2008	ACL injury	Soccer	PEP training program	583	7/583(1.2%)	Training as usual	852	18/852(2%)	0.57(0.24,1.35)	NS
Gilchrist et al. 2008	Noncontact ACL injury	Soccer	PEP training program	583	2/583(0.3%)	Training as usual	852	10/852(1.2%)	0.29(0.06,1.33)	NS
Gilchrist et al. 2008	All knee injuries in practice	Soccer	PEP training program	583	8/583(1.37%)	Training as usual	852	19/852(2.2%)	0.62(0.27,1.4)	NS

Author	Outcome	Sports	Treatment Group 1	n1	Mean(sd)1 or (E1/N1 (%))	Treatment Group 2	n2	Mean(sd)2 or (E2/N2 (%))	Results (Mean difference or RR)	Favors
Gilchrist et al. 2008	ACL injury in practice	Soccer	PEP training program	583	0/583(0%)	Training as usual	852	6/852(0.7%)	0.11(0.006,1.99)	NS
Gilchrist et al. 2008	Noncontact ACL injury in practice	Soccer	PEP training program	583	0/583(0%)	Training as usual	852	3/852(0.3%)	0.2(0.01,4.03)	NS
Gilchrist et al. 2008	All knee injuries in game	Soccer	PEP training program	583	29/583(5%)	Training as usual	852	37/852(4.34%)	1.15(0.71,1.84)	NS
Gilchrist et al. 2008	ACL injury in game	Soccer	PEP training program	583	7/583(1.2%)	Training as usual	852	12/852(1.4%)	0.85(0.34,2.15)	NS
Gilchrist et al. 2008	Noncontact ACL injury in game	Soccer	PEP training program	583	2/583(0.3%)	Training as usual	852	7/852(0.8%)	0.42(0.09,2)	NS
Gilchrist et al. 2008	All knee injuries (History of past ACL injury)	Soccer	PEP training program	583	7/583(1.2%)	Training as usual	852	16/852(1.9%)	0.64(0.26,1.54)	NS
Gilchrist et al. 2008	ACL injury (History of past ACL injury)	Soccer	PEP training program	583	1/583(0.2%)	Training as usual	852	7/852(0.8%)	0.21(0.03,1.69)	NS
Gilchrist et al. 2008	Noncontact ACL injury (History of past ACL injury)	Soccer	PEP training program	583	0/583(0%)	Training as usual	852	4/852(0.5%)	0.16(0.008,3.008)	NS
Gilchrist et al. 2008	All knee injuries (No history of past ACL injury)	Soccer	PEP training program	583	33/583(5.6%)	Training as usual	852	41/852(4.81)	1.18(0.75,1.84)	NS
Gilchrist et al. 2008	ACL injury (No history of past ACL injury)	Soccer	PEP training program	583	6/583(1%)	Training as usual	852	10/852(1.7%)	0.88(0.32,2.4)	NS
Gilchrist et al. 2008	Noncontact ACL injury (No history of past ACL injury)	Soccer	PEP training program	583	2/583(0.3%)	Training as usual	852	6/852(0.7%)	0.49(0.1,2.41)	NS
LaBella et al. 2011	ACL sprain	Soccer and Basketball	Warm-up program	737	2/737(0.3%)	Training as usual	755	6/755(0.8%)	0.34(0.07,1.69)	NS
LaBella et al. 2011	Knee sprain	Soccer and Basketball	Warm-up program	737	6/737(0.8%)	Training as usual	755	11/755(1.4%)	0.55(0.2,1.5)	NS
Caraffa et al. 1996	ACL injury	Soccer	Proprioceptive training program	300	10/300(3%)	Training as usual	300	70/300(23%)	0.14(0.07,0.27)	Favors Training
Mandelbaum et al. 2005	ACL tears	Soccer	Neuromuscular and Proprioceptive training	1041	2/1041	Training as usual	1905	32/1905	0.11(0.03,0.48)	Favors training
Mandelbaum et al. 2005	ACL tears	Soccer	Neuromuscular and Proprioceptive training	844	4/844	Training as usual	1913	35/1913	0.26(0.09,0.73)	Favors training
Mandelbaum et al. 2005	ACL tears	Soccer	Neuromuscular and Proprioceptive training	1885	6/1885	Training as usual	5703	67/3818	0.27(0.12,0.62)	Favors training
Mandelbaum et al. 2005	ACL tears by exposures	Soccer	Neuromuscular and Proprioceptive training	37476	2/37476	Training as usual	68580	32/68580	0.11(0.03,0.48)	Favors training
Mandelbaum et al. 2005	ACL tears by exposures	Soccer	Neuromuscular and Proprioceptive training	30384	4/30384	Training as usual	68868	35/68868	0.26(0.09,0.73)	Favors training
Mandelbaum et al. 2005	ACL tears by exposures	Soccer	Neuromuscular and Proprioceptive training	67860	6/67860	Training as usual	137448	67/137448	0.18(0.08,0.42)	Favors training

Excluded Articles

Author	Article Title	Year	Reason for Exclusion
	Erratum: July 2020 Corrigendum (The Journal of orthopaedic and sports physical therapy)	2020	Erratum
Abdelrazek, B. H.; Gad, A. M.; Abdel-Aziz, A.	Rotational stability after ACL reconstruction using anatomic double bundle technique versus anatomic single bundle technique plus anterolateral ligament augmentation	2019	Confounded; (double bundle) vs (single bundle + ALL)
Abernethy, L.; Bleakley, C.	Strategies to prevent injury in adolescent sport: A systematic review	2007	Systematic review
Abouljoud, M. M.; Everhart, J. S.; Sigman, B. O.; Flanigan, D. C.; Magnussen, R. A.	Risk of Retear Following Anterior Cruciate Ligament Reconstruction Using a Hybrid Graft of Autograft Augmented With Allograft Tissue: A Systematic Review and Meta-analysis	2018	Systematic review: autograft augmented with allograft
Abrams, G. D.; Harris, J. D.; Gupta, A. K.; McCormick, F. M.; Bush-Joseph, C. A.; Verma, N. N.; Cole, B. J.; Bach, B. R., Jr.	Functional Performance Testing After Anterior Cruciate Ligament Reconstruction: A Systematic Review	2014	Systematic review
Abruscato, K.; Browning, K.; Deleandro, D.; Menard, Q.; Wilhelm, M.; Hassen, A.	Diagnostic Accuracy of the Lever Sign in Detecting Anterior Cruciate Ligament Tears: A Systematic Review and Meta-Analysis	2019	Systematic review
Achenbach, L.; Krutsch, V.; Weber, J.; Nerlich, M.; Luig, P.; Loose, O.; Angele, P.; Krutsch, W.	Neuromuscular exercises prevent severe knee injury in adolescent team handball players	2018	Irrelevant outcome; general knee injury - not ACL specific
Acosta, J.; Ravaei, S.; Brown, S. M.; Mulcahey, M. K.	Examining Techniques for Treatment of Medial Meniscal Ramp Lesions During ACL Reconstruction: A Systematic Review	2020	Systematic review
Agarwalla, A.; Puzzitiello, R. N.; Liu, J. N.; Cvetanovich, G. L.; Gowd, A. K.; Verma, N. N.; Cole, B. J.; Forsythe, B.	Timeline for Maximal Subjective Outcome Improvement After Anterior Cruciate Ligament Reconstruction	2019	Systematic review
Ageberg, E.; Zatterstrom, R.; Moritz, U.; Friden, T.	Influence of supervised and nonsupervised training on postural control after an acute anterior cruciate ligament rupture: a three-year longitudinal prospective study	2001	Training after ACL injury

Author	Article Title	Year	Reason for Exclusion
Ahmad, S. S.; Schreiner, A. J.; Hirschmann, M. T.; Schroter, S.; Dobele, S.; Ahrend, M. D.; Stockle, U.; Ateschrang, A.	Dynamic intraligamentary stabilization for ACL repair: a systematic review	2019	Systematic review; dynamic repair of the anterior cruciate ligament (ACL)
Ahmad, S. S.; Schurholz, K.; Liechti, E. F.; Hirschmann, M. T.; Kohl, S.; Klenke, F. M.	Seventy percent long-term survival of the repaired ACL after dynamic intraligamentary stabilization	2020	Case series
Aizawa, J.; Hirohata, K.; Ohji, S.; Ohmi, T.; Koga, H.; Yagishita, K.	Factors Associated With Psychological Readiness to Return to Sports With Cutting, Pivoting, and Jump-Landings After Primary ACL Reconstruction	2020	Not a test of RTS criteria
Ajuied, A.; Wong, F.; Smith, C.; Norris, M.; Earnshaw, P.; Back, D.; Davies, A.	Anterior cruciate ligament injury and radiologic progression of knee osteoarthritis: a systematic review and meta-analysis	2014	Systematic review
Akada, T.; Yamaura, I.; Gupta, A.; Sakai, H.; Takahashi, K.; Tsuchiya, A.	Partial meniscectomy adversely affects return-to-sport outcome after anatomical double-bundle anterior cruciate ligament reconstruction	2019	Irrelevant comparison; ACL w/out meniscal tear vs. ACL w/ meniscal tear + meniscectomy
Albano, T. R.; Rodrigues, C. A. S.; Melo, A. K. P.; de Paula, P. O.; Almeida, G. P. L.	Clinical Decision Algorithm Associated With Return to Sport After Anterior Cruciate Ligament Reconstruction	2020	CART Model to predict RTS, not a criteria
Albayrak, K.; Buyukkuscu, M. O.; Kurk, M. B.; Kaya, O.; Kulduk, A.; Misir, A.	Leaving the stable ramp lesion unrepaired does not negatively affect clinical and functional outcomes as well as return to sports rates after ACL reconstruction	2021	Irrelevant comparison
Alentorn-Geli, E.; Mendiguchia, J.; Samuelsson, K.; Musahl, V.; Karlsson, J.; Cugat, R.; Myer, G. D.	Prevention of non-contact anterior cruciate ligament injuries in sports. Part II: systematic review of the effectiveness of prevention programmes in male athletes	2014	Systematic review
Allen, T.; Wilson, S.; Cohen, D. D.; Taberner, M.	Drill design using the 'control-chaos continuum': Blending science and art during return to sport following knee injury in elite football	2021	No ACL injury

Author	Article Title	Year	Reason for Exclusion
Alm, L.; Krause, M.; Frosch, K. H.; Akoto, R.	Preoperative medial knee instability is an underestimated risk factor for failure of revision ACL reconstruction	2020	Revision ACL Reconstruction: Preoperative medial knee instability is an underestimated risk factor
Almeida, A.; Valin, M. R.; Ferreira, R.; de Almeida, N. C.; Agostini, A. P.	Correlation between the result from arthroscopic reconstruction of the anterior cruciate ligament of the knee and the return to sports activity	2014	< 2 yr. follow up
Alonso, J.; Malig, S.; FontbotÃ©, C.; Azar, C.; Vergara, F.; YÃ¡Ã±ez, R.	Return to Play after Anterior Cruciate Ligament Reconstruction among Amateur Soccer Players	2019	Case series
Alzakerin, H. M.; Halkiadakis, Y.; Morgan, K. D.	Force and Rate Metrics Provide Return-to-Sport Criterion after ACL Reconstruction	2020	Healthy controls
Anandan, V.; Goh, T. C.; Zamri, K. S.	Single-Bundle Versus Double-Bundle Arthroscopic Anterior Cruciate Ligament Reconstruction: Comparison of Long-Term Functional Outcomes	2020	Grandfather PICO, not RCT
Andernord, D.; Karlsson, J.; Musahl, V.; Bhandari, M.; Fu, F. H.; Samuelsson, K.	Timing of surgery of the anterior cruciate ligament	2013	Systematic review
Anderson, M. J.; Browning, W. M., 3rd; Urband, C. E.; Kluczynski, M. A.; Bisson, L. J.	A Systematic Summary of Systematic Reviews on the Topic of the Anterior Cruciate Ligament	2016	Systematic review
Andersson, C.; Gillquist, J.	Treatment of acute isolated and combined ruptures of the anterior cruciate ligament. A long-term follow-up study	1992	Repair vs conservative treatment
Andersson, C.; Odensten, M.; Good, L.; Gillquist, J.	Surgical or non-surgical treatment of acute rupture of the anterior cruciate ligament. A randomized study with long-term follow-up	1989	Article published before 1990
Andrade, R.; Pereira, R.; van Cingel, R.; Staal, J. B.; Espregueira-Mendes, J.	How should clinicians rehabilitate patients after ACL reconstruction? A systematic review of clinical practice guidelines (CPGs) with a focus on quality appraisal (AGREE II)	2020	Systematic review; irrelevant - rehab after ACLR
Andrews, J. R.; Sanders, R.	A 'mini-reconstruction' technique in treating anterolateral rotatory instability (ALRI)	1983	Old article 1983

Author	Article Title	Year	Reason for Exclusion
Anonymous,	Exercise for Knee Injury Prevention: A Summary of Clinical Practice Guideline Recommendations-Using the Evidence to Guide Physical Therapist Practice	2018	Systematic review
Antosh, I. J.; Cameron, K. L.; Marsh, N. A.; Posner, M. A.; DeBerardino, T. M.; Svoboda, S. J.; Owens, B. D.	Likelihood of Return to Duty Is Low After Meniscal Allograft Transplantation in an Active-duty Military Population	2019	Irrelevant treatment; MAT after ACLR or during ACLR revision
Arastu, M. H.; Grange, S.; Twyman, R.	Prevalence and consequences of delayed diagnosis of anterior cruciate ligament ruptures	2015	Irrelevant comparison; timing of diagnosis
Ardern, C. L.	Anterior Cruciate Ligament Reconstruction-Not Exactly a One-Way Ticket Back to the Preinjury Level: A Review of Contextual Factors Affecting Return to Sport After Surgery	2015	Systematic review
Ardern, C. L.; Kvist, J.; Webster, K. E.	Psychological Aspects of Anterior Cruciate Ligament Injuries	2016	Non-systematic review
Ardern, C. L.; Osterberg, A.; Tagesson, S.; Gauffin, H.; Webster, K. E.; Kvist, J.	The impact of psychological readiness to return to sport and recreational activities after anterior cruciate ligament reconstruction	2014	Not a test of RTS criteria
Ardern, C. L.; Taylor, N. F.; Feller, J. A.; Webster, K. E.	Fifty-five per cent return to competitive sport following anterior cruciate ligament reconstruction surgery: an updated systematic review and meta-analysis including aspects of physical functioning and contextual factors	2014	Systematic review
Ardern, C. L.; Taylor, N. F.; Feller, J. A.; Whitehead, T. S.; Webster, K. E.	Sports participation 2 years after anterior cruciate ligament reconstruction in athletes who had not returned to sport at 1 year: a prospective follow-up of physical function and psychological factors in 122 athletes	2015	Case series; no prog factors of interest
Ardizzone, C. A.; Houck, D. A.; McCartney, D. W.; Vidal, A. F.; Frank, R. M.	All-Inside Repair of Bucket-Handle Meniscal Tears: Clinical Outcomes and Prognostic Factors	2020	Systematic review; irrelevant - not comparing meniscal repair vs none

Author	Article Title	Year	Reason for Exclusion
Arundale, A. J. H.; Bizzini, M.; Giordano, A.; Hewett, T. E.; Logerstedt, D. S.; Mandelbaum, B.; Scalzitti, D. A.; Silvers-Granelli, H.; Snyder-Mackler, L.	Exercise-Based Knee and Anterior Cruciate Ligament Injury Prevention	2018	Systematic review
Arundale, A. J. H.; Capin, J. J.; Zarzycki, R.; Smith, A. H.; Snyder-Mackler, L.	Two Year ACL Reinjury Rate of 2.5%: Outcomes Report of the Men in a Secondary ACL Injury Prevention Program (ACL-Sports)	2018	Not a test of RTS criteria
Asahina, S.; Muneta, T.; Hoshino, A.; Niga, S.; Yamamoto, H.	Intermediate-term results of meniscal repair in anterior cruciate ligament-reconstructed knees	1998	Irrelevant topic: recurrent meniscal tear
Ashigbi, E. Y. K.; Banzer, W.; Niederer, D.	Return to Sport Tests' Prognostic Value for Reinjury Risk after Anterior Cruciate Ligament Reconstruction: A Systematic Review	2020	
Ashton, M. L.; Kraeutler, M. J.; Brown, S. M.; Mulcahey, M. K.	Psychological Readiness to Return to Sport Following Anterior Cruciate Ligament Reconstruction	2020	Non-systematic review
Ateschrang, A.; Ahmad, S. S.; Stockle, U.; Schroeter, S.; Schenk, W.; Ahrend, M. D.	Recovery of ACL function after dynamic intraligamentary stabilization is resultant to restoration of ACL integrity and scar tissue formation	2018	Case series; no comparison group; < 2 yr. follow-up
Ateschrang, A.; Dobele, S.; Freude, T.; Stockle, U.; Schroter, S.; Kraus, T. M.	Acute MCL and ACL injuries: first results of minimal-invasive MCL ligament bracing with combined ACL single-bundle reconstruction	2016	Case series
Austin, K. S.; Sherman, O. H.	Complications of arthroscopic meniscal repair	1993	Not all patients had ACL tear
Bach, B. R., Jr.; Jones, G. T.; Sweet, F. A.; Hager, C. A.	Arthroscopy-assisted anterior cruciate ligament reconstruction using patellar tendon substitution. Two- to four-year follow-up results	1994	Case series; no comparison group
Baez, S. E.; Hoch, M. C.; Hoch, J. M.	Psychological factors are associated with return to pre-injury levels of sport and physical activity after ACL reconstruction	2020	Irrelevant topic; predictors of RTS
Balki, S.; Goktas, H. E.	Short-Term Effects of the Kinesio Taping R on Early Postoperative Hip Muscle Weakness in Male Patients With Hamstring Autograft or Allograft Anterior Cruciate Ligament Reconstruction	2019	< 6-month FU (10 days)

Author	Article Title	Year	Reason for Exclusion
Banasiri, M.; Shahrezaee, M.; Sharifzadeh, S. R.; Okhovatpour, M. A.	Factors associated with anterior cruciate ligament (ACL) rupture among patients undergoing hamstring-autograft operation	2018	No comparison group
Bansal, A.; Lamplot, J. D.; VandenBerg, J.; Brophy, R. H.	Meta-analysis of the Risk of Infections After Anterior Cruciate Ligament Reconstruction by Graft Type	2018	Systematic review
Barber, B. R.; McNally, E. G.	Meniscal Injuries and Imaging the Postoperative Meniscus	2013	Non-systematic review
Barber-Westin, S.; Noyes, F. R.	One in 5 Athletes Sustain Reinjury Upon Return to High-Risk Sports After ACL Reconstruction: A Systematic Review in 1239 Athletes Younger Than 20 Years	2020	Irrelevant systematic review
Baron, J. E.; Parker, E. A.; Duchman, K. R.; Westermann, R. W.	Perioperative and Postoperative Factors Influence Quadriceps Atrophy and Strength After ACL Reconstruction: A Systematic Review	2020	Systematic review
Basar, B.; Basar, G.; Aybar, A.; Kurtan, A.; Basar, H.	The effects of partial meniscectomy and meniscal repair on the knee proprioception and function	2020	< 2 yr. follow up (1 yr.)
Bauer, M.; Feeley, B. T.; Gallo, R. A.	Effect of Academic Grade Level on Return to Athletic Competition After Anterior Cruciate Ligament Reconstruction	2019	Irrelevant factor; Academic Grade Level
Baverel, L.; Demey, G.; Odri, G. A.; Leroy, P.; Saffarini, M.; Dejour, D.	Do outcomes of outpatient ACL reconstruction vary with graft type?	2015	< 2 yr. follow up (45 d)
Beard, D. J.; Kyberd, P. J.; Fergusson, C. M.; Dodd, C. A.	Proprioception after rupture of the anterior cruciate ligament. An objective indication of the need for surgery?	1993	Irrelevant topic: measures of proprioception after ACL tear
Beckers, L.; Vivacqua, T.; Firth, A. D.; Getgood, A. M. J.	Clinical outcomes of contemporary lateral augmentation techniques in primary ACL reconstruction: a systematic review and meta-analysis	2021	Systematic review
Belk, J. W.; Kraeutler, M. J.; Houck, D. A.; McCarty, E. C.	Knee Osteoarthritis After Single-Bundle Versus Double-Bundle Anterior Cruciate Ligament Reconstruction: A Systematic Review of Randomized Controlled Trials	2019	
Belk, J. W.; Kraeutler, M. J.; Houck, D. A.; Smith, J. R.; McCarty, E. C.	Comparing Hamstring Autograft With Hybrid Graft for Anterior Cruciate Ligament Reconstruction: A Systematic Review	2020	Systematic review
Belk, J. W.; Kraeutler, M. J.; Purcell, J. M.; McCarty, E. C.	Autograft Versus Allograft for Posterior Cruciate Ligament Reconstruction: An Updated Systematic Review and Meta-analysis	2018	Systematic review

Author	Article Title	Year	Reason for Exclusion
Benjaminse, A.; Welling, W.; Otten, B.; Gokeler, A.	Novel methods of instruction in ACL injury prevention programs, a systematic review	2015	Systematic review
Bergeron, J. J.; Sercia, Q. P.; Drager, J.; Pelet, S.; Belzile, E. L.	Return to Baseline Physical Activity After Bone-Patellar Tendon-Bone Versus Hamstring Tendon Autografts for Anterior Cruciate Ligament Reconstruction: A Systematic Review and Meta-analysis of Randomized Controlled Trials	2021	Systematic review
Bergman, R.; Kent, R.; Kellum, J.; Crawford, E.	CLEARANCE BASED ON STANDARDIZED RETURN TO SPORTS ASSESSMENT FOLLOWING ANTERIOR CRUCIATE LIGAMENT RECONSTRUCTION IN PEDIATRIC AND ADOLESCENT PATIENTS	2021	Incomplete pdf
Beynnon, B. D.; Johnson, R. J.; Abate, J. A.; Fleming, B. C.; Nichols, C. E.	Treatment of anterior cruciate ligament injuries, part I	2005	Systematic review
Bhandary, B.; Shetty, S.; Bangera, V. V.; Yogaprakash, R.; Shabir Kassim, M.; Alva, K.; Bhandary, S.	To study the incidence of heterotopic ossification after anterior cruciate ligament reconstruction	2013	Irrelevant topic: heterotrophic ossifications with ACLR double incision technique
Bien, D. P.; Dubuque, T. J.	Considerations for late stage acl rehabilitation and return to sport to limit re-injury risk and maximize athletic performance	2015	Systematic review
Bierke, S.; Abdelativ, Y.; Hees, T.; Karpinksi, K.; Haner, M.; Park, H.; Petersen, W.	Risk of arthrofibrosis in anatomical anterior cruciate ligament reconstruction: the role of timing and meniscus suture	2020	< 2 yr. follow up (1 yr.)
Birmingham, T. B.; Bryant, D. M.; Giffin, J. R.; Litchfield, R. B.; Kramer, J. F.; Donner, A.; Fowler, P. J.	A randomized controlled trial comparing the effectiveness of functional knee brace and neoprene sleeve use after anterior cruciate ligament reconstruction	2008	Irrelevant comparison; brace vs sleeve
Bjornsson, H.; Desai, N.; Musahl, V.; Alentorn-Geli, E.; Bhandari, M.; Fu, F.; Samuelsson, K.	Is double-bundle anterior cruciate ligament reconstruction superior to single-bundle? A comprehensive systematic review	2015	Systematic review

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Björnsson, H.; Samuelsson, K.; Sundemo, D.; Desai, N.; Sernert, N.; Rostgård-Christensen, L.; Karlsson, J.; Kartus, J.	A Randomized Controlled Trial With Mean 16-Year Follow-up Comparing Hamstring and Patellar Tendon Autografts in Anterior Cruciate Ligament Reconstruction	2016	Combined sample of Ejerhed 2003 (#8176) and Laxdal 2005 (#0000)
Boer, B. C.; Hoogeslag, R. A. G.; Brouwer, R. W.; Demmer, A.; Huis In 't Veld, Rmha	Self-reported functional recovery after reconstruction versus repair in acute anterior cruciate ligament rupture (ROTOR): a randomized controlled clinical trial	2018	Protocol only - no results
Bogunovic, L.; Haas, A.; Kruse, L.; Wright, R. W.	Outcome of All-Inside Second-Generation Meniscal Repair: Minimum 5-year Follow-up	2014	Not all patients had ACL tear or ACLR
Bokshan, S. L.; DeFroda, S. F.; Panarello, N. M.; Owens, B. D.	Risk Factors for Deep Vein Thrombosis or Pulmonary Embolus Following Anterior Cruciate Ligament Reconstruction	2018	Irrelevant topic: Predictors of DVT and PT (surgery timing comparison is not mentioned)
Bordes, P.; Laboute, E.; Bertolotti, A.; Dalmay, J. F.; Puig, P.; Trouve, P.; Verhaegue, E.; Joseph, P. A.; Dehail, P.; De Seze, M.	No beneficial effect of bracing after anterior cruciate ligament reconstruction in a cohort of 969 athletes followed in rehabilitation	2017	<6 months brace follow up
Bottoni, C. R.; Smith, E. L.; Raybin, S. G.; Shaha, J. S.; Shaha, S. H.; Tokish, J. M.; Rowles, D. J.	Autograft vs Allograft ACL Reconstructions: a Prospective, Randomized Clinical Study with Minimum 10 Year Follow-up	2014	Incomplete pdf
Bottoni, C. R.; Smith, E. L.; Shaha, J.; Shaha, S. S.; Raybin, S. G.; Tokish, J. M.; Rowles, D. J.	Autograft Versus Allograft Anterior Cruciate Ligament Reconstruction: A Prospective, Randomized Clinical Study With a Minimum 10-Year Follow-up	2015	MCL injuries Grade 1 and 2 were not excluded
Bram, J. T.; Magee, L. C.; Mehta, N. N.; Patel, N. M.; Ganley, T. J.	Anterior Cruciate Ligament Injury Incidence in Adolescent Athletes: A Systematic Review and Meta-analysis	2021	Systematic review
Branch, T. P.; Siebold, R.; Freedberg, H. I.; Jacobs, C. A.	Double-bundle ACL reconstruction demonstrated superior clinical stability to single-bundle ACL reconstruction: a matched-pairs analysis of instrumented tests of tibial anterior translation and internal rotation laxity	2011	<2 yrs. follow up (16 months), non RCT

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Brunner, R.; Friesenbichler, B.; Casartelli, N. C.; Bizzini, M.; Maffiuletti, N. A.; Niedermann, K.	Effectiveness of multicomponent lower extremity injury prevention programmes in team-sport athletes: an umbrella review	2019	Systematic review
Bucar, A. L.; Pires, R. N. A.; Silva, R. D. C.; Araujo, E. A. C.; da Silva, M. F.; de Araujo, P. H. N.	Combined Reconstruction of the Anterior Cruciate Ligament and Anterolateral Ligament Injury Compared to the Isolated Reconstruction of the Anterior Cruciate Ligament: A Meta-Analysis	2021	Systematic review
Buckle, C.; Wainwright, A. M.	A systematic review of long-term patient reported outcomes for the treatment of anterior cruciate ligament injuries in the skeletally immature	2018	Systematic review
Buda, R.; Baldassarri, M.; Perazzo, L.; Ghinelli, D.; Faldini, C.	The biological respect of the posterolateral bundle in ACL partial injuries. Retrospective analysis of 2 different surgical management of ACL partial tear in a population of high-demanding sport patients	2019	Irrelevant topic: sparing AMT vs removing AMT
Bulgheroni, E.; Grassi, A.; Bulgheroni, P.; Marcheggiani Muccioli, G. M.; Zaffagnini, S.; Marcacci, M.	Long-term outcomes of medial CMI implant versus partial medial meniscectomy in patients with concomitant ACL reconstruction	2015	Irrelevant comparison: CMI implant vs. Partial meniscectomy
Bulow, A.; Anderson, J. E.; Leiter, J. R. S.; MacDonald, P. B.; Peeler, J. D.	Safety and Effectiveness of a Perturbation-based Neuromuscular Training Program on Dynamic Balance in Adolescent Females: A Randomized Controlled Trial	2021	Healthy controls, no ACL injury
Burland, J. P.; Kostyun, R. O.; Kostyun, K. J.; Solomito, M.; Nissen, C.; Milewski, M. D.	Clinical Outcome Measures and Return-to-Sport Timing in Adolescent Athletes After Anterior Cruciate Ligament Reconstruction	2018	No comparison of interest
Cannon, W. D., Jr.; Vittori, J. M.	The incidence of healing in arthroscopic meniscal repairs in anterior cruciate ligament-reconstructed knees versus stable knees	1992	Irrelevant topic: group 2 had ACL stable knees
Cantin, O.; Lustig, S.; Rongieras, F.; Saragaglia, D.; Lefevre, N.; Graveleau, N.; Hulet, C.; Societe Francaise de Chirurgie Orthopedique et, Traumatologique	Outcome of cartilage at 12years of follow-up after anterior cruciate ligament reconstruction	2016	No comparison group

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Capin, J. J.; Khandha, A.; Zarzycki, R.; Manal, K.; Buchanan, T. S.; Snyder-Mackler, L.	Gait mechanics and second ACL rupture: Implications for delaying return-to-sport	2017	Does not test a criteria for RTS
Carr, J. B., 2nd; Yildirim, B.; Richter, D.; Etier, B. E.; Anderson, M. W.; Pierce, J.; Diduch, D. R.	Primary Anterolateral Ligament Rupture in Patients Requiring Revision Anterior Cruciate Ligament Reconstruction: A Retrospective Case-Control Magnetic Resonance Imaging Review	2018	Effect of ALL injury at time of ACLR, not the effect of ALL tx at the time of ACLR
Carrasco-Huenulef, C.; Poblete-Garrido, M.; Monrroy-Uarac, M.; Ramirez-Campillo, R.; Moran, J.; Gajardo-Burgos, R.	Effects of a neuromuscular training program on anterior cruciate ligament injury risk factors in youth female basketball players: A pilot study	2019	No comparison group
Carter, C. W.; Kocher, M. S.	Meniscus Repair in Children	2012	Non-systematic review
Carter, H. M.; Littlewood, C.; Webster, K. E.; Smith, B. E.	The effectiveness of preoperative rehabilitation programmes on postoperative outcomes following anterior cruciate ligament (ACL) reconstruction: a systematic review	2020	Irrelevant systematic review
Casartelli, N. C.; Item-Glatthorn, J. F.; Friesenbichler, B.; Bizzini, M.; Salzmann, G. M.; Maffiuletti, N. A.	Quadriceps Neuromuscular Impairments after Arthroscopic Knee Surgery: Comparison between Procedures	2019	< 2 yr. follow up (6 mo)
Casteleyn, P. P.	Management of anterior cruciate ligament lesions: surgical fashion, personal whim or scientific evidence? Study of medium- and long-term results	1999	Systematic review
Celik, H.; Lee, D. H.	Comparison of the aperture and midportion femoral tunnel widening after anterior cruciate ligament reconstruction: A systematic review and meta-analyses	2019	Systematic review
Cengiz, O.; Demir, N.; Dirvar, F.	Effects of Graft Selection in Arthroscopic Anterior Cruciate Ligament Reconstruction: Midterm Functional Results	2019	< 2 yr. follow up
Chaker Jomaa, M.; Gultekin, S.; Orchard, J.; Driscoll, T.; Orchard, J.	Australian Footballers Returning from Anterior Cruciate Ligament Reconstruction Later than 12 Months have Worse Outcomes	2020	Irrelevant comparison: return to sport <10months vs. 10-12 vs. >12 months.

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Chalmers, P. N.; Mall, N. A.; Moric, M.; Sherman, S. L.; Paletta, G. P.; Cole, B. J.; Bach, B. R., Jr.	Does ACL reconstruction alter natural history?: A systematic literature review of long-term outcomes	2014	Systematic review
Chan, M. C.; Wee, J. W.; Lim, M. H.	Does Kinesiology Taping Improve the Early Postoperative Outcomes in Anterior Cruciate Ligament Reconstruction? A Randomized Controlled Study	2017	< 6-month FU (6 wks.)
Chang, E.; Johnson, S. T.; Pollard, C. D.; Hoffman, M. A.; Norcross, M. F.	Anterior cruciate ligament reconstructed females who pass or fail a functional test battery do not exhibit differences in knee joint landing biomechanics asymmetry before and after exercise	2020	< 10 per group; n1 = 10, n2 = 8
Chang, S. K.; Egami, D. K.; Shaieb, M. D.; Kan, D. M.; Richardson, A. B.	Anterior cruciate ligament reconstruction: allograft versus autograft	2003	MCL injuries were included
Chaudhry, Z. S.; Salem, H. S.; Purtill, J. J.; Hammoud, S.	Does Prior Anterior Cruciate Ligament Reconstruction Affect Outcomes of Subsequent Total Knee Arthroplasty? A Systematic Review	2019	Systematic review
Cheecharern, S.	Return to sport and knee functional scores after anterior cruciate ligament reconstruction: 2 to 10 years' follow-up	2018	No factors of interest
Chen, G.; Wang, S.	Comparison of single-bundle versus double-bundle anterior cruciate ligament reconstruction after a minimum of 3-year follow-up: a meta-analysis of randomized controlled trials	2015	Systematic review
Chen, H.; Chen, B.; Tie, K.; Fu, Z.; Chen, L.	Single-bundle versus double-bundle autologous anterior cruciate ligament reconstruction: a meta-analysis of randomized controlled trials at 5-year minimum follow-up	2018	Systematic review
Chen, H.; Liu, H.; Chen, L.	Patellar Tendon Versus 4-Strand Semitendinosus and Gracilis Autografts for Anterior Cruciate Ligament Reconstruction: A Meta-analysis of Randomized Controlled Trials With Mid- to Long-Term Follow-Up	2020	Systematic review
Chen, J.; Wang, C.; Xu, C.; Qiu, J.; Xu, J.; Tsai, T. Y.; Zhao, J.	Effects of Anterolateral Structure Augmentation on the In Vivo Kinematics of Anterior Cruciate Ligament-Reconstructed Knees	2021	< 2 yr. follow up (1 yr.)

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Chia, Z. Y.; Chee, J. N.; Bin-Abd-Razak, H. R.; Lie, D. T. T.; Chang, P. C. C.	A comparative study of anterior cruciate ligament reconstruction with double, single, or selective bundle techniques	2018	Not an RCT; comparing SB with DB and SB
Chitnis, S. S.; Al-Azzani, W. A. K.; Kakar, R.	Medium-Term Results of Arthroscopic Partial Meniscectomy from a Single High-Volume Center	2020	Case series; no comparison group
Choi, N. H.; Kim, B. Y.; Hwang Bo, B. H.; Victoroff, B. N.	Suture versus FasT-Fix all-inside meniscus repair at time of anterior cruciate ligament reconstruction	2014	Irrelevant comparison; meniscal repair A vs repair B
Christensen, J. C.; Miller, C. J.; Burns, R. D.; West, H. S.	Effect of Physical Therapy Visits on Clinical Outcomes Following Anterior Cruciate Ligament Reconstruction With and Without Concurrent Meniscal Repair	2018	< 2 yr. follow up
Ciccotti, M. C.; Secrist, E.; Tjoumakaris, F.; Ciccotti, M. G.; Freedman, K. B.	Anatomic Anterior Cruciate Ligament Reconstruction via Independent Tunnel Drilling: A Systematic Review of Randomized Controlled Trials Comparing Patellar Tendon and Hamstring Autografts	2017	Systematic review
Ciemniewska-Gorzela, K.; Bakowski, P.; Naczk, J.; Jakob, R.; Piontek, T.	Complex Meniscus Tears Treated with Collagen Matrix Wrapping and Bone Marrow Blood Injection: Clinical Effectiveness and Survivorship after a Minimum of 5 Years' Follow-Up	2020	Not all pts have ACL tear
Clancy, W. G., Jr.; Ray, J. M.; Zoltan, D. J.	Acute tears of the anterior cruciate ligament. Surgical versus conservative treatment	1988	Old article 1988: surgical vs conservative treatment
Colombet, P.; Saffarini, M.; Bouguennec, N.	Clinical and Functional Outcomes of Anterior Cruciate Ligament Reconstruction at a Minimum of 2 Years Using Adjustable Suspensory Fixation in Both the Femur and Tibia: A Prospective Study	2018	No comparison group
Cristiani, R.; Forssblad, M.; Edman, G.; Eriksson, K.; Stalman, A.	Age, time from injury to surgery and quadriceps strength affect the risk of revision surgery after primary ACL reconstruction	2021	Irrelevant outcome
Cristiani, R.; Forssblad, M.; Engstrom, B.; Edman, G.; Stalman, A.	Risk Factors for Abnormal Anteroposterior Knee Laxity After Primary Anterior Cruciate Ligament Reconstruction	2018	< 2 yr. follow up (6 mos.)
Cristiani, R.; Parling, A.; Forssblad, M.; Edman, G.; Engstrom, B.; Stalman, A.	Meniscus Repair Does Not Result in an Inferior Short-term Outcome Compared With Meniscus Resection: An Analysis of 5,378 Patients With Primary Anterior Cruciate Ligament Reconstruction	2020	Irrelevant comparison: isolated ACLR vs ACLR with meniscal repair/ resection

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Cristiani, R.; Ronnblad, E.; Engstrom, B.; Forssblad, M.; Stalman, A.	Medial Meniscus Resection Increases and Medial Meniscus Repair Preserves Anterior Knee Laxity: A Cohort Study of 4497 Patients With Primary Anterior Cruciate Ligament Reconstruction	2018	< 2 yr. follow up (6 months)
Cruz, A. I., Jr.; Beck, J. J.; Ellington, M. D.; Mayer, S. W.; Pennock, A. T.; Stinson, Z. S.; VandenBerg, C. D.; Barrow, B.; Gao, B.; Ellis, H. B., Jr.	Failure Rates of Autograft and Allograft ACL Reconstruction in Patients 19 Years of Age and Younger: A Systematic Review and Meta-Analysis	2020	
Csapo, R.; Pointner, H.; Hoser, C.; Gfoller, P.; Raschner, C.; Fink, C.	Physical Fitness after Anterior Cruciate Ligament Reconstruction: Influence of Graft, Age, and Sex	2020	< 2 yr. follow up
Csapo, R.; Runer, A.; Hoser, C.; Fink, C.	Contralateral ACL tears strongly contribute to high rates of secondary ACL injuries in professional ski racers	2021	<10 cases in group 2
Csintalan, R. P.; Inacio, M. C.; Funahashi, T. T.; Maletis, G. B.	Risk factors of subsequent operations after primary anterior cruciate ligament reconstruction	2014	< 2 yr. follow up
Culvenor, A. G.; Collins, N. J.; Guermazi, A.; Cook, J. L.; Vicenzino, B.; Whitehead, T. S.; Morris, H. G.; Crossley, K. M.	Early Patellofemoral Osteoarthritis Features One Year after Anterior Cruciate Ligament Reconstruction: Symptoms and Quality of Life at Three Years	2016	No comparison group
Culvenor, A. G.; Collins, N. J.; Vicenzino, B.; Cook, J. L.; Whitehead, T. S.; Morris, H. G.; Crossley, K. M.	Predictors and effects of patellofemoral pain following hamstring-tendon ACL reconstruction	2016	< 2 yr. follow up (12 months)
Culvenor, A. G.; Lai, C. C.; Gabbe, B. J.; Makdissi, M.; Collins, N. J.; Vicenzino, B.; Morris, H. G.; Crossley, K. M.	Patellofemoral osteoarthritis is prevalent and associated with worse symptoms and function after hamstring tendon autograft ACL reconstruction	2014	Irrelevant comparison; patellofemoral OA vs Tibiofemoral OA

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Curado, J.; Hulet, C.; Hardy, P.; Jenny, J. Y.; Rousseau, R.; Lucet, A.; Steltzlen, C.; Morin, V.; Grimaud, O.; Bouguennec, N.; Pujol, N.; Sonnery-Cottet, B.; Graveleau, N.; French Society for Orthopaedic, Trauma Surgery	Very long-term osteoarthritis rate after anterior cruciate ligament reconstruction: 182 cases with 22-year' follow-up	2020	Very low quality
Cvetanovich, G. L.; Mascarenhas, R.; Saccomanno, M. F.; Verma, N. N.; Cole, B. J.; Bush-Joseph, C. A.; Bach, B. R.	Hamstring autograft versus soft-tissue allograft in anterior cruciate ligament reconstruction: a systematic review and meta-analysis of randomized controlled trials	2014	Systematic review
Czamara, A.; Krolikowska, A.; Szuba, L.; Widuchowski, W.; Kentel, M.	Single- vs. double-bundle anterior cruciate ligament reconstruction: a new aspect of knee assessment during activities involving dynamic knee rotation	2015	<2 yrs. follow up (6 months)
Czuppon, S.; Racette, B. A.; Klein, S. E.; Harris-Hayes, M.	Variables associated with return to sport following anterior cruciate ligament reconstruction: a systematic review	2014	Systematic review
DÃ©cary, S.; Ouellet, P.; Vendittoli, P. A.; Roy, J. S.; Desmeules, F.	Diagnostic validity of physical examination tests for common knee disorders: An overview of systematic reviews and meta-analysis	2017	Systematic review of systematic reviews
Dai, B.; Butler, R. J.; Garrett, W. E.; Queen, R. M.	Anterior cruciate ligament reconstruction in adolescent patients: limb asymmetry and functional knee bracing	2012	No hx of ACLR
Dandy, D. J.	Some clinical aspects of reconstruction for chronic anterior cruciate ligament deficiency	1995	Irrelevant comparison: reconstruction techniques
Dargo, L.; Robinson, K. J.; Games, K. E.	Prevention of Knee and Anterior Cruciate Ligament Injuries Through the Use of Neuromuscular and Proprioceptive Training: An Evidence-Based Review	2017	Systematic review
Dauty, M.; Edouard, P.; Menu, P.; Mesland, O.; Fouasson-Chailloux, A.	Isokinetic quadriceps symmetry helps in the decision to return to running after anterior cruciate ligament reconstruction	2021	Not a test of RTS criteria among returners

Author	Article Title	Year	Reason for Exclusion
Davies, L.; Cook, J.; Leal, J.; Areia, C. M.; Shirkey, B.; Jackson, W.; Campbell, H.; Fletcher, H.; Carr, A.; Barker, K.; Lamb, S. E.; Monk, P.; O'Leary, S.; Haddad, F.; Wilson, C.; Price, A.; Beard, D.	Comparison of the clinical and cost effectiveness of two management strategies (rehabilitation versus surgical reconstruction) for non-acute anterior cruciate ligament (ACL) injury: study protocol for the ACL SNNAP randomised controlled trial	2020	Protocol only - no results
Davis, H. C.; Spang, J. T.; Loeser, R. F.; Larsson, S.; Ulici, V.; Troy Blackburn, J.; Creighton, R. A.; Kamath, G. M.; Jordan, J. M.; Marshall, S. W.; Pietrosimone, B.	Time between anterior cruciate ligament injury and reconstruction and cartilage metabolism six-months following reconstruction	2018	< 2 yr. follow up (6 mos.)
de Sa, D.; Shanmugaraj, A.; Weidman, M.; Peterson, D. C.; Simunovic, N.; Musahl, V.; Ayeni, O. R.	All-Inside Anterior Cruciate Ligament Reconstruction-A Systematic Review of Techniques, Outcomes, and Complications	2018	Systematic review of techniques
de Sousa Fernandes, M. V.; Ribeiro Carvalho, S.; dos Santos Costa, W.; Silveira De Avelar, I.; de Almeida Pires Oliveira, D. A.; Mota VenÃ¢ncio, P. E.; Soares, V.	Effects of neuromuscular exercises on q-angle, knee joint stability and ankle mobility of handball athletes	2019	Incomplete pdf
Deabate, L.; Previtali, D.; Grassi, A.; Filardo, G.; Candrian, C.; Delcogliano, M.	Anterior Cruciate Ligament Reconstruction Within 3 Weeks Does Not Increase Stiffness and Complications Compared With Delayed Reconstruction: A Meta-analysis of Randomized Controlled Trials	2020	Systematic review
DeFazio, M. W.; Curry, E. J.; Gustin, M. J.; Sing, D. C.; Abdul-Rassoul, H.; Ma, R.; Fu, F.; Li, X.	Return to Sport After ACL Reconstruction With a BTB Versus Hamstring Tendon Autograft: A Systematic Review and Meta-analysis	2020	
Dejour, D.; Pungitore, M.; Valluy, J.; Nover, L.; Saffarini, M.; Demey, G.	Tibial slope and medial meniscectomy significantly influence short-term knee laxity following ACL reconstruction	2019	< 2 yr. follow up (6-8 mos.)
Dekker, T. J.; Rush, J. K.; Schmitz, M. R.	What's New in Pediatric and Adolescent Anterior Cruciate Ligament Injuries?	2018	Systematic review

Author	Article Title	Year	Reason for Exclusion
Delaloye, J. R.; Murar, J.; Gonzalez, M.; Amaral, T.; Kakatkar, V.; Sonnery-Cottet, B.	Clinical Outcomes After Combined Anterior Cruciate Ligament and Anterolateral Ligament Reconstruction	2018	Systematic review
Della Villa, F.; Andriolo, L.; Ricci, M.; Filardo, G.; Gamberini, J.; Caminati, D.; Della Villa, S.; Zaffagnini, S.	Compliance in post-operative rehabilitation is a key factor for return to sport after revision anterior cruciate ligament reconstruction	2020	All patients underwent ACL revision
Dempsey, I. J.; Norte, G. E.; Hall, M.; Goetschius, J.; Slater, L. V.; Cancienne, J. M.; Werner, B. C.; Diduch, D. R.; Hart, J. M.	Relationship Between Physical Therapy Characteristics, Surgical Procedure, and Clinical Outcomes in Patients After ACL Reconstruction	2019	No prog factor of interest
DePhillipo, N. N.; Dornan, G. J.; Dekker, T. J.; Aman, Z. S.; Engebretsen, L.; LaPrade, R. F.	Clinical Characteristics and Outcomes After Primary ACL Reconstruction and Meniscus Ramp Repair	2020	Irrelevant comparison; combined meniscal + ACLR vs. Isolated ACLR
Desai, N.; Alentorn-Geli, E.; van Eck, C. F.; Musahl, V.; Fu, F. H.; Karlsson, J.; Samuelsson, K.	A systematic review of single- versus double-bundle ACL reconstruction using the anatomic anterior cruciate ligament reconstruction scoring checklist	2016	Systematic review
Desai, N.; Bjornsson, H.; Musahl, V.; Bhandari, M.; Petzold, M.; Fu, F. H.; Samuelsson, K.	Anatomic single- versus double-bundle ACL reconstruction: a meta-analysis	2014	Systematic review
Desai, N.; Bjornsson, H.; Samuelsson, K.; Karlsson, J.; Forssblad, M.	Outcomes after ACL reconstruction with focus on older patients: results from The Swedish National Anterior Cruciate Ligament Register	2014	Irrelevant topic-all patients underwent ACLR, not all patients had isolated ACL tear
Devitt, B. M.; Bouguennec, N.; Barfod, K. W.; Porter, T.; Webster, K. E.; Feller, J. A.	Combined anterior cruciate ligament reconstruction and lateral extra-articular tenodesis does not result in an increased rate of osteoarthritis: a systematic review and best evidence synthesis	2017	Systematic review
Di Miceli, R.; Marambio, C. B.; Zati, A.; Monesi, R.; Benedetti, M. G.	Do Knee Bracing and Delayed Weight Bearing Affect Mid-Term Functional Outcome after Anterior Cruciate Ligament Reconstruction?	2017	Grandfather, non RCT

Author	Article Title	Year	Reason for Exclusion
Diaz, R. M. M.; Rezende, F. C.; Moscon, A. C.; Franciozi, Ceds; Martimbianco, A. L. C.; Duarte, A.	Return to Sports after ACL Reconstruction with Resection or Remnant-Preserving Technique	2020	Study is not in English. Only the abstract is in English.
Dickerson, L. C.; Peebles, A. T.; Moskal, J. T.; Miller, T. K.; Queen, R. M.	Physical Performance Improves With Time and a Functional Knee Brace in Athletes After ACL Reconstruction	2020	Grandfather PICO, not RCT
Dimitriou, D.; Reimond, M.; Foesel, A.; Baumgaertner, B.; Zou, D.; Tsai, T. Y.; Helmy, N.	The deep lateral femoral notch sign: a reliable diagnostic tool in identifying a concomitant anterior cruciate and anterolateral ligament injury	2021	Irrelevant diagnosis tool
Ding, B. T. K.; Decruz, J.; Kunnasegaran, R.	Time-sensitive ambulatory orthopaedic soft-tissue surgery paradigms during the COVID-19 pandemic	2020	Systematic review
Dingel, A.; Aoyama, J.; Ganley, T.; Shea, K.	Pediatric ACL Tears: Natural History	2019	
Dischiavi, S. L.; Wright, A. A.; Heller, R. A.; Love, C. E.; Salzman, A. J.; Harris, C. A.; Bleakley, C. M.	Do ACL Injury Risk Reduction Exercises Reflect Common Injury Mechanisms? A Scoping Review of Injury Prevention Programs	2021	Irrelevant systematic review
DiSilvestro, K. J.; Jauregui, J. J.; Glazier, E.; Cherkalin, D.; Bennett, C. H.; Packer, J. D.; Henn, R. F., 3rd	Outcomes of Anterior Cruciate Ligament Reconstruction in Obese and Overweight Patients: A Systematic Review	2017	Systematic review
Dong, J.; Wang, X. F.; Men, X.; Zhu, J.; Walker, G. N.; Zheng, X. Z.; Gao, J. B.; Chen, B.; Wang, F.; Zhang, Y.; Gao, S. J.	Surgical Treatment of Acute Grade III Medial Collateral Ligament Injury Combined With Anterior Cruciate Ligament Injury: Anatomic Ligament Repair Versus Triangular Ligament Reconstruction	2015	Irrelevant comparison; ACLR + MCL repair vs. ACLR + MCL reconstruction
Dong, Z.; Niu, Y.; Qi, J.; Song, Y.; Wang, F.	Long term results after double and single bundle ACL reconstruction: Is there any difference? A meta - analysis of randomized controlled trials	2019	Systematic review
Duchman, K. R.; Westermann, R. W.; Spindler, K. P.; Reinke, E. K.; Huston, L. J.; Amendola, A.; Moon Knee Group; Wolf, B. R.	The Fate of Meniscus Tears Left In Situ at the Time of Anterior Cruciate Ligament Reconstruction: A 6-Year Follow-up Study From the MOON Cohort	2015	No comparison group

Author	Article Title	Year	Reason for Exclusion
Dunn, K. L.; Lam, K. C.; Valovich McLeod, T. C.	Early Operative Versus Delayed or Nonoperative Treatment of Anterior Cruciate Ligament Injuries in Pediatric Patients	2016	Systematic review
Dunn, W. R.; Wolf, B. R.; Harrell, F. E., Jr.; Reinke, E. K.; Huston, L. J.; Moon Knee Group; Spindler, K. P.	Baseline predictors of health-related quality of life after anterior cruciate ligament reconstruction: a longitudinal analysis of a multicenter cohort at two and six years	2015	All patients underwent ACLR
Edwards, K. J.; Goral, A. B.; Hay, R. M.; Kelso, T.	Functional restoration following anterior cruciate ligament reconstruction in active-duty military personnel	1991	Case series
Eggerding, V.; Reijman, M.; Meuffels, D. E.; van Es, E.; van Arkel, E.; van den Brand, I.; van Linge, J.; Zijl, J.; Bierma-Zeinstra, S. M.; Koopmanschap, M.	ACL reconstruction for all is not cost-effective after acute ACL rupture	2021	Cost analysis
Ehlinger, M.; Panisset, J. C.; Dejour, D.; Gonzalez, J. F.; Paihle, R.; Favreau, H.; Ollivier, M.; Lustig, S.; Francophone Arthroscopy, Society	Anterior cruciate ligament reconstruction in the over-50s. A prospective comparative study between surgical and functional treatment	2021	< 2 yr. follow up
Ennis, H. E.; Bondar, K.; McCormick, J.; Chen, C. J.; Donnally, C. J., 3rd; Kaplan, L.	The 50 Most Cited Articles in the Indications, Risk Factors, Techniques, and Outcomes of ACL Revision Surgery	2020	Irrelevant systematic review
Eren, O. T.; Kilinc, B. E.; Oc, Y.; SarÄ±, A.; Sezer, H. B.	Outcomes related to the body mass index and injury period following meniscal repair	2017	All patients underwent meniscal repair
Ericksen, H. M.; Lefevre, C.; Luc-Harkey, B. A.; Thomas, A. C.; Gribble, P. A.; Pietrosimone, B.	Females Decrease Vertical Ground Reaction Forces Following 4-Week Jump-Landing Feedback Intervention Without Negative Affect on Vertical Jump Performance	2019	No ACL injury
Erickson, B. J.; Chalmers, P. N.; D'Angelo, J.; Ma, K.; Dahm, D. L.; Romeo, A. A.; Ahmad, C. S.	Performance and Return to Sport After Anterior Cruciate Ligament Reconstruction in Professional Baseball Players	2019	Not a test of RTS criteria
Eriksson, K.; von Essen, C.; Jonhagen, S.; Barenius, B.	No risk of arthrofibrosis after acute anterior cruciate ligament reconstruction	2018	< 2 yr. follow up (6 mos.)

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Evangelopoulos, D. S.; Kohl, S.; Schwienbacher, S.; Gantenbein, B.; Exadaktylos, A.; Ahmad, S. S.	Collagen application reduces complication rates of mid-substance ACL tears treated with dynamic intraligamentary stabilization	2017	Irrelevant comparison; Repair + collagen vs Repair alone
Failla, M.; Logerstedt, D.; Grindem, H.; Axe, M. J.; Engebretsen, L.; Risberg, M. A.; Snyder-Mackler, L.	Outcomes 2 years after ACLR in athletes: Function, return to sport rates, and re-injury rates from the delaware-oslo ACL cohort study	2015	Incomplete pdf
Fan, D.; Ma, J.; Zhang, L.	Patellar tendon versus artificial grafts in anterior cruciate ligament reconstruction: a systematic review and meta-analysis	2021	Systematic review
Farley, J. B.; Barrett, L. M.; Keogh, J. W. L.; Woods, C. T.; Milne, N.	The relationship between physical fitness attributes and sports injury in female, team ball sport players: a systematic review	2020	Systematic review
Farouk, H.; Rizk, A.; Karim, M. A.; Taha, A.; Awadallah, W. R.; Singergy, A. A.	Clinical outcome after implant-free ACL reconstruction with hamstring tendon graft	2015	No comparison group
Fayard, J. M.; Wein, F.; Ollivier, M.; Paihle, R.; Ehlinger, M.; Lustig, S.; Panisset, J. C.; French Arthroscopic, Society	Factors affecting outcome of ACL reconstruction in over-50-year-olds	2019	Case series; no comparison of interest
Ferguson, D.; Palmer, A.; Khan, S.; Oduoza, U.; Atkinson, H.	Early or delayed anterior cruciate ligament reconstruction: Is one superior? A systematic review and meta-analysis	2019	Systematic review
Ferretti, A.; Conteduca, F.; Monaco, E.; De Carli, A.; D'Arrigo, C.	Revision ACL reconstruction using doubled semitendinosus and gracilis tendons: A follow-up study	2004	All patients underwent ACL revision
Filbay, S. R.	Longer-term quality of life following ACL injury and reconstruction	2018	Non-systematic review
Filbay, S. R.	CORR Insights: Report of the Clinical and Functional Primary Outcomes in Men of the ACL-SPORTS Trial: Similar Outcomes in Men Receiving Secondary Prevention With and Without Perturbation Training 1 and 2 Years After ACL Reconstruction	2017	Non-systematic review
Filbay, S. R.; Roos, E. M.; Frobell, R. B.; Roemer, F.; Ranstam, J.; Lohmander, L. S.	Delaying ACL reconstruction and treating with exercise therapy alone may alter prognostic factors for 5-year outcome: an exploratory analysis of the KANON trial	2017	Irrelevant comparison: relationship btwn prog factors and clinical outcomes

Author	Article Title	Year	Reason for Exclusion
Filbay, S.; Andersson, C.; Gauffin, H.; Kvist, J.	Prognostic Factors for Patient-Reported Outcomes at 32 to 37 Years After Surgical or Nonsurgical Management of Anterior Cruciate Ligament Injury	2021	Irrelevant comparison; repair vs rehab
Fitzgerald, G. K.; Axe, M. J.; Snyder-Mackler, L.	A decision-making scheme for returning patients to high-level activity with nonoperative treatment after anterior cruciate ligament rupture	2000	RTS study, but pts did not get surgical treatment
Fitzgibbons, R. E.; Shelbourne, K. D.	'Aggressive' nontreatment of lateral meniscal tears seen during anterior cruciate ligament reconstruction	1995	No comparison group; analyzing results when leaving meniscal tears in situ
Flagg, K. Y.; Karavatas, S. G.; Thompson, S., Jr.; Bennett, C.	Current criteria for return to play after anterior cruciate ligament reconstruction: an evidence-based literature review	2019	Systematic review of systematic reviews
Fok, A. W.; Yau, W. P.	Associations between isolated bundle tear of anterior cruciate ligament, time from injury to surgery, and clinical tests	2014	Irrelevant comparison; complete vs partial tear
Forrester, L. A.; Schweppe, E. A.; Popkin, C. A.	Variability in rehabilitation protocols following pediatric anterior cruciate ligament (ACL) reconstruction	2019	Irrelevant topic: Assessing variability in rehabilitation protocols
Fukuda, H.; Ogura, T.; Asai, S.; Omodani, T.; Takahashi, T.; Yamaura, I.; Sakai, H.; Saito, C.; Tsuchiya, A.; Takahashi, K.	Bone-patellar tendon-bone autograft maturation is superior to double-bundle hamstring tendon autograft maturation following anatomical anterior cruciate ligament reconstruction	2021	ACLR with MM and LM repairs in some cases
Gabler, C. M.; Jacobs, C. A.; Howard, J. S.; Mattacola, C. G.; Johnson, D. L.	Comparison of Graft Failure Rate Between Autografts Placed via an Anatomic Anterior Cruciate Ligament Reconstruction Technique: A Systematic Review, Meta-analysis, and Meta-regression	2016	Systematic review
Galea-O'Neill, R. J.; Bruder, A. M.; Goulis, J.; Shields, N.	Modifiable factors and their association with self-reported knee function and activity after anterior cruciate ligament reconstruction: a systematic review and meta-analysis	2019	Systematic review
Garcia-Luna, M. A.; Cortell-Tormo, J. M.; Garcia-Jaen, M.; Ortega-Navarro, M.; Tortosa-Martinez, J.	Acute Effects of ACL Injury-Prevention Warm-Up and Soccer-Specific Fatigue Protocol on Dynamic Knee Valgus in Youth Male Soccer Players	2020	No ACL injury
Gatewood, C. T.; Tran, A. A.; Dragoo, J. L.	The efficacy of post-operative devices following knee arthroscopic surgery: a systematic review	2017	Systematic review

Author	Article Title	Year	Reason for Exclusion
Gaulrapp, H. M.; Haus, J.	Intraarticular stabilization after anterior cruciate ligament tear in children and adolescents: results 6 years after surgery	2006	Very low quality
Ge, Y.; Li, H.; Tao, H.; Hua, Y.; Chen, J.; Chen, S.	Comparison of tendon-bone healing between autografts and allografts after anterior cruciate ligament reconstruction using magnetic resonance imaging	2015	No outcomes of interest
Geffroy, L.; Lefevre, N.; Thevenin-Lemoine, C.; Peyronnet, A.; Lakhal, W.; Fayard, J. M.; Chotel, F.; French Arthroscopy, Society	Return to sport and re-tears after anterior cruciate ligament reconstruction in children and adolescents	2018	Irrelevant topic; doesn't investigate RTS criteria
Gelber, J. D.	CORR Insights: What is the relationship of fear avoidance to physical function and pain intensity in injured athletes?	2018	Non-systematic review
Gennarelli, S. M.; Brown, S. M.; Mulcahey, M. K.	Psychosocial interventions help facilitate recovery following musculoskeletal sports injuries: a systematic review	2020	Systematic review
Getgood, A.	Hamstring autograft had better long-term survivorship than tibialis posterior tendon allograft for anterior cruciate ligament reconstruction	2016	Incomplete pdf
Getgood, A.; Moatshe, G.	Lateral Extra-articular Tenodesis in Anterior Cruciate Ligament Reconstruction	2020	Nonsystematic review
Ghaderi, M.; Letafatkar, A.; Almonroeder, T. G.; Keyhani, S.	Neuromuscular training improves knee proprioception in athletes with a history of anterior cruciate ligament reconstruction: A randomized controlled trial	2020	Irrelevant topic; post ACLR
Giesche, F.; Niederer, D.; Banzer, W.; Vogt, L.	Evidence for the effects of prehabilitation before ACL-reconstruction on return to sport-related and self-reported knee function: A systematic review	2020	Systematic review
Gifstad, T.; Foss, O. A.; Engebretsen, L.; Lind, M.; Forssblad, M.; Albrektsen, G.; Drogset, J. O.	Lower risk of revision with patellar tendon autografts compared with hamstring autografts: a registry study based on 45,998 primary ACL reconstructions in Scandinavia	2014	MCL injuries were included
Glogovac, G.; Schumaier, A. P.; Grawe, B. M.	Return to Sport Following Revision Anterior Cruciate Ligament Reconstruction in Athletes: A Systematic Review	2019	Systematic review

Author	Article Title	Year	Reason for Exclusion
Gobbi, A.; Karnatzikos, G.; Sankineani, S. R.; Petrera, M.	Biological augmentation of ACL refixation in partial lesions in a group of athletes: Results at the 5-year follow-up	2013	Case series
Goetz, G.; de Villiers, C.; Sadoghi, P.; Geiger-Gritsch, S.	Allograft for Anterior Cruciate Ligament Reconstruction (ACLR): A Systematic Review and Meta-Analysis of Long-Term Comparative Effectiveness and Safety. Results of a Health Technology Assessment	2020	Systematic review
Gokeler, A.; Bisschop, M.; Benjaminse, A.; Myer, G. D.; Eppinga, P.; Otten, E.	Quadriceps function following ACL reconstruction and rehabilitation: implications for optimisation of current practices	2014	Irrelevant systematic review
Gokeler, A.; Welling, W.; Zaffagnini, S.; Seil, R.; Padua, D.	Development of a test battery to enhance safe return to sports after anterior cruciate ligament reconstruction	2017	No comparison group
Gomez-Barrena, E.; Bonsfills, N.; Martin, J. G.; Ballesteros-Masso, R.; Foruria, A.; Nunez-Molina, A.	Insufficient recovery of neuromuscular activity around the knee after experimental anterior cruciate ligament reconstruction	2008	Irrelevant article: cat study
Goncalves, H.; Steltzlen, C.; Boisrenoult, P.; Beaufils, P.; Pujol, N.	High failure rate of anterior cruciate ligament reconstruction with bimeniscal repair: A case-control study	2017	Irrelevant comparison: bimeniscal repair vs. Meniscal repair and third group with no meniscal lesions.
Goyal, T.; Harna, B.; Taneja, A.; Maini, L.	Arthroscopy and COVID-19: Impact of the pandemic on our surgical practices	2020	Systematic review
Grant, J. A.; Tannenbaum, E.; Miller, B. S.; Bedi, A.	Treatment of combined complete tears of the anterior cruciate and medial collateral ligaments	2012	Systematic review
Grassi, A.; Di Paolo, S.; Lucidi, G. A.; Macchiarola, L.; Raggi, F.; Zaffagnini, S.	The Contribution of Partial Meniscectomy to Preoperative Laxity and Laxity After Anatomic Single-Bundle Anterior Cruciate Ligament Reconstruction: In Vivo Kinematics With Navigation	2019	Irrelevant comparison: Intact meniscus vs. Lateral meniscectomy vs medial meniscectomy vs. Medial and lateral meniscectomy
Grassi, A.; Kim, C.; Marcheggiani Muccioli, G. M.; Zaffagnini, S.; Amendola, A.	What Is the Mid-term Failure Rate of Revision ACL Reconstruction? A Systematic Review	2017	Systematic review

Author	Article Title	Year	Reason for Exclusion
Grassi, A.; Nitri, M.; Moulton, S. G.; Marcheggiani Muccioli, G. M.; Bondi, A.; Romagnoli, M.; Zaffagnini, S.	Does the type of graft affect the outcome of revision anterior cruciate ligament reconstruction? a meta-analysis of 32 studies	2017	Systematic review
Grassi, A.; Zaffagnini, S.; Marcheggiani Muccioli, G. M.; Neri, M. P.; Della Villa, S.; Marcacci, M.	After revision anterior cruciate ligament reconstruction, who returns to sport? A systematic review and meta-analysis	2015	Systematic review
Grimm, N. L.; Jacobs, J. C., Jr.; Kim, J.; Denney, B. S.; Shea, K. G.	Anterior Cruciate Ligament and Knee Injury Prevention Programs for Soccer Players: A Systematic Review and Meta-analysis	2015	Systematic review
Grimm, N. L.; Shea, K. G.; Leaver, R. W.; Aoki, S. K.; Carey, J. L.	Efficacy and degree of bias in knee injury prevention studies: a systematic review of RCTs	2013	Systematic review; bib review complete
Grindem, H.; Eitzen, I.; Engebretsen, L.; Snyder-Mackler, L.; Risberg, M. A.	Nonsurgical or Surgical Treatment of ACL Injuries: Knee Function, Sports Participation, and Knee Reinjury: The Delaware-Oslo ACL Cohort Study	2014	Concomitant injuries including Lateral collateral ligament (grades I-II) were included
Grindem, H.; Engebretsen, L.; Axe, M.; Snyder-Mackler, L.; Risberg, M. A.	Activity and functional readiness, not age, are the critical factors for second anterior cruciate ligament injury - the Delaware-Oslo ACL cohort study	2020	Not all pts RTS
Grindem, H.; Wellsandt, E.; Failla, M.; Snyder-Mackler, L.; Risberg, M. A.	Anterior Cruciate Ligament Injury-Who Succeeds Without Reconstructive Surgery? The Delaware-Oslo ACL Cohort Study	2018	
Grindstaff, T. L.; Hammill, R. R.; Tuzson, A. E.; Hertel, J.	Neuromuscular control training programs and noncontact anterior cruciate ligament injury rates in female athletes: a numbers-needed-to-treat analysis	2006	Systematic review
Grontvedt, T.; Engebretsen, L.	Comparison between two techniques for surgical repair of the acutely torn anterior cruciate ligament. A prospective, randomized follow-up study of 48 patients	1995	Repair vs repair
Gupta, A.; Tejpal, T.; Shanmugaraj, A.; Horner, N. S.; Gohal, C.; Khan, M.	All-epiphyseal anterior cruciate ligament reconstruction produces good functional outcomes and low complication rates in pediatric patients: a systematic review	2020	Irrelevant systematic review

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Gupta, R.; Kapoor, A.; Soni, A.; Khatri, S.; Masih, G. D.	Anterior cruciate ligament reconstruction with bone-patellar tendon-bone graft is associated with higher and earlier return to sports as compared to hamstring tendon graft	2020	Irrelevant outcome; RTS
Gupta, R.; Singhal, A.; Malhotra, A.; Soni, A.; Masih, G. D.; Raghav, M.	Predictors for Anterior Cruciate Ligament (ACL) Re-injury after Successful Primary ACL Reconstruction (ACLR)	2020	<2 yr. follow up (20 months for group 2, 24 for group 1)
Gurpinar, T.; Polat, B.; Polat, A. E.; Mutlu, I. N.; Tuzuner, T.	Is anterolateral ligament rupture a reason for persistent rotational instability after anterior cruciate ligament reconstruction?	2018	Irrelevant comparison; ACL + ALL Injuries (untreated ALL) vs ACL Injury Alone
Haberli, J.; Bieri, K. S.; Aghayev, E.; Eggli, S.; Henle, P.	Dynamic intraligamentary stabilization of anterior cruciate ligament repair: hardware removal has no effect on knee laxity at 2-year follow-up	2019	Irrelevant topic: relationship between knee laxity and hardware removal
Haberli, J.; Jaberg, L.; Bieri, K.; Eggli, S.; Henle, P.	Reinterventions after dynamic intraligamentary stabilization in primary anterior cruciate ligament repair	2018	Case series; no comparison group
Hadi, H.; Bagherifar, A.; Tayebi, F.; Ansaria, M.; Shahsavaripour, A.; Qomashi, I.; Jabalameli, M.	Anterior Cruciate Ligament Reconstruction with Hamstring Tendons Has no Deleterious Effect on Hip Extension Strength	2019	< 2 yr. follow up (3, 6 months)
Hagglund, M.; Walden, M.; Atroshi, I.	Preventing knee injuries in adolescent female football players - design of a cluster randomized controlled trial [NCT00894595]	2009	Protocol only - no results
Hagino, T.; Ochiai, S.; Watanabe, Y.; Senga, S.; Wako, M.; Ando, T.; Sato, E.; Haro, H.	Clinical results of arthroscopic all-inside lateral meniscal repair using the Meniscal Viper Repair System	2014	All patients only had meniscal tears; no ACL tears
Hajouj, E.; Hadian, M. R.; Mir, S. M.; Talebian, S.; Ghazi, S.	Effects of innovative land-based proprioceptive training on knee joint position sense and function in athletes with anterior cruciate ligament reconstruction: A randomized controlled trial	2021	Irrelevant topic; post ACLR
Hales, A.	Anterior cruciate ligament repair and reconstruction	1985	Incomplete pdf
Halinen, J.; Lindahl, J.; Hirvensalo, E.; Santavirta, S.	Operative and nonoperative treatments of medial collateral ligament rupture with early anterior cruciate ligament reconstruction: a prospective randomized study	2006	Excluded from ACL 2014

Author	Article Title	Year	Reason for Exclusion
Hammoud, S.	In Complete ACL Tears, Bridge-Enhanced ACL Repair Was Noninferior to ACL Reconstruction for Symptoms and Functioning and Knee Laxity at 2 Years	2021	Commentary
Hamrin Senorski, E.; Svantesson, E.; Beischer, S.; Thomee, C.; Thomee, R.; Karlsson, J.; Samuelsson, K.	Low 1-Year Return-to-Sport Rate After Anterior Cruciate Ligament Reconstruction Regardless of Patient and Surgical Factors: A Prospective Cohort Study of 272 Patients	2018	< 2 yr. follow up (12 months)
Hanada, M.; Yoshikura, T.; Matsuyama, Y.	Muscle recovery at 1 year after the anterior cruciate ligament reconstruction surgery is associated with preoperative and early postoperative muscular strength of the knee extension	2019	< 2 yr. follow up (1 yr.)
Hannon, J.; Garrison, J. C.; Wang-Price, S.; Goto, S.; Grondin, A.; Bothwell, J.; Bush, C.	Effect of Meniscal Repair on Joint Loading in Athletes With Anterior Cruciate Ligament Reconstruction at 3 Months Following Surgery	2020	Not all patients had meniscal tear
Harhaji, V.; Subasic, S.; Ninkovic, S.; Lalic, I.; Salamon, T.; Ristic, V.	The Impact of Combined Meniscus Tear on Quality of Life after Anterior Cruciate Ligament Reconstruction	2016	< 2 yr. follow up (12 months)
Harilainen, A.; Sandelin, J.; Vanhanen, I.; Kivinen, A.	Knee brace after bone-tendon-bone anterior cruciate ligament reconstruction. Randomized, prospective study with 2-year follow-up	1997	irrelevant topic: not functional RTS bracing
Harput, G.; Ulusoy, B.; Ozer, H.; Baltaci, G.; Richards, J.	External supports improve knee performance in anterior cruciate ligament reconstructed individuals with higher kinesiophobia levels	2016	Grandfather, non RCT
Harris, J. D.; Abrams, G. D.; Bach, B. R.; Williams, D.; Heidloff, D.; Bush-Joseph, C. A.; Verma, N. N.; Forsythe, B.; Cole, B. J.	Return to sport after ACL reconstruction	2014	Systematic review
Harris, K. P.; Driban, J. B.; Sitler, M. R.; Cattano, N. M.; Balasubramanian, E.; Hootman, J. M.	Tibiofemoral Osteoarthritis After Surgical or Nonsurgical Treatment of Anterior Cruciate Ligament Rupture: A Systematic Review	2017	Systematic review

Author	Article Title	Year	Reason for Exclusion
Hart, A. J.; Buscombe, J.; Malone, A.; Dowd, G. S.	Assessment of osteoarthritis after reconstruction of the anterior cruciate ligament: a study using single-photon emission computed tomography at ten years	2005	Irrelevant comparison: not all have meniscus pathology
Hart, H. F.; Crossley, K. M.; Ackland, D. C.; Cowan, S. M.; Collins, N. J.	Effects of an unloader knee brace on knee-related symptoms and function in people with post-traumatic knee osteoarthritis after anterior cruciate ligament reconstruction	2016	Grandfather, not fully randomized
Hart, H. F.; Culvenor, A. G.; Guermazi, A.; Crossley, K. M.	Worse knee confidence, fear of movement, psychological readiness to return-to-sport and pain are associated with worse function after ACL reconstruction	2020	< 2 yr. follow up (1 yr.)
Hasan, H. A.	Tegner and Lysholm scores in brace-free rehabilitation	2004	Grandfather, non RCT
Heffron, W. M.; Hunnicutt, J. L.; Xerogeanes, J. W.; Woolf, S. K.; Slone, H. S.	Systematic Review of Publications Regarding Quadriceps Tendon Autograft Use in Anterior Cruciate Ligament Reconstruction	2019	Systematic review
Hefti, F.; Gachter, A.; Jenny, H.; Morscher, E.	Replacement of the anterior cruciate ligament. a comparative study of four different methods of reconstruction	1982	Old article 1982
Heijne, A.; Hagstromer, M.; Werner, S.	A two- and five-year follow-up of clinical outcome after ACL reconstruction using BPTB or hamstring tendon grafts: a prospective intervention outcome study	2015	MCL injuries were included
Helito, C. P.; Sobrado, M. F.; Giglio, P. N.; Bonadio, M. B.; Pecora, J. R.; Gobbi, R. G.; Camanho, G. L.	Surgical Timing Does Not Interfere on Clinical Outcomes in Combined Reconstruction of the Anterior Cruciate Ligament and Anterolateral Ligament: A Comparative Study With Minimum 2-Year Follow-Up	2021	Not an isolated ACLR (combined ACLR +ALL reconstruction)
Hemmerich, A.; van der Merwe, W.; Batterham, M.; Vaughan, C. L.	Double-bundle ACL surgery demonstrates superior rotational kinematics to single-bundle technique during dynamic task	2011	< 2 yr. FU; excluded in 2014
Herbst, E.; Hoser, C.; Hildebrandt, C.; Raschner, C.; Hepperger, C.; Pointner, H.; Fink, C.	Functional assessments for decision-making regarding return to sports following ACL reconstruction. Part II: clinical application of a new test battery	2015	RTS test vs healthy controls

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Herrington, L.; Ghulam, H.; Comfort, P.	Quadriceps Strength and Functional Performance After Anterior Cruciate Ligament Reconstruction in Professional Soccer players at Time of Return to Sport	2018	Case series; no comparison group
Heusdens, C. H. W.; Zazulia, K.; Roelant, E.; Dossche, L.; van Tiggelen, D.; Roeykens, J.; Smits, E.; Vanlauwe, J.; Van Dyck, P.	Study protocol: a single-blind, multi-center, randomized controlled trial comparing dynamic intraligamentary stabilization, internal brace ligament augmentation and reconstruction in individuals with an acute anterior cruciate ligament rupture: LIBR study	2019	Protocol only - no results
Hewett, T. E.; Ford, K. R.; Myer, G. D.	Anterior cruciate ligament injuries in female athletes: Part 2, a meta-analysis of neuromuscular interventions aimed at injury prevention	2006	Systematic review
Hewett, T. E.; Johnson, D. L.	ACL prevention programs: fact or fiction?	2010	Non-systematic review
Hewett, T. E.; Myer, G. D.; Ford, K. R.	Reducing knee and anterior cruciate ligament injuries among female athletes: a systematic review of neuromuscular training interventions	2005	Systematic review
Hewson, G. F., Jr.	Drill guides for improving accuracy in anterior cruciate ligament repair and reconstruction	1983	Old article 1983
Higgins, J.; Chang, J.; Hoit, G.; Chahal, J.; Dwyer, T.; Theodoropoulos, J.	Conventional Follow-up Versus Mobile Application Home Monitoring for Postoperative Anterior Cruciate Ligament Reconstruction Patients: A Randomized Controlled Trial	2020	
Hildebrandt, C.; Muller, L.; Zisch, B.; Huber, R.; Fink, C.; Raschner, C.	Functional assessments for decision-making regarding return to sports following ACL reconstruction. Part I: development of a new test battery	2015	No RTS
Hillard-Sembell, D.; Daniel, D. M.; Stone, M. L.; Dobson, B. E.; Fithian, D. C.	Combined injuries of the anterior cruciate and medial collateral ligaments of the knee. Effect of treatment on stability and function of the joint	1996	Combined ACL MCL vs. Isolated ACL
Hoogeslag, R. A. G.; Brouwer, R. W.; de Vries, A. J.; Boer, B. C.; Huis In 't Veld, R.	Efficacy of Nonaugmented, Static Augmented, and Dynamic Augmented Suture Repair of the Ruptured Anterior Cruciate Ligament: A Systematic Review of the Literature	2020	Systematic review
Hopper, G. P.; Aithie, J. M. S.; Jenkins, J. M.; Wilson, W. T.; Mackay, G. M.	Combined Anterior Cruciate Ligament Repair and Anterolateral Ligament Internal Brace Augmentation: Minimum 2-Year Patient-Reported Outcome Measures	2020	Case series

Author	Article Title	Year	Reason for Exclusion
Hornbeck, K.; Peterson, A.	Neuromuscular training program reduces knee injuries among adolescent female soccer players	2012	Incomplete pdf
Hoshino, Y.; Hiroshima, Y.; Miyaji, N.; Nagai, K.; Araki, D.; Kanzaki, N.; Kakutani, K.; Matsushita, T.; Kuroda, R.	Unrepaired lateral meniscus tears lead to remaining pivot-shift in ACL-reconstructed knees	2020	< 2 yr. follow up (1 yr.)
Houck, D. A.; Kraeutler, M. J.; Belk, J. W.; Goode, J. A.; Mulcahey, M. K.; Bravman, J. T.	Primary Arthroscopic Repair of the Anterior Cruciate Ligament: A Systematic Review of Clinical Outcomes	2019	Systematic review
Hsu, A. R.; Anderson, R. B.	What have we learned from taking care of elite athletes?	2014	Narrative review
Hu, B.; Gao, F.; Li, C.; Zhang, B.; An, M.; Lu, M.; Liu, Y.; Liu, Y.	A comparative analysis of the efficacy of anterior cruciate ligament reconstruction with autologous ligament grafting at different time points	2020	< 2 yr. follow up (9 months)
Huang, W.; Zhang, Y.; Yao, Z.; Ma, L.	Clinical examination of anterior cruciate ligament rupture: a systematic review and meta-analysis	2016	Systematic review
Huang, Y. L.; Jung, J.; Mulligan, C. M. S.; Oh, J.; Norcross, M. F.	A Majority of Anterior Cruciate Ligament Injuries Can Be Prevented by Injury Prevention Programs: A Systematic Review of Randomized Controlled Trials and Cluster-Randomized Controlled Trials With Meta-analysis	2020	Systematic review
Huleatt, J.; Gottschalk, M.; Fraser, K.; Boden, A.; Dalwadi, P.; Xerogeanes, J.; Hammond, K.	Risk Factors for Manipulation Under Anesthesia and/or Lysis of Adhesions After Anterior Cruciate Ligament Reconstruction	2018	MCL and PCL injuries are included (can't use as auto/allo PICO 8)
Hulet, C.; Sonnery-Cottet, B.; Stevenson, C.; Samuelsson, K.; Laver, L.; Zdanowicz, U.; Stufkens, S.; Curado, J.; Verdonk, P.; Spalding, T.	The use of allograft tendons in primary ACL reconstruction	2019	Systematic review
Hunter, D. J.; Lohmander, L. S.; Makovey, J.; Tamez-Pena, J.; Totterman, S.; Schreyer, E.; Frobell, R. B.	The effect of anterior cruciate ligament injury on bone curvature: exploratory analysis in the KANON trial	2014	Irrelevant outcome; bone curvature

Author	Article Title	Year	Reason for Exclusion
Hurd, W. J.; Axe, M. J.; Snyder-Mackler, L.	A 10-year prospective trial of a patient management algorithm and screening examination for highly active individuals with anterior cruciate ligament injury: Part 1, outcomes	2008	Irrelevant topic; decision making, no clinical outcomes
Hurley, E. T.; Bloom, D. A.; Hoberman, A.; Anil, U.; Gonzalez-Lomas, G.; Strauss, E. J.; Alaia, M. J.	There are differences in knee stability based on lateral extra-articular augmentation technique alongside anterior cruciate ligament reconstruction	2021	Systematic review
Hurley, E. T.; Fried, J. W.; Kingery, M. T.; Strauss, E. J.; Alaia, M. J.	Antero-lateral ligament reconstruction improves knee stability alongside anterior cruciate ligament reconstruction	2020	Systematic review
Hurley, E. T.; Manjunath, A. K.; Strauss, E. J.; Jazrawi, L. M.; Alaia, M. J.	Return to Play After Anterior Cruciate Ligament Reconstruction with Extra-articular Augmentation: A Systematic Review	2020	Irrelevant systematic review
Ibrahim, S. A. R.	Anterior cruciate ligament reconstruction by combined intra-articular (K. Lambert) and extra-articular iliotibial band tenodesis (MacIntosh; Autologous grafts)	1999	No comparison group
Ibrahim, S. A.; Al-Kussary, I. M.; Al-Misfer, A. R.; Al-Mutairi, H. Q.; Ghafar, S. A.; El Noor, T. A.	Clinical evaluation of arthroscopically assisted anterior cruciate ligament reconstruction: patellar tendon versus gracilis and semitendinosus autograft	2005	Copy of ID 8162
Ichinohe, S.; Yoshida, M.; Murakami, H.; Takayama, H.; Izumiyama, S.; Shimamura, T.	Meniscal tearing after ACL reconstruction	2000	< 2 yr. follow up (16 months)
Ifran, N. N.; Mok, Y. R.; Krishna, L.	Tear Rates of the Ipsilateral ACL Graft and the Contralateral Native ACL Are Similar following ACL Reconstruction	2020	Irrelevant comparison: ipsilateral teat vs. Contralateral ACL tear following ACLR
Ihara, H.; Miwa, M.; Takayanagi, K.; Nakayama, A.	Acute torn meniscus combined with acute cruciate ligament injury. Second look arthroscopy after 3-month conservative treatment	1994	Irrelevant article: not all patients had ACL injury 7/32 had PCL injury
Ikuta, Y.; Nakamae, A.; Shimizu, R.; Ishikawa, M.; Nakasa, T.; Ochi, M.; Adachi, N.	A Comparison of Central Anatomic Single-Bundle Reconstruction and Anatomic Double-Bundle Reconstruction in Anteroposterior and Rotational Knee Stability: Intraoperative Biomechanical Evaluation	2020	< 2 yr. follow up

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Imbert, P.; Lustig, S.; Steltzlen, C.; Batailler, C.; Colombet, P.; Dalmay, F.; Bertiaux, S.; D'Ingrado, P.; Ehkirch, F. P.; Louis, M. L.; Pailhe, R.; Panisset, J. C.; Schlaterrer, B.; Sonnery-Cottet, B.; Sigwalt, L.; Saragaglia, D.; Lutz, C.; French Arthroscopy, Society	Midterm results of combined intra- and extra-articular ACL reconstruction compared to historical ACL reconstruction data. Multicenter study of the French Arthroscopy Society	2017	ACL+ALR results compared with ACLR data from several published studies
Indelicato, P. A.	Non-operative treatment of complete tears of the medial collateral ligament of the knee	1983	Irrelevant diagnosis; isolated MCL tear
Inderhaug, E.; Stephen, J. M.; El-Daou, H.; Williams, A.; Amis, A. A.	The Effects of Anterolateral Tenodesis on Tibiofemoral Contact Pressures and Kinematics	2018	Cadaver
Ishibashi, Y.; Adachi, N.; Koga, H.; Kondo, E.; Kuroda, R.; Mae, T.; Uchio, Y.	Japanese Orthopaedic Association (JOA) clinical practice guidelines on the management of anterior cruciate ligament injury â?? Secondary publication	2020	Systematic review
Ithurburn, M. P.; Longfellow, M. A.; Thomas, S.; Paterno, M. V.; Schmitt, L. C.	Knee Function, Strength, and Resumption of Preinjury Sports Participation in Young Athletes Following Anterior Cruciate Ligament Reconstruction	2019	Irrelevant comparison: sports returners vs non-returners
Ithurburn, M. P.; Paljieg, A.; Thomas, S.; Hewett, T. E.; Paterno, M. V.; Schmitt, L. C.	Strength and Function Across Maturational Levels in Young Athletes at the Time of Return to Sport After ACL Reconstruction	2019	Irrelevant comparison: age group, doesn't compare criteria met vs unmet
Ithurburn, M. P.; Thomas, S.; Paterno, M. V.; Schmitt, L. C.	Young athletes after ACL reconstruction with asymmetric quadriceps strength at the time of return-to-sport clearance demonstrate drop-landing asymmetries two years later	2021	Irrelevant outcome
Jacobi, M.; Reischl, N.; Ronn, K.; Magnusson, R. A.; Gautier, E.; Jakob, R. P.	Healing of the Acutely Injured Anterior Cruciate Ligament: Functional Treatment with the ACL-Jack, a Dynamic Posterior Drawer Brace	2016	Grandfather, non RCT
Jalali, M.; Farahmand, F.; Rezaeian, T.; Ramsey, D. K.; Mousavi, S. M.	Electromyographic analysis of anterior cruciate deficient knees with and without functional bracing during lunge exercise	2016	Grandfather, non RCT

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James, E. W.; Dawkins, B. J.; Schachne, J. M.; Ganley, T. J.; Kocher, M. S.; Pluto Study Group; Anderson, C. N.; Busch, M. T.; Chambers, H. G.; Christino, M. A.; Cordasco, F. A.; Edmonds, E. W.; Green, D. W.; Heyworth, B. E.; Lawrence, J. T. R.; Micheli, L. J.; Milewski, M. D.; Matava, M. J.; Nepple, J. J.; Parikh, S. N.; Pennock, A. T.; Perkins, C. A.; Saluan, P. M.; Shea, K. G.; Wall, E. J.; Willimon, S. C.; Fabricant, P. D.	Early Operative Versus Delayed Operative Versus Nonoperative Treatment of Pediatric and Adolescent Anterior Cruciate Ligament Injuries: A Systematic Review and Meta-analysis	2021	Systematic review
Jang, S. H.; Kim, J. G.; Ha, J. K.; Wang, B. G.; Yang, S. J.	Functional performance tests as indicators of returning to sports after anterior cruciate ligament reconstruction	2014	Irrelevant comparison: return to sport vs non return
Janosky, J.	COACH EDUCATION IMPROVES ADHERENCE TO ACL INJURY PREVENTION PROGRAMS: A CLUSTER-RANDOMIZED CONTROLLED TRIAL	2021	Irrelevant comparison
Janssen, R. P. A.; van Melick, N.; van Mourik, J. B. A.; Reijman, M.; van Rhijn, L. W.	ACL reconstruction with hamstring tendon autograft and accelerated brace-free rehabilitation: a systematic review of clinical outcomes	2018	Systematic review
Jensen, J. E.; Slocum, D. B.; Larson, R. L.; James, S. L.; Singer, K. M.	Reconstruction procedures for anterior cruciate ligament insufficiency: a computer analysis of clinical results	1983	Old article 1983
Jensen, N. C.; Riis, J.; Robertsen, K.; Holm, A. R.	Arthroscopic repair of the ruptured meniscus: one to 6.3 years follow up	1994	Irrelevant article: 23/49 patients had isolated meniscal injury and no ACL injury
Jia, Z. Y.; Zhang, C.; Cao, S. Q.; Xue, C. C.; Liu, T. Z.; Huang, X.; Xu, W. D.	Comparison of artificial graft versus autograft in anterior cruciate ligament reconstruction: a meta-analysis	2017	Systematic review

Author	Article Title	Year	Reason for Exclusion
Jin, J. X.; Fang, P. Z.; Hu, Z. W.; Chen, J. L.; Wang, R. R.; Wang, X.	Comparison of the effectiveness of autologous grafts for anterior cruciate ligament reconstruction: A protocol for an overview of systematic review and network meta-analysis	2020	Systematic review
Johnson, D. H.; Maffulli, N.; King, J. B.; Shelbourne, K. D.	Anterior cruciate ligament reconstruction: A cynical view from the British Isles on the indications for surgery	2003	Non-systematic review
Johnston, P. T.; McClelland, J. A.; Feller, J. A.; Webster, K. E.	Knee muscle strength after quadriceps tendon autograft anterior cruciate ligament reconstruction: systematic review and meta-analysis	2021	Systematic review
Jonkergouw, A.; van der List, J. P.; DiFelice, G. S.	Arthroscopic primary repair of proximal anterior cruciate ligament tears: outcomes of the first 56 consecutive patients and the role of additional internal bracing	2019	Irrelevant comparison; repair vs repair
Joreitz, R.; Lynch, A.; Rabuck, S.; Lynch, B.; Davin, S.; Irrgang, J.	Patient-Specific and Surgery-Specific Factors That Affect Return to Sport after Acl Reconstruction	2016	Commentary
Jørgensen, U.; Bak, K.; Ekstrand, J.; Scavenius, M.	Reconstruction of the anterior cruciate ligament with the iliotibial band autograft in patients with chronic knee instability	2001	Irrelevant comparison; not all have meniscus pathology
Joseph, L.; Demey, G.; Chamu, T.; Schmidt, A.; Germain, A.; van Rooij, F.; Saffarini, M.; Dejour, D.	Adding a modified Lemaire procedure to ACLR in knees with severe rotational knee instability does not compromise isokinetic muscle recovery at the time of return-to-play	2020	< 2 yr. follow up
Jungmann, P. M.; Baum, T.; Nevitt, M. C.; Nardo, L.; Gersing, A. S.; Lane, N. E.; McCulloch, C. E.; Rummeny, E. J.; Link, T. M.	Degeneration in ACL Injured Knees with and without Reconstruction in Relation to Muscle Size and Fat Content-Data from the Osteoarthritis Initiative	2016	Not all pts have ACL tear
Kacmaz, I. E.; Gezer, M. C.; Basa, C. D.; Zhamilov, V.; Ekizoglu, O.	Use of the forgotten joint score (FJS)-12 to evaluate knee awareness after isolated anterior cruciate ligament reconstruction with and without meniscus repair or partial meniscectomy	2021	< 2 yr. follow up (1 yr.)
Kamath, G. V.; Murphy, T.; Creighton, R. A.; Taft, T. N.; Spang, J. T.	ACL Injury, Return To Play And Reinjury In The Elite, Collegiate Athlete: An Analysis Of A Single, Division I NCAA Cohort	2014	Incomplete pdf

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Kamien, P. M.; Hydrick, J. M.; Replogle, W. H.; Go, L. T.; Barrett, G. R.	Age, graft size, and Tegner activity level as predictors of failure in anterior cruciate ligament reconstruction with hamstring autograft	2013	Irrelevant factors; autograft size
Kan, S. L.; Yuan, Z. F.; Ning, G. Z.; Yang, B.; Li, H. L.; Sun, J. C.; Feng, S. Q.	Autograft versus allograft in anterior cruciate ligament reconstruction: A meta-analysis with trial sequential analysis	2016	Systematic review
Kandhari, V.; Vieira, T. D.; Ouanezar, H.; Praz, C.; Rosenstiel, N.; Pioger, C.; Franck, F.; Saithna, A.; Sonnery-Cottet, B.	Clinical Outcomes of Arthroscopic Primary Anterior Cruciate Ligament Repair: A Systematic Review from the Scientific Anterior Cruciate Ligament Network International Study Group	2020	Systematic review
Karnuta, J. M.; Dalton, S.; Bena, J.; Farrow, L. D.; Featherall, J.; Jones, M. H.; Miniaci, A. A.; Parker, R. D.; Rosneck, J. T.; Saluan, P.; Strnad, G.; Spindler, K. P.; Williams, J. S.; Oak, S. R.	Do Narcotic Use, Physical Therapy Location, or Payer Type Predict Patient-Reported Outcomes After Anterior Cruciate Ligament Reconstruction?	2021	
Karrasch, C.; Gallo, R. A.	The acutely injured knee	2014	Non-systematic review
Katakura, M.; Horie, M.; Watanabe, T.; Katagiri, H.; Otabe, K.; Ohara, T.; Nakamura, K.; Katagiri, K.; Ueki, H.; Zaffagnini, S.; Sekiya, I.; Muneta, T.; Koga, H.	Effect of meniscus repair on pivot-shift during anterior cruciate ligament reconstruction: Objective evaluation using triaxial accelerometer	2019	< 2 yr. follow up (intraoperative)
Kautzner, J.; Kos, P.; Hanus, M.; Trc, T.; Havlas, V.	A comparison of ACL reconstruction using patellar tendon versus hamstring autograft in female patients: a prospective randomised study	2015	Female only
Kay, J.; Memon, M.; Sa, D.; Simunovic, N.; Musahl, V.; Fu, F. H.; Karlsson, J.; Ayeni, O. R.	A Historical Analysis of Randomized Controlled Trials in Anterior Cruciate Ligament Surgery	2017	Systematic review

Author	Article Title	Year	Reason for Exclusion
Kay, J.; Memon, M.; Shah, A.; Yen, Y. M.; Samuelsson, K.; Peterson, D.; Simunovic, N.; Flageole, H.; Ayeni, O. R.	Earlier anterior cruciate ligament reconstruction is associated with a decreased risk of medial meniscal and articular cartilage damage in children and adolescents: a systematic review and meta-analysis	2018	Systematic review
Keizer, M. N. J.; Hoogeslag, R. A. G.; van Raay, Jjam; Otten, E.; Brouwer, R. W.	Superior return to sports rate after patellar tendon autograft over patellar tendon allograft in revision anterior cruciate ligament reconstruction	2018	All patients underwent ACLR revision
Kew, M. E.; Bodkin, S. G.; Diduch, D. R.; Smith, M. K.; Wiggins, A.; Brockmeier, S. F.; Werner, B. C.; Gwathmey, F. W.; Miller, M. D.; Hart, J. M.	The Influence of Perioperative Nerve Block on Strength and Functional Return to Sports After Anterior Cruciate Ligament Reconstruction	2020	Irrelevant topic: nerve block
Khalil, L. S.; Lindsay-Rivera, K. G.; Abbas, M. J.; Shah, S.; Tandron, M.; Ferris, A.; Okoroha, K. R.	Game Utilization and Performance Following RTP From ACL Reconstruction Does not Influence a Subsequent Second ACL Injury in National Football League Players	2021	Not a test of RTS criteria
Kim, J. H.; Oh, E.; Yoon, Y. C.; Lee, D. K.; Lee, S. S.; Wang, J. H.	Remnant-Tensioning Single-Bundle Anterior Cruciate Ligament Reconstruction Provides Comparable Stability to and Better Graft Vascularity Than Double-Bundle Anterior Cruciate Ligament Reconstruction in Acute or Subacute Injury: A Prospective Randomized Controlled Study Using Dynamic Contrast-Enhanced Magnetic Resonance Imaging	2021	Confounded; (double bundle) vs. (single bundle + remnant preserving)
Kim, S. G.; Kim, S. H.; Kim, J. G.; Jang, K. M.; Lim, H. C.; Bae, J. H.	Hamstring autograft maturation is superior to tibialis allograft following anatomic single-bundle anterior cruciate ligament reconstruction	2018	<2 yr. follow up (mean 22.5 months)
Kim, S. H.; Han, S. J.; Park, Y. B.; Kim, D. H.; Lee, H. J.; Pujol, N.	A systematic review comparing the results of early vs delayed ligament surgeries in single anterior cruciate ligament and multiligament knee injuries	2021	Systematic review
Kim, S. H.; Jung, Y. B.; Song, M. K.; Lee, S. H.; Jung, H. J.; Lee, H. J.; Jung, H. S.; Siti, H. T.	Comparison of double-bundle anterior cruciate ligament (ACL) reconstruction and single-bundle reconstruction with remnant pull-out suture	2014	Non RCT

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Kim, S. J.; Lee, S. K.; Choi, C. H.; Kim, S. H.; Kim, S. H.; Jung, M.	Graft selection in anterior cruciate ligament reconstruction for smoking patients	2014	Insufficient data for target comparison: data stratified by smokers/nonsmokers
Kim, Y. K.; Ahn, J. H.; Yoo, J. D.	A Comparative Study of Clinical Outcomes and Second-Look Arthroscopic Findings between Remnant-Preserving Tibialis Tendon Allograft and Hamstring Tendon Autograft in Anterior Cruciate Ligament Reconstruction: Matched-Pair Design	2017	Confounded comparison; tx1+tx_a VS tx2+tx_b
Kitaguchi, T.; Tanaka, Y.; Takeshita, S.; Akizaki, K.; Takao, R.; Kinugasa, K.; Tachibana, Y.; Natsuume, T.; Horibe, S.	Preoperative quadriceps strength as a predictor of return to sports after anterior cruciate ligament reconstruction in competitive athletes	2020	< 2 yr. follow up (1 yr.)
Kiyak, G.; Bawaneh, M. K.; BalikÃ§i, T.	Sensitivity and specificity of anterior cruciate clinical examination in acute setting before and after hemarthrosis aspiration	2018	Irrelevant comparison: 3 different tests (pivot, lachman, anterior drawer)
Kluczynski, M. A.; Marzo, J. M.; Rauh, M. A.; Bernas, G. A.; Bisson, L. J.	A Case-Control Study Comparing Bone Bruising and Intra-articular Injuries in Patients Undergoing Anterior Cruciate Ligament Reconstruction With and Without Medial Collateral Ligament Tears	2016	Irrelevant comparison; not all pts have concomitant MCL tear
Klugman, M. F.; Brent, J. L.; Myer, G. D.; Ford, K. R.; Hewett, T. E.	Does an in-season only neuromuscular training protocol reduce deficits quantified by the tuck jump assessment?	2011	No ACL injury
Kobayashi, E. F.; Tang, K.; Grant, J. A.	Is ACL Repair Really Back? A Review of Modern Techniques	2021	Review
Kocabey, Y.; Tetik, O.; Isbell, W. M.; Atay, O. A.; Johnson, D. L.	The value of clinical examination versus magnetic resonance imaging in the diagnosis of meniscal tears and anterior cruciate ligament rupture	2004	Irrelevant comparison: clinical examination versus magnetic resonance imaging , non RCT
Kohl, S.; Evangelopoulos, D. S.; Schar, M. O.; Bieri, K.; Muller, T.; Ahmad, S. S.	Dynamic intraligamentary stabilisation: initial experience with treatment of acute ACL ruptures	2016	Case series; no comparison group
Kohl, S.; Stock, A.; Ahmad, S. S.; Zumstein, M.; Keel, M.; Exadaktylos, A.; Kohlhof, H.; Eggli, S.; Evangelopoulos, D. S.	Dynamic intraligamentary stabilization and primary repair: a new concept for the treatment of knee dislocation	2015	Case series; no comparison group

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Koken, M.; Akan, B.; Kaya, A.; Armangil, M.	Comparing the anatomic single-bundle versus the anatomic double-bundle for anterior cruciate ligament reconstruction: A prospective, randomized, single blind, clinical study	2014	< 2 yr. follow up
Kolin, D. A.; Dawkins, B.; Park, J.; Fabricant, P. D.; Gilmore, A.; Seeley, M.; Mistovich, R. J.	ACL Reconstruction Delay in Pediatric and Adolescent Patients Is Associated with a Progressive Increased Risk of Medial Meniscal Tears	2021	Not an isolated ACLR (ACL+ meniscal tears injuries) and has not compared meniscal surgeries too
Kong, L.; Liu, Z.; Meng, F.; Shen, Y.	Single-bundle versus double-bundle anterior cruciate ligament reconstruction: A systematic review and meta-analysis	2017	Systematic review
Konishi, Y.; Aihara, Y.; Sakai, M.; Ogawa, G.; Fukubayashi, T.	Gamma loop dysfunction in the quadriceps femoris of patients who underwent anterior cruciate ligament reconstruction remains bilaterally	2007	Irrelevant comparison: ACLR vs controls; not all patients were followed up for 24 months
Konrads, C.; Reppenhagen, S.; Plumhoff, P.; Hoberg, M.; Rudert, M.; Barthel, T.	No significant difference in clinical outcome and knee stability between patellar tendon and semitendinosus tendon in anterior cruciate ligament reconstruction	2016	MCL injuries were included; not all tears were isolated ACL
Koolmees, D.; Ramkumar, P. N.; Hessburg, L.; Guo, E.; Bernstein, D. N.; Makhni, E. C.	Time-Driven Activity-based Costing for Anterior Cruciate Ligament Reconstruction: A Comparison to Traditional Accounting Methods	2021	Cost analysis
Kopkow, C.; Lange, T.; Hoyer, A.; LÃ¼tzner, J.; Schmitt, J.	Physical tests for diagnosing anterior cruciate ligament rupture	2015	Systematic review protocol
Korpershoek, J. V.; de Windt, T. S.; Vonk, L. A.; Krych, A. J.; Saris, D. B. F.	Does Anterior Cruciate Ligament Reconstruction Protect the Meniscus and Its Repair? A Systematic Review	2020	Systematic review
Kostyun, R. O.; Burland, J. P.; Kostyun, K. J.; Milewski, M. D.; Nissen, C. W.	Male and Female Adolescent Athletes' Readiness to Return to Sport After Anterior Cruciate Ligament Injury and Reconstruction	2019	Irrelevant factor; sex
Kosy, J. D.; Phillips, J. R. P.; Edordu, A.; Pankhania, R.; Schranz, P. J.; Mandalia, V.	Failure to Return to Preinjury Activity Level after Hamstring Anterior Cruciate Ligament Reconstruction: Factors Involved and Considerations in Goal Setting	2019	< 2 yr. follow up (1 yr.)

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Kraeutler, M. J.; Houck, D. A.; Carver, T. J.; Bravman, J. T.; Vidal, A. F.; McCarty, E. C.	Demographics and Clinical Outcomes of Patients Undergoing Anterior Cruciate Ligament Reconstruction with a Planned or Unplanned Hybrid Graft	2019	Irrelevant comparison; planned vs unplanned hybrid
Krause, M.; Freudenthaler, F.; Frosch, K. H.; Achtnich, A.; Petersen, W.; Akoto, R.	Operative Versus Conservative Treatment of Anterior Cruciate Ligament Rupture	2018	Systematic review
Krismer, A. M.; Gousopoulos, L.; Kohl, S.; Ateschrang, A.; Kohlhof, H.; Ahmad, S. S.	Factors influencing the success of anterior cruciate ligament repair with dynamic intraligamentary stabilisation	2017	Very low quality
Krupa, S.; Reichert, P.	Factors influencing the choice of graft type in ACL reconstruction: Allograft vs autograft	2020	< 2 yr. follow up
Krupa, S.; Reichert, P.	Clinical and functional evaluation of primary anterior crucial ligament reconstruction by using allograft	2020	<2 yrs. follow up- 18 months
Krych, A. J.; Jackson, J. D.; Hoskin, T. L.; Dahm, D. L.	A meta-analysis of patellar tendon autograft versus patellar tendon allograft in anterior cruciate ligament reconstruction	2008	Systematic review
Kunze, K. N.; Manzi, J.; Richardson, M.; White, A. E.; Coladonato, C.; DePhillipo, N. N.; LaPrade, R. F.; Chahla, J.	Combined Anterolateral and Anterior Cruciate Ligament Reconstruction Improves Pivot Shift Compared With Isolated Anterior Cruciate Ligament Reconstruction: A Systematic Review and Meta-analysis of Randomized Controlled Trials	2021	Systematic review
Kursumovic, K.; Charalambous, C. P.	Relationship of Graft Type and Vancomycin Presoaking to Rate of Infection in Anterior Cruciate Ligament Reconstruction: A Meta-Analysis of 198 Studies with 68,453 Grafts	2020	Irrelevant systematic review
Kurtoglu, A.; Basar, B.; Basar, G.; Gezginaslan, O.; Basar, H.	Small Size Autograft versus Large Size Allograft in Anterior Cruciate Ligament Reconstruction	2021	Group 1 has <2 yr. follow up (22 months)
Kvist, J.; Gauffin, H.; Tigerstrand Grevnerts, H.; Ardern, C.; HÃ¤gglund, M.; StÃ¥lman, A.; Frobell, R.	Natural corollaries and recovery after acute ACL injury: The NACOX cohort study protocol	2018	Just a protocol doesn't include discussion and results

Author	Article Title	Year	Reason for Exclusion
Kyritsis, P.; Bahr, R.; Landreau, P.; Miladi, R.; Witvrouw, E.	Likelihood of ACL graft rupture: not meeting six clinical discharge criteria before return to sport is associated with a four times greater risk of rupture	2016	Not a test of RTS criteria
Lai, C. C. H.; Ardern, C. L.; Feller, J. A.; Webster, K. E.	Eighty-three per cent of elite athletes return to preinjury sport after anterior cruciate ligament reconstruction: a systematic review with meta-analysis of return to sport rates, graft rupture rates and performance outcomes	2018	Systematic review
Larson, C. M.; Bedi, A.; Dietrich, M. E.; Swaringen, J. C.; Wulf, C. A.; Rowley, D. M.; Giveans, M. R.	Generalized Hypermobility, Knee Hyperextension, and Outcomes After Anterior Cruciate Ligament Reconstruction: Prospective, Case-Control Study With Mean 6 Years Follow-up	2017	Irrelevant predictor; hypermobility predicting ALCR outcomes
Law, M. A.; Ko, Y. A.; Miller, A. L.; Lauterbach, K. N.; Hendley, C. L.; Johnson, J. E.; Tsai, L. C.	Age, rehabilitation, and surgery characteristics are re-injury risk factors for adolescents following anterior cruciate ligament reconstruction	2021	Irrelevant comparison
Leblanc, M. C.; Kowalczuk, M.; Andruszkiewicz, N.; Simunovic, N.; Farrokhyar, F.; Turnbull, T. L.; Debski, R. E.; Ayeni, O. R.	Diagnostic accuracy of physical examination for anterior knee instability: a systematic review	2015	Systematic review
Lee, B. I.; Hyun, C.; Jang, B. W.; Hong, Y. C.; Kwon, S. W.	Preservation of the tibial remnant in anterior cruciate ligament reconstruction may improve postoperative proprioceptive function	2020	Irrelevant comparison: remnant preservation vs. Remnant elimination aclr
Lee, D. W.; Kim, J. G.; Cho, S. I.; Kim, D. H.	Clinical Outcomes of Isolated Revision Anterior Cruciate Ligament Reconstruction or in Combination With Anatomic Anterolateral Ligament Reconstruction	2019	Irrelevant topic: revision ACLR vs revision ACLR plus ALL
Lee, O. S.; Lee, Y. S.	Changes in hamstring strength after anterior cruciate ligament reconstruction with hamstring autograft and posterior cruciate ligament reconstruction with tibialis allograft	2020	PCL Reconstruction vs. ACL Reconstruction
Lee, W. Q.; Gan, J. Z. W.; Lie, D. T. T.	Save the meniscus â?? Clinical outcomes of meniscectomy versus meniscal repair	2019	Irrelevant comparison: meniscectomy versus meniscal repair; not all had ACL tear

Author	Article Title	Year	Reason for Exclusion
Lee, Y. S.; Lee, O. S.; Lee, S. H.	Return to Sports After Athletes Undergo Meniscal Surgery: A Systematic Review	2019	Systematic review
Lee, Y. S.; Lee, O. S.; Lee, S. H.; Hui, T. S.	Effect of the Timing of Anterior Cruciate Ligament Reconstruction on Clinical and Stability Outcomes: A Systematic Review and Meta-analysis	2018	Systematic review
Lefevre, N.; Klouche, S.; Mirouse, G.; Herman, S.; Gerometta, A.; Bohu, Y.	Return to Sport After Primary and Revision Anterior Cruciate Ligament Reconstruction: A Prospective Comparative Study of 552 Patients From the FAST Cohort	2017	<2 yrs. follow up (1 year)
Legnani, C.; Peretti, G. M.; Del Re, M.; Borgo, E.; Ventura, A.	Return to sports and re-rupture rate following anterior cruciate ligament reconstruction in amateur sportsman: long-term outcomes	2019	Case series; no comparison group
Legnani, C.; Zini, S.; Borgo, E.; Ventura, A.	Can graft choice affect return to sport following revision anterior cruciate ligament reconstruction surgery?	2016	All patients underwent ACL revision
Leister, I.; Kulnik, S. T.; Kindermann, H.; Ortmaier, R.; Barthofer, J.; Vasvary, I.; Katzensteiner, K.; Mattiassich, G.	Functional performance testing and return to sport criteria in patients after anterior cruciate ligament injury 12-18 months after index surgery: A cross-sectional observational study	2019	< 2 yr. follow up (18 mos.)
Lembach, M.; Metzler, A. V.; Howard, J. S.; Johnson, D. L.	Rates and Determinants of Return to Play after Anterior Cruciate Ligament Reconstruction in Division I College Women Soccer Athletes: A Study of the Southeastern Conference	2014	Incomplete pdf
Lepley, L. K.; Wojtys, E. M.; Palmieri-Smith, R. M.	Does concomitant meniscectomy or meniscal repair affect the recovery of quadriceps function post-ACL reconstruction?	2015	<2 yrs. follow up (7 months)
Leroux, T.; Ogilvie-Harris, D.; Dwyer, T.; Chahal, J.; Gandhi, R.; Mahomed, N.; Wasserstein, D.	The risk of knee arthroplasty following cruciate ligament reconstruction: a population-based matched cohort study	2014	Irrelevant comparison: ACL tear followed by ACLR versus no ACL tear
Li, L. T.; Bokshan, S. L.; DeFroda, S. F.; Mehta, S. R.; Fadale, P. D.; Owens, B. D.	High Case Volume Predicts Greater Odds of Autograft Use and Meniscal Repair for Anterior Cruciate Ligament Reconstruction	2020	
Li, Y. L.; Ning, G. Z.; Wu, Q.; Wu, Q. L.; Li, Y.; Hao, Y.; Feng, S. Q.	Single-bundle or double-bundle for anterior cruciate ligament reconstruction: a meta-analysis	2014	Systematic review

Author	Article Title	Year	Reason for Exclusion
Li, Y.; Fu, S. C.; Cheuk, Y. C.; Song, G.; Feng, H.; Yung, S. H.	The non-reconstructive treatment of complete ACL tear with biological enhancement in clinical and preclinical studies: A systematic review	2018	Systematic review
Lie, M. M.; Risberg, M. A.; Storheim, K.; Engebretsen, L.; Oiestad, B. E.	What's the rate of knee osteoarthritis 10 years after anterior cruciate ligament injury? An updated systematic review	2019	Systematic review
Lien-Iversen, T.; Morgan, D. B.; Jensen, C.; Risberg, M. A.; Engebretsen, L.; Viberg, B.	Does surgery reduce knee osteoarthritis, meniscal injury and subsequent complications compared with non-surgery after ACL rupture with at least 10 years follow-up? A systematic review and meta-analysis	2020	Systematic review
Ling, D. I.; Cepeda, N. A.; Marom, N.; Jivanelli, B.; Marx, R. G.	Injury prevention programmes with plyometric and strengthening exercises improve on-field performance: a systematic review	2020	Systematic review
Linko, E.; Harilainen, A.; Malmivaara, A.; Seitsalo, S.	Surgical versus conservative interventions for anterior cruciate ligament ruptures in adults	2005	Systematic review
Lisee, C. M.; DiSanti, J. S.; Chan, M.; Ling, J.; Erickson, K.; Shingles, M.; Kuenze, C. M.	Gender Differences in Psychological Responses to Recovery After Anterior Cruciate Ligament Reconstruction Before Return to Sport	2020	Not a test of RTS criteria
Littlefield, C. P.; Belk, J. W.; Houck, D. A.; Kraeutler, M. J.; LaPrade, R. F.; Chahla, J.; McCarty, E. C.	The Anterolateral Ligament of the Knee: An Updated Systematic Review of Anatomy, Biomechanics, and Clinical Outcomes	2021	
Lobo, C. F. T.; Helito, P. V. P.; Bordalo-Rodrigues, M.; Helito, C. P.	Computed tomography (CT), X-ray, and MRI evaluation of two anterolateral knee reconstruction techniques: lateral extra-articular tenodesis (LET) and the anterolateral ligament (ALL) reconstruction	2020	Non-systematic review
Logerstedt, D.; Di Stasi, S.; Grindem, H.; Lynch, A.; Eitzen, I.; Engebretsen, L.; Risberg, M. A.; Axe, M. J.; Snyder-Mackler, L.	Self-reported knee function can identify athletes who fail return-to-activity criteria up to 1 year after anterior cruciate ligament reconstruction: a delaware-oslo ACL cohort study	2014	Irrelevant comparison: accuracy statistics of IKDC form vs RTAC test battery
Longstaffe, R.; Leiter, J.; Gurney-Dunlop, T.; McCormack, R.; MacDonald, P.	Return to Play and Career Length After Anterior Cruciate Ligament Reconstruction Among Canadian Professional Football Players	2020	Data taken from internet sources

Author	Article Title	Year	Reason for Exclusion
Losciale, J. M.; Zdeb, R. M.; Ledbetter, L.; Reiman, M. P.; Sell, T. C.	The Association Between Passing Return-to-Sport Criteria and Second Anterior Cruciate Ligament Injury Risk: A Systematic Review With Meta-analysis	2019	
Louis, M. L.; D'Ingrado, P.; Ehkirch, F. P.; Bertiaux, S.; Colombet, P.; Sonnery-Cottet, B.; Schlatterer, B.; Pailhe, R.; Panisset, J. C.; Steltzlen, C.; Lustig, S.; Lutz, C.; Dalmay, F.; Imbert, P.; Saragaglia, D.; French Arthroscopy, Society	Combined intra- and extra-articular grafting for revision ACL reconstruction: A multicentre study by the French Arthroscopy Society (SFA)	2017	No comparison group
Lowe, W. R.; Warth, R. J.; Davis, E. P.; Bailey, L.	Functional Bracing After Anterior Cruciate Ligament Reconstruction: A Systematic Review	2017	Systematic review
Luc, B.; Gribble, P. A.; Pietrosimone, B. G.	Osteoarthritis prevalence following anterior cruciate ligament reconstruction: a systematic review and numbers-needed-to-treat analysis	2014	Systematic review
Lucena, T.; Cavaignac, M.; Marot, V.; Courtot, L.; Lutz, C.; Berard, E.; Cavaignac, E.	Iliotibial band autograft is a suitable alternative graft for anterior cruciate ligament reconstruction: a systematic review and meta-analysis of outcomes	2021	Systematic review
Lyp, M.; Stanislawska, I.; Witek, B.; Majerowska, M.; Czarny-Dzialak, M.; Wlostowska, E.	The Timing of Rehabilitation Commencement After Reconstruction of the Anterior Cruciate Ligament	2018	Insufficient data for target comparison: trauma-surgery timing not analyzed in results
Ma, J.; Zhang, D.; Zhao, T.; Liu, X.; Wang, J.; Zheng, H.; Jin, S.	The effects of proprioceptive training on anterior cruciate ligament reconstruction rehabilitation: A systematic review and meta-analysis	2021	Systematic review
Mae, T.; Shino, K.; Nakagawa, S.; Take, Y.; Hiramatsu, K.; Yoshikawa, H.; Nakata, K.	Second-look arthroscopy after anatomic anterior cruciate ligament reconstruction: Bone-patellar tendon-bone versus hamstring tendon graft	2019	< 2 yr. follow up (10 mo)
Maestro, A.; Herruzo, I.; Varillas-Delgado, D.; Martin-Saborido, C.	Subjective assessment reported by patients shows differences between single-bundle and double-bundle anterior cruciate ligament reconstruction, systematic review and meta-analysis	2021	Systematic review

Author	Article Title	Year	Reason for Exclusion
Magnitskaya, N.; Mouton, C.; Gokeler, A.; Nuehrenboerger, C.; Pape, D.; Seil, R.	Younger age and hamstring tendon graft are associated with higher IKDC 2000 and KOOS scores during the first year after ACL reconstruction	2020	< 2 yr. follow up (1 yr.)
Magnussen, R. A.; Jacobi, M.; Demey, G.; Lustig, S.; Servien, E.; Neyret, P.	Lateral extra-articular augmentation of ACL reconstruction	2011	Non-systematic review
Magnussen, R. A.; Verlage, M.; Flanigan, D. C.; Kaeding, C. C.; Spindler, K. P.	Patient-Reported Outcomes and Their Predictors at Minimum 10 Years After Anterior Cruciate Ligament Reconstruction: A Systematic Review of Prospectively Collected Data	2015	Systematic review
Mahapatra, P.; Horriat, S.; Anand, B. S.	Anterior cruciate ligament repair - past, present, and future	2018	Systematic review
Mahood, C.; Perry, M.; Gallagher, P.; Sole, G.	Chaos and confusion with confidence: Managing fear of Re-Injury after anterior cruciate ligament reconstruction	2020	Irrelevant outcome
Makhni, E. C.; Crump, E. K.; Steinhaus, M. E.; Verma, N. N.; Ahmad, C. S.; Cole, B. J.; Bach, B. R., Jr.	Quality and Variability of Online Available Physical Therapy Protocols From Academic Orthopaedic Surgery Programs for Anterior Cruciate Ligament Reconstruction	2016	Irrelevant comparison; rehab protocols after ACLR
Makhni, E. C.; Padaki, A. S.; Petridis, P. D.; Steinhaus, M. E.; Ahmad, C. S.; Cole, B. J.; Bach, B. R., Jr.	High Variability in Outcome Reporting Patterns in High-Impact ACL Literature	2015	Systematic review
Makhni, E. C.; Steinhaus, M. E.; Mehran, N.; Schulz, B. S.; Ahmad, C. S.	Functional Outcome and Graft Retention in Patients With Septic Arthritis After Anterior Cruciate Ligament Reconstruction: A Systematic Review	2015	Systematic review
Maletius, W.; Gillquist, J.	Long-term results of anterior cruciate ligament reconstruction with a Dacron prosthesis. The frequency of osteoarthritis after seven to eleven years	1997	All patients underwent ACLR
Malige, A.; Leska, T.; Baghdadi, S.; Ganley, T.	Pediatric Revision Anterior Cruciate Ligament Reconstruction: Current Concepts Review	2021	Irrelevant systematic review
Manandhar, R. R.; Chandrashekhar, K.; Kumaraswamy, V.; Sahanand, S.; Rajan, D.	Functional outcome of an early anterior cruciate ligament reconstruction in comparison to delayed: Are we waiting in vain?	2018	< 2 yr. follow up (6 mos.)

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Mancino, F.; Cacciola, G.; Malahias, M. A.; De Filippis, R.; De Marco, D.; Di Matteo, V.; Gu, A.; Sculco, P. K.; Maccauro, G.; De Martino, I.	What are the benefits of robotic-assisted total knee arthroplasty over conventional manual total knee arthroplasty? A systematic review of comparative studies	2020	Systematic review
Mantell, M.; Fox, B.; Baker, M.; Kappa, J.; Ho, A.; Pandarinath, R.	Incidence of graft failure with Achilles tendon allograft combined with RetroScrewâ?¢ tibial fixation in primary anterior cruciate ligament reconstruction	2019	No comparison group
Mao, Y.; Zhang, K.; Li, J.; Fu, W.	Supplementary Lateral Extra-articular Tenodesis for Residual Anterolateral Rotatory Instability in Patients Undergoing Single-Bundle Anterior Cruciate Ligament Reconstruction: A Meta-analysis of Randomized Controlled Trials	2021	Systematic review
Mariani, P. P.; Puddu, G.; Ferretti, A.	Hemathrosis treated by aspiration and casting. How to condemn the knee	1982	Aspiration was done in all the patients
Marieswaran, M.; Jain, I.; Garg, B.; Sharma, V.; Kalyanasundaram, D.	A Review on Biomechanics of Anterior Cruciate Ligament and Materials for Reconstruction	2018	Systematic review
Marin Fermin, T.; Hovsepian, J. M.; Symeonidis, P. D.; Terzidis, I.; Papakostas, E. T.	Insufficient evidence to support peroneus longus tendon over other autografts for primary anterior cruciate ligament reconstruction: a systematic review	2021	Irrelevant systematic review
Mariscalco, M. W.; Magnussen, R. A.; Mehta, D.; Hewett, T. E.; Flanigan, D. C.; Kaeding, C. C.	Autograft versus nonirradiated allograft tissue for anterior cruciate ligament reconstruction: a systematic review	2014	Systematic review
Marois, B.; Tan, X. W.; Pauyo, T.; Dodin, P.; Ballaz, L.; Nault, M. L.	Can a Knee Brace Prevent ACL Reinjury: A Systematic Review	2021	Systematic review
Marques, J. B.; Paul, D. J.; Graham-Smith, P.; Read, P. J.	Change of Direction Assessment Following Anterior Cruciate Ligament Reconstruction: A Review of Current Practice and Considerations to Enhance Practical Application	2020	Systematic review; irrelevant

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Mars Group; Allen, C. R.; Anderson, A. F.; Cooper, D. E.; DeBerardino, T. M.; Dunn, W. R.; Haas, A. K.; Huston, L. J.; Lantz, B. B. A.; Mann, B.; Nwosu, S. K.; Spindler, K. P.; Stuart, M. J.; Wright, R. W.; Albright, J. P.; Amendola, A. N.; Andrish, J. T.; Annunziata, C. C.; Arciero, R. A.; Bach, B. R., Jr.; Baker, C. L., 3rd; Bartolozzi, A. R.; Baumgarten, K. M.; Bechler, J. R.; Berg, J. H.; Bernas, G. A.; Brockmeier, S. F.; Brophy, R. H.; Bush-Joseph, C. A.; Butler, J. B. th; Campbell, J. D.;	Surgical Predictors of Clinical Outcomes After Revision Anterior Cruciate Ligament Reconstruction	2017	Irrelevant topic: outcomes of ACL revision
Mars Group; Mars Group	Effect of graft choice on the outcome of revision anterior cruciate ligament reconstruction in the Multicenter ACL Revision Study (MARS) Cohort	2014	Irrelevant intervention; revision ACL reconstruction

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Mars Group; Wright, R. W.; Huston, L. J.; Haas, A. K.; Allen, C. R.; Anderson, A. F.; Cooper, D. E.; DeBerardino, T. M.; Dunn, W. R.; Lantz, B. B. A.; Mann, B.; Spindler, K. P.; Stuart, M. J.; Nwosu, S. K.; Albright, J. P.; Amendola, A. N.; Andrish, J. T.; Annunziata, C. C.; Arciero, R. A.; Bach, B. R., Jr.; Baker, C. L., 3rd; Bartolozzi, A. R.; Baumgarten, K. M.; Bechler, J. R.; Berg, J. H.; Bernas, G. A.; Brockmeier, S. F.; Brophy, R. H.; Bush-Joseph, C. A.; Brad Butler, V. J.; Campbell, J. D.	Predictors of Patient-Reported Outcomes at 2 Years After Revision Anterior Cruciate Ligament Reconstruction	2019	Irrelevant topic: outcomes of ACL revision

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Mars Group; Wright, R. W.; Huston, L. J.; Haas, A. K.; Pennings, J. S.; Allen, C. R.; Cooper, D. E.; DeBerardino, T. M.; Dunn, W. R.; Lantz, B. B. A.; Spindler, K. P.; Stuart, M. J.; Albright, J. P.; Amendola, A. N.; Andrish, J. T.; Annunziata, C. C.; Arciero, R. A.; Bach, B. R., Jr.; Baker, C. L., 3rd; Bartolozzi, A. R.; Baumgarten, K. M.; Bechler, J. R.; Berg, J. H.; Bernas, G. A.; Brockmeier, S. F.; Brophy, R. H.; Bush-Joseph, C. A.; Brad Butler, V. J.; Campbell, J. D.; Carey, J. L.; Carpente	Association Between Graft Choice and 6-Year Outcomes of Revision Anterior Cruciate Ligament Reconstruction in the MARS Cohort	2021	All patients underwent ACL Revision and then followed prospectively
Marshall, T.; Gelber, J.; Spindler, K.	Postoperative Knee Bracing After Anterior Cruciate Ligament Reconstruction	2016	Non-systematic review
Martin, R.; Nyland, J.; Jakob, R. P.	ACL surgical innovation cycles: What goes around, comes around	2020	Irrelevant systematic review
Martin-Fuentes, A. M.; Ojeda-Thies, C.; Vila-Rico, J.	Clinical results following meniscal sutures: does concomitant acl repair make a difference?	2015	Irrelevant comparison: stable knees +meniscal tear vs ACL deficient knees + meniscal tear
Marx, J. S.; Plantz, M. A.; Gerlach, E. B.; Carney, J.; Swiatek, P. R.; Cantrell, C. K.; Tjong, V. K.	Revision ACL reconstruction has higher incidence of 30-day hospital readmission, reoperation, and surgical complications relative to primary procedures	2021	Irrelevant comparison: Primary ACL vs. Revision
Mascarenhas, R.; Cvetanovich, G. L.; Sayegh, E. T.; Verma, N. N.; Cole, B. J.; Bush-Joseph, C.; Bach, B. R., Jr.	Does Double-Bundle Anterior Cruciate Ligament Reconstruction Improve Postoperative Knee Stability Compared With Single-Bundle Techniques? A Systematic Review of Overlapping Meta-analyses	2015	Systematic review

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Mascarenhas, R.; Erickson, B. J.; Sayegh, E. T.; Verma, N. N.; Cole, B. J.; Bush-Joseph, C.; Bach, B. R., Jr.	Is there a higher failure rate of allografts compared with autografts in anterior cruciate ligament reconstruction: a systematic review of overlapping meta-analyses	2015	Systematic review
Matar, H. E.; Platt, S. R.; Bloch, B. V.; James, P. J.; Cameron, H. U.	A Systematic Review of Randomized Controlled Trials in Anterior Cruciate Ligament Reconstruction: Standard Techniques Are Comparable (299 Trials With 25,816 Patients)	2021	Systematic review
Matsushita, T.; Nagai, K.; Araki, D.; Tanaka, T.; Matsumoto, T.; Nishida, K.; Kurosaka, M.; Kuroda, R.	Factors associated with the status of meniscal tears following meniscal repair concomitant with anterior cruciate ligament reconstruction	2017	< 2 yr. follow up (15 mos.)
Matthewson, G.; Kooner, S.; Rabbani, R.; Gottschalk, T.; Old, J.; Abou-Setta, A. M.; Zarychanski, R.; Leiter, J.; MacDonald, P.	Does a Delay in Anterior Cruciate Ligament Reconstruction Increase the Incidence of Secondary Pathology in the Knee? A Systematic Review and Meta-Analysis	2019	Systematic review
McCarroll, J. R.; Rettig, A. C.; Shelbourne, K. D.	Anterior cruciate ligament injuries in the young athlete with open physes	1988	Old article 1988: conservative treatment vs reconstruction
McCarroll, J. R.; Shelbourne, K. D.; Porter, D. A.; Rettig, A. C.; Murray, S.	Patellar tendon graft reconstruction for midsubstance anterior cruciate ligament rupture in junior high school athletes. An algorithm for management	1994	No comparison group
McConville, O. R.; Kipnis, J. M.; Richmond, J. C.; Rockett, S. E.; Michaud, M. J.	The effect of meniscal status on knee stability and function after anterior cruciate ligament reconstruction	1993	Irrelevant factor; meniscal status at time of ACLR
McDaniel, W. J., Jr.; Dameron, T. B., Jr.	Untreated ruptures of the anterior cruciate ligament. A follow-up study	1980	Old article 1980
McPherson, A. L.; Feller, J. A.; Hewett, T. E.; Webster, K. E.	Smaller Change in Psychological Readiness to Return to Sport Is Associated With Second Anterior Cruciate Ligament Injury Among Younger Patients	2019	Irrelevant comparison: fear in patients injured again after ACLR vs not injured after ACLR
McPherson, A. L.; Feller, J. A.; Hewett, T. E.; Webster, K. E.	Psychological Readiness to Return to Sport Is Associated With Second Anterior Cruciate Ligament Injuries	2019	Irrelevant comparison: Injured with 2nd ACL injury vs non injured after ACLR

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Meheux, C. J.; Jack, R. A., 2nd; McCulloch, P. C.; Lintner, D. M.; Harris, J. D.	Surgical Management of Simultaneous Anterior Cruciate Ligament and Patellar Tendon Ruptures: A Systematic Review	2018	Systematic review
Meighan, A. A.; Keating, J. F.; Will, E.	Outcome after reconstruction of the anterior cruciate ligament in athletic patients. A comparison of early versus delayed surgery	2003	< 2 yr. follow up (1 yr.)
Meunier, A.; Odensten, M.; Good, L.	Long-term results after primary repair or non-surgical treatment of anterior cruciate ligament rupture: a randomized study with a 15-year follow-up	2007	Irrelevant comparison; repair vs. Conservative tx
Meyer, S. E.; Yamato, T. P.; Saragiotto, B. T.	Knee injury and ACL tear prevention programmes (PEDro synthesis)	2017	Systematic review; incomplete
Michaelidis, M.; Koumantakis, G. A.	Effects of knee injury primary prevention programs on anterior cruciate ligament injury rates in female athletes in different sports: a systematic review	2014	Systematic review
Michalitsis, S.; Hantes, M.; Thriskos, P.; Tsezou, A.; Malizos, K. N.; Fezoulidis, I.; Vlychou, M.	Articular cartilage status 2 years after arthroscopic ACL reconstruction in patients with or without concomitant meniscal surgery: evaluation with 3.0T MR imaging	2017	< 10 per group; n1 = 15, n2 = 9, n3 = 5
Mishra, P.; Lal, A.; Mohindra, M.; Mehta, N.; Joshi, D.; Chaudhary, D.	Incidence, management and outcome assessment of post operative infection following single bundle and double bundle acl reconstruction	2018	Non RCT
Mistry, H.; Metcalfe, A.; Colquitt, J.; Loveman, E.; Smith, N. A.; Royle, P.; Waugh, N.	Autograft or allograft for reconstruction of anterior cruciate ligament: a health economics perspective	2019	Systematic review
Mo, Z.; Li, D.; Yang, B.; Tang, S.	Comparative Efficacy of Graft Options in Anterior Cruciate Ligament Reconstruction: A Systematic Review and Network Meta-Analysis	2020	Systematic review
Mohan, R.; Webster, K. E.; Johnson, N. R.; Stuart, M. J.; Hewett, T. E.; Krych, A. J.	Clinical Outcomes in Revision Anterior Cruciate Ligament Reconstruction: A Meta-analysis	2018	Systematic review
Mohtadi, N. G.; Chan, D. S.	Return to Sport-Specific Performance After Primary Anterior Cruciate Ligament Reconstruction: A Systematic Review	2018	Systematic review
Mohtadi, N.; Barber, R.; Chan, D.; Paolucci, E. O.	Complications and Adverse Events of a Randomized Clinical Trial Comparing 3 Graft Types for ACL Reconstruction	2016	

Author	Article Title	Year	Reason for Exclusion
Mohtadi, N.; Grant, J.	Managing anterior cruciate ligament deficiency in the skeletally immature individual: a systematic review of the literature	2006	Systematic review
Moksnes, H.; Engebretsen, L.; Risberg, M. A.	The current evidence for treatment of ACL injuries in children is low: a systematic review	2012	Irrelevant systematic review
Moller, E.; Forssblad, M.; Hansson, L.; Wange, P.; Weidenhielm, L.	Bracing versus nonbracing in rehabilitation after anterior cruciate ligament reconstruction: a randomized prospective study with 2-year follow-up	2001	irrelevant topic: not functional RTS bracing
Monaco, E.; Labianca, L.; Conteduca, F.; De Carli, A.; Ferretti, A.	Double bundle or single bundle plus extraarticular tenodesis in ACL reconstruction? A CAOS study	2007	Different surgical technique in both the groups 9single bundle in 1 and double bundle in 2 can be confounding.
Monaco, E.; Maestri, B.; Conteduca, F.; Mazza, D.; Iorio, C.; Ferretti, A.	Extra-articular ACL Reconstruction and Pivot Shift: In Vivo Dynamic Evaluation With Navigation	2014	< 2 yr. follow up
Monajati, A.; Larumbe-Zabala, E.; Goss-Sampson, M.; Naclerio, F.	Injury Prevention Programs Based on Flywheel vs. Body Weight Resistance in Recreational Athletes	2018	No ACL injury
Monajati, A.; Larumbe-Zabala, E.; Goss-Sampson, M.; Naclerio, F.	The Effectiveness of Injury Prevention Programs to Modify Risk Factors for Non-Contact Anterior Cruciate Ligament and Hamstring Injuries in Uninjured Team Sports Athletes: A Systematic Review	2016	Systematic review
Monk, A. P.; Davies, L. J.; Hopewell, S.; Harris, K.; Beard, D. J.; Price, A. J.	Surgical versus conservative interventions for treating anterior cruciate ligament injuries	2016	Systematic review

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Moon Knee Group; Spindler, K. P.; Huston, L. J.; Chagin, K. M.; Kattan, M. W.; Reinke, E. K.; Amendola, A.; Andrish, J. T.; Brophy, R. H.; Cox, C. L.; Dunn, W. R.; Flanigan, D. C.; Jones, M. H.; Kaeding, C. C.; Magnussen, R. A.; Marx, R. G.; Matava, M. J.; McCarty, E. C.; Parker, R. D.; Pedroza, A. D.; Vidal, A. F.; Wolcott, M. L.; Wolf, B. R.; Wright, R. W.	Ten-Year Outcomes and Risk Factors After Anterior Cruciate Ligament Reconstruction: A MOON Longitudinal Prospective Cohort Study	2018	Insufficient data for target comparison: no comparison of graft type with significances
Moore, J. M.; Cessford, K.; Willmott, A. P.; Raj, D.; Exell, T. A.; Burbage, J.; Mullineaux, D. R.	Lower limb biomechanics before and after anterior cruciate ligament reconstruction: A systematic review	2020	Systematic review
Morris, B. L.; Poppe, T.; Kim, K.; Barnds, B.; Schroeppel, P.; Mullen, S.; Tarakemeh, A.; Bechtold, M.; Vopat, B. G.	Weightbearing Protocols After Posterolateral Corner Reconstruction: A Systematic Review	2021	Systematic review
Morvan, A.; Bouguennec, N.; Graveleau, N.	ACL injuries before 15 years of age: could the young become an athlete?	2020	Systematic review
Mouton, C.	CORR InsightsÂ®: Younger Patients and Men Achieve Higher Outcome Scores Than Older Patients and Women After Anterior Cruciate Ligament Reconstruction	2017	Non-systematic review
Mouton, C.; Magosch, A.; Pape, D.; Hoffmann, A.; Nuhrenborger, C.; Seil, R.	Ramp lesions of the medial meniscus are associated with a higher grade of dynamic rotatory laxity in ACL-injured patients in comparison to patients with an isolated injury	2020	Irrelevant comparison; not all pts have meniscal tear
Muaidi, Q. I.; Nicholson, L. L.; Refshauge, K. M.; Herbert, R. D.; Maher, C. G.	Prognosis of conservatively managed anterior cruciate ligament injury: a systematic review	2007	Systematic review

Author	Article Title	Year	Reason for Exclusion
Muller, U.; Kruger-Franke, M.; Schmidt, M.; Rosemeyer, B.	Predictive parameters for return to pre-injury level of sport 6 months following anterior cruciate ligament reconstruction surgery	2015	< 2 yr. follow up (6 mo)
Mundi, R.; Bhandari, M.	Cochrane in CORR Â®: Double-bundle Versus Single-bundle Reconstruction for Anterior Cruciate Ligament Rupture in Adults (Review)	2016	Non-systematic review
Muneta, T.	Twenty-Year Experience of a Double-Bundle Anterior Cruciate Ligament Reconstruction	2015	Narrative review, authors experience
Murray, M. M.; Kalish, L. A.; Fleming, B. C.; Bear Trial Team; Flutie, B.; Freiberger, C.; Henderson, R. N.; Perrone, G. S.; Thurber, L. G.; Proffen, B. L.; Ecklund, K.; Kramer, D. E.; Yen, Y. M.; Micheli, L. J.	Bridge-Enhanced Anterior Cruciate Ligament Repair: Two-Year Results of a First-in-Human Study	2019	< 10 per group at 2 yr. FU
Myklebust, G.; Bahr, R.	Return to play guidelines after anterior cruciate ligament surgery	2005	Systematic review
Myklebust, G.; Engebretsen, L.; Braekken, I. H.; Skjolberg, A.; Olsen, O. E.; Bahr, R.	Prevention of anterior cruciate ligament injuries in female team handball players: a prospective intervention study over three seasons	2003	Case series; no comparison group
Nagashima, M.; Otani, T.; Takeshima, K.; Seki, H.; Nakayama, M.; Origuchi, N.; Ishii, K.	Unexpectedly high incidence of venous thromboembolism after arthroscopic anterior cruciate ligament reconstruction: Prospective, observational study	2020	All patients underwent ACLR and some had ACL revision
Nagelli, C.; Di Stasi, S.; Tatarski, R.; Chen, A.; Wordeman, S.; Hoffman, J.; Hewett, T. E.	Neuromuscular Training Improves Self-Reported Function and Single-Leg Landing Hip Biomechanics in Athletes After Anterior Cruciate Ligament Reconstruction	2020	Irrelevant topic; post ACLR
Nakamae, A.; Adachi, N.; Deie, M.; Ishikawa, M.; Nakasa, T.; Ikuta, Y.; Ochi, M.	Risk factors for progression of articular cartilage damage after anatomical anterior cruciate ligament reconstruction: a second-look arthroscopic evaluation	2018	Very low quality
Nawabi, D. H.; McCarthy, M.; Graziano, J.; deMille, P.; Chiaia, T.; Green, D. W.; Cordasco, F. A.	Return to Play and Clinical Outcomes after All-Inside, Anterior Cruciate Ligament Reconstruction in Skeletally Immature Athletes	2014	Incomplete pdf

Author	Article Title	Year	Reason for Exclusion
Nawasreh, Z.; Adams, G.; Pryzbylkowski, O.; Logerstedt, D.	Influence of Patient Demographics and Graft Types on Acl Second Injury Rates in Ipsilateral Versus Contralateral Knees: A Systematic Review and Meta-Analysis	2018	Systematic review
Negrín, R.; Rubio, J.; Sepúlveda, V.; Cordero, J.; Sandoval, R.	Anterior Cruciate Ligament Injuries in Skiers: Current Concepts	2021	Systematic review (non-English)
Neuman, P.; Kostogiannis, I.; Friden, T.; Roos, H.; Dahlberg, L. E.; Englund, M.	Patellofemoral osteoarthritis 15 years after anterior cruciate ligament injury--a prospective cohort study	2009	Neuromuscular training vs self monitoring
Newman, J. T.; Carry, P. M.; Terhune, E. B.; Spruiell, M.; Heare, A.; Mayo, M.; Vidal, A. F.	Delay to Reconstruction of the Adolescent Anterior Cruciate Ligament: The Socioeconomic Impact on Treatment	2014	Irrelevant topic: The Socioeconomic Impact on Treatment
Niederer, D.; Giesche, F.; Janko, M.; Niemeyer, P.; Wilke, J.; Engeroff, T.; Stein, T.; Frank, J.; Banzer, W.; Vogt, L.	Unanticipated jump-landing quality in patients with anterior cruciate ligament reconstruction: How long after the surgery and return to sport does the re-injury risk factor persist?	2020	All participants were cleared for RTS by their treating physician
Niederer, D.; Willberg, C.; Kruse, A.; Exler, N.; Giesche, F.; Vogt, L.; Banzer, W.	Acute effects of preventive warm-up exercises on modifiable risk factors for anterior cruciate ligament injuries: a three-arm randomized-controlled crossover trial	2020	No ACL injury
Nimkingratana, P.; Brittberg, M.	Returning to Work After Articular Cartilage Repair Intervention: A Systematic Review	2020	Systematic review
Nissen, K. A.; Eysturoy, N. H.; Nielsen, T. G.; Lind, M.	Allograft Use Results in Higher Re-revision Rate for Revision Anterior Cruciate Ligament Reconstruction	2018	< 2 yr. follow up (1 yr.)
Noailles, T.; Chalopin, A.; Boissard, M.; Lopes, R.; Bouguennec, N.; Hardy, A.	Incidence and risk factors for cyclops syndrome after anterior cruciate ligament reconstruction: A systematic literature review	2019	Systematic review
Nordenvall, R.; Bahmanyar, S.; Adami, J.; Mattila, V. M.; FellÃ¤nder-Tsai, L.	Cruciate ligament reconstruction and risk of knee osteoarthritis: The association between cruciate ligament injury and post-traumatic osteoarthritis. a population based nationwide study in Sweden, 1987-2009	2014	Includes PCL injuries

Author	Article Title	Year	Reason for Exclusion
Norouzi, S.; Esfandiarpour, F.; Mehdizadeh, S.; Yousefzadeh, N. K.; Parnianpour, M.	Lower extremity kinematic analysis in male athletes with unilateral anterior cruciate reconstruction in a jump-landing task and its association with return to sport criteria	2019	Irrelevant outcome; lower hip abduction angle; < 2 year follow up
Norte, G. E.; Goetschius, J. W.; Slater, L. V.; Hart, J. M.	Influence of Patient Demographics and Surgical Characteristics on Pass Rates of Return-to-Activity Tests in Anterior Cruciate Ligament-Reconstructed Patients Before Physician Clearance	2020	Irrelevant topic; predictors of RTS pass rates < 2 yr. follow up;
Nouni-Garcia, R.; Carratala-Munuera, C.; Orozco-Beltran, D.; Lopez-Pineda, A.; Asensio-Garcia, M. R.; Gil-Guillen, V. F.	Clinical benefit of the FIFA 11 programme for the prevention of hamstring and lateral ankle ligament injuries among amateur soccer players	2018	Irrelevant topic; LAL injury (ankle)
Noyes, F. R.; Barber Westin, S. D.	Anterior cruciate ligament injury prevention training in female athletes: a systematic review of injury reduction and results of athletic performance tests	2012	Systematic review
Noyes, F. R.; Barber-Westin, S. D.	Neuromuscular retraining intervention programs: do they reduce noncontact anterior cruciate ligament injury rates in adolescent female athletes?	2014	Systematic review
Noyes, F. R.; Barber-Westin, S. D.	Treatment of meniscus tears during anterior cruciate ligament reconstruction	2012	Irrelevant systematic review
Noyes, F. R.; Barber-Westin, S. D.	The treatment of acute combined ruptures of the anterior cruciate and medial ligaments of the knee	1995	Irrelevant comparison
Noyes, F. R.; Chen, R. C.; Barber-Westin, S. D.; Potter, H. G.	Greater than 10-year results of red-white longitudinal meniscal repairs in patients 20 years of age or younger	2011	Case series
Nwachukwu, B. U.; Adjei, J.; Rauck, R. C.; Chahla, J.; Okoroha, K. R.; Verma, N. N.; Allen, A. A.; Williams, R. J., 3rd	How Much Do Psychological Factors Affect Lack of Return to Play After Anterior Cruciate Ligament Reconstruction? A Systematic Review	2019	Systematic review
Nwachukwu, B. U.; Patel, B. H.; Lu, Y.; Allen, A. A.; Williams, R. J., 3rd	Anterior Cruciate Ligament Repair Outcomes: An Updated Systematic Review of Recent Literature	2019	Systematic review

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Nyland, J.; Collis, P.; Huffstutler, A.; Sachdeva, S.; Spears, J. R.; Greene, J.; Caborn, D. N. M.	Quadriceps tendon autograft ACL reconstruction has less pivot shift laxity and lower failure rates than hamstring tendon autografts	2020	Systematic review
Nyland, J.; Greene, J.; Carter, S.; Brey, J.; Krupp, R.; Caborn, D.	Return to sports bridge program improves outcomes, decreases ipsilateral knee re-injury and contralateral knee injury rates post-ACL reconstruction	2020	Exercise after ACLR
O'Brien, D. F.; Kraeutler, M. J.; Koyonos, L.; Flato, R. R.; Ciccotti, M. G.; Cohen, S. B.	Allograft anterior cruciate ligament reconstruction in patients younger than 30 years: a matched-pair comparison of bone-patellar tendon-bone and tibialis anterior	2014	<2 yr. follow up (18 months)
O'Connor, R. F.; King, E.; Richter, C.; Webster, K. E.; Falvey, E. C.	No Relationship Between Strength and Power Scores and Anterior Cruciate Ligament Return to Sport After Injury Scale 9 Months After Anterior Cruciate Ligament Reconstruction	2020	Pts haven't yet returned to sport
Odat, M. M.	Reconstruction of the anterior cruciate ligament using the central third of the patellar tendon	2001	No comparison group
Odensten, M.; Hamberg, P.; Nordin, M.; Lysholm, J.; Gillquist, J.	Surgical or conservative treatment of the acutely torn anterior cruciate ligament. A randomized study with short-term follow-up observations	1985	< 2 yr. follow up
Oh, J. Y.; Kim, K. T.; Park, Y. J.; Won, H. C.; Yoo, J. I.; Moon, D. K.; Cho, S. H.; Hwang, S. C.	Biomechanical comparison of single-bundle versus double-bundle anterior cruciate ligament reconstruction: a meta-analysis	2020	Systematic review
Ohsawa, T.; Kimura, M.; Chikuda, H.	Patient-reported evaluation on giving way is important for return to preinjury activity level after Anterior Cruciate Ligament reconstruction	2020	Irrelevant comparison: sports returners vs non-returners
Oiestad, B. E.; Engebretsen, L.; Storheim, K.; Risberg, M. A.	Knee osteoarthritis after anterior cruciate ligament injury: a systematic review	2009	Irrelevant systematic review
Okazaki, Y.; Furumatsu, T.; Miyazawa, S.; Kodama, Y.; Kamatsuki, Y.; Hino, T.; Masuda, S.; Ozaki, T.	Meniscal repair concurrent with anterior cruciate ligament reconstruction restores posterior shift of the medial meniscus in the knee-flexed position	2019	Irrelevant comparison; ACL w/out meniscal tear vs. ACL w/ meniscal tear

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Okoroha, K. R.; Fidai, M. S.; Tramer, J. S.; Elmenini, J.; Makhni, E. C.; Verma, N. N.; Bach, B. R.; Moutzouros, V.	Length of Time Between Anterior Cruciate Ligament Reconstruction and Return to Sport Does Not Predict Need for Revision Surgery in National Football League Players	2019	Not a test of RTS criteria
Onggo, J. R.; Rasaratnam, H. K.; Nambiar, M.; Onggo, J. D.; Pai, V.; Damasena, I.; Riazi, A.; Babazadeh, S.	Anterior Cruciate Ligament Reconstruction Alone Versus With Lateral Extra-articular Tenodesis With Minimum 2-Year Follow-up: A Meta-analysis and Systematic Review of Randomized Controlled Trials	2021	Systematic review
Orchard, J. W.; Chaker Jomaa, M.; Orchard, J. J.; Rae, K.; Hoffman, D. T.; Reddin, T.; Driscoll, T.	Fifteen-week window for recurrent muscle strains in football: a prospective cohort of 3600 muscle strains over 23 years in professional Australian rules football	2020	Irrelevant topic; muscle strains
Otsuki, R.; Benoit, D.; Hirose, N.; Fukubayashi, T.	Effects of an Injury Prevention Program on Anterior Cruciate Ligament Injury Risk Factors in Adolescent Females at Different Stages of Maturation	2021	No ACL injury
Ouabo, E. C.; Gillain, L.; Saithna, A.; Blanchard, J.; Siegrist, O.; Sonnery-Cottet, B.	Combined Anatomic Anterior Cruciate and Anterolateral Ligament Reconstruction With Quadriceps Tendon Autograft and Gracilis Allograft Through a Single Femoral Tunnel	2019	Technique review
Ouweleen, A. J.; Hall, T. B.; Finlayson, C. J.; Patel, N. M.	Predictors of Arthrofibrosis After Pediatric Anterior Cruciate Ligament Reconstruction: What is the Impact of Quadriceps Autograft?	2021	<2 yr. follow up (374 days)
Owen, J. L.; Campbell, S.; Falkner, S. J.; Bialkowski, C.; Ward, A. T.	Is there evidence that proprioception or balance training can prevent anterior cruciate ligament (ACL) injuries in athletes without previous ACL injury?	2006	Systematic review
Padua, D. A.; DiStefano, L. J.; Marshall, S. W.; Beutler, A. I.; de la Motte, S. J.; DiStefano, M. J.	Retention of movement pattern changes after a lower extremity injury prevention program is affected by program duration	2012	No ACL injury
Pandey, V.; Khanna, V.; Madi, S.; Tripathi, A.; Acharya, K.	Clinical outcome of primary medial collateral ligament-posteromedial corner repair with or without staged anterior cruciate ligament reconstruction	2017	Irrelevant comparison; MCL tx with or without ACL

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Panisset, J. C.; Pailhe, R.; Schlatterer, B.; Sigwalt, L.; Sonnery-Cottet, B.; Lutz, C.; Lustig, S.; Batailler, C.; Bertiaux, S.; Ehkirch, F. P.; Colombet, P.; Steltzlen, C.; Louis, M. L.; D'Ingrado, P.; Dalmay, F.; Imbert, P.; Saragaglia, D.; French Arthroscopy, Society	Short-term complications in intra- and extra-articular anterior cruciate ligament reconstruction. Comparison with the literature on isolated intra-articular reconstruction. A multicenter study by the French Arthroscopy Society	2017	< 2 yr. follow up
Papalia, R.; Franceschi, F.; Tecame, A.; D'Adamio, S.; Maffulli, N.; Denaro, V.	Anterior cruciate ligament reconstruction and return to sport activity: postural control as the key to success	2015	< 2 yr. follow up (1 yr.)
Papalia, R.; Osti, L.; Del Buono, A.; Denaro, V.; Maffulli, N.	Management of combined ACL-MCL tears: a systematic review	2010	Systematic review
Papalia, R.; Torre, G.; Papalia, G.; Campi, S.; Maffulli, N.; Denaro, V.	Arthroscopic primary repair of the anterior cruciate ligament in adults: a systematic review	2019	Systematic review
Park, S. Y.; Oh, H.; Park, S. W.; Lee, J. H.; Lee, S. H.; Yoon, K. H.	Clinical outcomes of remnant-preserving augmentation versus double-bundle reconstruction in the anterior cruciate ligament reconstruction	2012	Was excluded in 2014 CPG as not best available
Patel, N. K.; Sabharwal, S.; Hadley, C.; Blanchard, E.; Church, S.	Factors affecting return to sport following hamstrings anterior cruciate ligament reconstruction in non-elite athletes	2019	Irrelevant comparison: sports returners vs non-returners
Paterno, M. V.; Bobrowski, S.; Thomas, S.; Hewett, T. E.; Schmitt, L.	Effect of osteochondral and meniscal injury on patient reported outcomes at return to sport following anterior Cruciate ligament reconstruction in young athletes	2015	Incomplete pdf
Paterno, M. V.; Huang, B.; Thomas, S.; Hewett, T. E.; Schmitt, L. C.	Clinical Factors That Predict a Second ACL Injury After ACL Reconstruction and Return to Sport: Preliminary Development of a Clinical Decision Algorithm	2017	Insufficient data for target comparison; low risk group not clearly defined; data not provided
Paterno, M. V.; Kiefer, A. W.; Bonnette, S. H.; Riley, M. A.; Schmitt, L.; Ford, K. R.; Myer, G. D.; Shockley, K.; Hewett, T. E.	Deficits in Hip-Ankle Coordination in Female Athletes who Suffer a Second Anterior Cruciate Ligament (ACL) Injury after ACL Reconstruction and Return to Sport	2014	Incomplete pdf

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Paterno, M. V.; Rauh, M. J.; Schmitt, L. C.; Ford, K. R.; Hewett, T. E.	Incidence of Second ACL Injuries 2 Years After Primary ACL Reconstruction and Return to Sport	2014	Irrelevant comparison: ACLR+RTS vs. Controls(uninjured group)
Paterno, M. V.; Schmitt, L. C.; Thomas, S.; Duke, N.; Russo, R.; Quatman-Yates, C. C.	Patient and Parent Perceptions of Rehabilitation Factors That Influence Outcomes After Anterior Cruciate Ligament Reconstruction and Clearance to Return to Sport in Adolescents and Young Adults	2019	No outcomes of interest - qualitative study
Paterno, M. V.; Thomas, S.; VanEtten, K. T.; Schmitt, L. C.	Confidence, ability to meet return to sport criteria, and second ACL injury risk associations after ACL-reconstruction	2021	Not a test of RTS criteria
Paterson, F. W. N.; Trickey, E. L.	Meniscectomy for tears of the meniscus combined with rupture of the anterior cruciate ligament	1983	All patients underwent meniscectomy
Pedersen, M.; Grindem, H.; Berg, B.; Gunderson, R.; Engebretsen, L.; Axe, M. J.; Snyder-Mackler, L.; Risberg, M. A.	Low Rates of Radiographic Knee Osteoarthritis 5 Years After ACL Reconstruction or Rehabilitation Alone: The Delaware-Oslo ACL Cohort Study	2021	Multi-ligament injuries were included (MCL, LCL, cartilage)
Pedersen, M.; Grindem, H.; Johnson, J. L.; Engebretsen, L.; Axe, M. J.; Snyder-Mackler, L.; Risberg, M. A.	Clinical, Functional, and Physical Activity Outcomes 5 Years Following the Treatment Algorithm of the Delaware-Oslo ACL Cohort Study	2021	Concomitant injuries including Lateral collateral ligament (grades I-II) were included
Pekari, T. B.; Wang, K. C.; Cotter, E. J.; Kusnezov, N.; Waterman, B. R.	Contemporary Surgical Trends in the Management of Symptomatic Meniscal Tears among United States Military Servicemembers from 2010 to 2015	2019	All patients only had meniscal tears; no ACL tears
Petersen, W.; Laprell, H.	Combined injuries of the medial collateral ligament and the anterior cruciate ligament. Early ACL reconstruction versus late ACL reconstruction	1999	ACL+MCL early vs late ACL reconstruction
Petersen, W.; Taheri, P.; Forkel, P.; Zantop, T.	Return to play following ACL reconstruction: a systematic review about strength deficits	2014	Systematic review
Petushek, E. J.; Sugimoto, D.; Stoolmiller, M.; Smith, G.; Myer, G. D.	Evidence-Based Best-Practice Guidelines for Preventing Anterior Cruciate Ligament Injuries in Young Female Athletes: A Systematic Review and Meta-analysis	2019	Systematic review

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Pfile, K. R.; Hart, J. M.; Herman, D. C.; Hertel, J.; Kerrigan, D. C.; Ingersoll, C. D.	Different exercise training interventions and drop-landing biomechanics in high school female athletes	2013	No ACL injury
Pierce, T. P.; Kurowicki, J.; Kelly, J. J.; Issa, K.; Festa, A.; McInerney, V. K.; Scillia, A. J.	Risk Factors for Requiring a Revision Anterior Cruciate Ligament Reconstruction: A Case-Control Study	2019	Insufficient data for target comparison; unclear graft influence
Piskin, D.; Benjaminse, A.; Dimitrakis, P.; Gokeler, A.	Neurocognitive and Neurophysiological Functions Related to ACL Injury: A Framework for Neurocognitive Approaches in Rehabilitation and Return-to-Sports Tests	2021	Irrelevant systematic review
Piussi, R.; Beischer, S.; Thomee, R.; Hamrin Senorski, E.	Hop tests and psychological PROs provide a demanding and clinician-friendly RTS assessment of patients after ACL reconstruction, a registry study	2020	Irrelevant comparison: correlation of different tests that predict RTS
Poehling, G. G.; Curl, W. W.; Lee, C. A.; Ginn, T. A.; Rushing, J. T.; Naughton, M. J.; Holden, M. B.; Martin, D. F.; Smith, B. P.	Analysis of outcomes of anterior cruciate ligament repair with 5-year follow-up: allograft versus autograft	2005	Minor MCL sprains were included
Poget, F.; Blackburn, T.; Descloux, F.; Fiddler, H.	Participating in an exercise group after anterior cruciate ligament reconstruction (ACLR) is perceived to influence psychosocial factors and successful recovery: a focus group qualitative study	2019	< 10 per group
Pollard, C. D.; Sigward, S. M.; Powers, C. M.	ACL Injury Prevention Training Results in Modification of Hip and Knee Mechanics During a Drop-Landing Task	2017	No ACL injury
Ponce, B. A.; Cain, E. L., Jr.; Pflugner, R.; Fleisig, G. S.; Young, B. L.; Boohaker, H. A.; Swain, T. A.; Andrews, J. R.; Dugas, J. R.	Risk Factors for Revision Anterior Cruciate Ligament Reconstruction	2016	Insufficient data for target comparison: no FU time with pts
Pontoh, L. A. P.; Ismail, H. D.; Fiolin, J.; Yausep, O. E.	Pain following single-bundle versus double-bundle anterior cruciate ligament reconstruction: A systematic review	2021	Systematic review
Postma, W. F.; West, R. V.	Current concepts review: Anterior cruciate ligament injury-prevention programs	2013	Non-systematic review

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Prentice, H. A.; Lind, M.; Mouton, C.; Persson, A.; Magnusson, H.; Gabr, A.; Seil, R.; Engebretsen, L.; Samuelsson, K.; Karlsson, J.; Forssblad, M.; Haddad, F. S.; Spalding, T.; Funahashi, T. T.; Paxton, L. W.; Maletis, G. B.	Patient demographic and surgical characteristics in anterior cruciate ligament reconstruction: a description of registries from six countries	2018	No prog factor of interest
Pressman, A. E.; Letts, R. M.; Jarvis, J. G.	Anterior cruciate ligament tears in children: an analysis of operative versus nonoperative treatment	1997	Very low quality
Prodromidis, A. D.; Drosatou, C.; Thivaios, G. C.; Zreik, N.; Charalambous, C. P.	Timing of Anterior Cruciate Ligament Reconstruction and Relationship With Meniscal Tears: A Systematic Review and Meta-analysis	2021	Systematic review
Przybylak, K.; Sibinski, M.; Domzalski, M.; Kwapisz, A.; Momaya, A. M.; Zielinska, M.	Supervised physiotherapy leads to a better return to physical activity after anterior cruciate ligament reconstruction	2019	Irrelevant comparison: supervised vs not supervised rehab after ACLR
Pujji, O.; Keswani, N.; Collier, N.; Black, M.; Doos, L.	Evaluating the Functional Results and Complications of Autograft vs Allograft Use for Reconstruction of the Anterior Cruciate Ligament: A Systematic Review	2017	Systematic review
Qiu, J.; He, X.; Fu, S. C.; Ong, M. T.; Teng Leong, H.; Shu-Hang Yung, P.	Is Pre-operative Quadriceps Strength a Predictive Factor for the Outcomes of Anterior Cruciate Ligament Reconstructions	2020	Irrelevant systematic review
Ra, H. J.; Kim, J. H.; Lee, D. H.	Comparative clinical outcomes of anterolateral ligament reconstruction versus lateral extra-articular tenodesis in combination with anterior cruciate ligament reconstruction: systematic review and meta-analysis	2020	Systematic review
Rackemann, S.; Robinson, A.; Dandy, D. J.	Reconstruction of the anterior cruciate ligament with an intra-articular patellar tendon graft and an extra-articular tenodesis. Results after six years	1991	All patients underwent ACL with intra-articular patellar tendon graft and an extra-articular tenodesis
Rahardja, R.; Zhu, M.; Love, H.; Clatworthy, M. G.; Monk, A. P.; Young, S. W.	Rates of revision and surgeon-reported graft rupture following ACL reconstruction: early results from the New Zealand ACL Registry	2020	< 2 yr. follow up (23.1 months)

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Rahardja, R.; Zhu, M.; Love, H.; Clatworthy, M. G.; Monk, A. P.; Young, S. W.	Factors associated with revision following anterior cruciate ligament reconstruction: A systematic review of registry data	2020	Systematic review
Rai, S.; Jin, S. Y.; Rai, B.; Tamang, N.; Huang, W.; Liu, X. Z.; Meng, C. Q.; Wang, H.	A Single Bundle Anterior Cruciate Ligament Reconstruction (ACL-R) Using Hamstring Tendon Autograft and Tibialis Anterior Tendon Allograft: A Comparative Study	2018	Not an isolated ACLR (ACLR +MCL injuries)
Rambaud, A. J. M.; Ardern, C. L.; Thoreux, P.; Regnaux, J. P.; Edouard, P.	Criteria for return to running after anterior cruciate ligament reconstruction: a scoping review	2018	Systematic review
Ramirez, R. N.; Baldwin, K.; Franklin, C. C.	Prevention of Anterior Cruciate Ligament Rupture in Female Athletes: A Systematic Review	2014	Systematic review
Ramski, D. E.; Kanj, W. W.; Franklin, C. C.; Baldwin, K. D.; Ganley, T. J.	Anterior cruciate ligament tears in children and adolescents: a meta-analysis of nonoperative versus operative treatment	2014	Systematic review
Razi, M.; Soufali, A. P.; Ziabari, E. Z.; Dadgostar, H.; Askari, A.; Arasteh, P.	Treatment of Concomitant ACL and MCL Injuries: Spontaneous Healing of Complete ACL and MCL Tears	2020	< 2 yr. follow up
Reijman, M.; Eggerding, V.; van Es, E.; van Arkel, E.; van den Brand, I.; van Linge, J.; Zijl, J.; Waarsing, E.; Bierma-Zeinstra, S.; Meuffels, D.	Early surgical reconstruction versus rehabilitation with elective delayed reconstruction for patients with anterior cruciate ligament rupture: COMPARE randomised controlled trial	2021	Confounded comparison
Reiman, M. P.; Reiman, C. K.; Decary, S.	Accuracy of the Lever Sign to Diagnose Anterior Cruciate Ligament Tear: A Systematic Review with Meta-Analysis	2018	Systematic review
Rezende, F. C.; de Moraes, V. Y.; Martimbianco, A. L.; Luzo, M. V.; da Silveira Franciozi, C. E.; Belloti, J. C.	Does Combined Intra- and Extraarticular ACL Reconstruction Improve Function and Stability? A Meta-analysis	2015	Systematic review
Riccardo, C.; Fabio, C.; Pietro, R.	Knee Osteoarthritis after Reconstruction of Isolated Anterior Cruciate Ligament Injuries: A Systematic Literature Review	2017	Systematic review

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Richter, M.; Bosch, U.; Wippermann, B.; Hofmann, A.; Krettek, C.	Comparison of surgical repair or reconstruction of the cruciate ligaments versus nonsurgical treatment in patients with traumatic knee dislocations	2002	ACL+PCL+MCL/LCL combined injury
Riediger, M. D.; Stride, D.; Coke, S. E.; Kurz, A. Z.; Duong, A.; Ayeni, O. R.	ACL Reconstruction with Augmentation: a Scoping Review	2019	Systematic review
Risberg, M. A.; Holm, I.; Steen, H.; Eriksson, J.; Ekeland, A.	The effect of knee bracing after anterior cruciate ligament reconstruction. A prospective, randomized study with two years' follow-up	1999	irrelevant topic: not functional RTS bracing
Risberg, M. A.; Oiestad, B. E.; Gunderson, R.; Aune, A. K.; Engebretsen, L.; Culvenor, A.; Holm, I.	Changes in Knee Osteoarthritis, Symptoms, and Function After Anterior Cruciate Ligament Reconstruction: A 20-Year Prospective Follow-up Study	2016	No comparison group
Robinson, P. G.; Williamson, T.; Murray, I. R.; Al-Hourani, K.; White, T. O.	Sporting participation following the operative management of chondral defects of the knee at mid-term follow up: a systematic review and meta-analysis	2020	Systematic review
Rochcongar, G.; Cucurulo, T.; Ameline, T.; Potel, J. F.; Dalmay, F.; Pujol, N.; Salle de Chou, E.; Lutz, C.; Ehkirch, F. P.; Le Henaff, G.; Laporte, C.; Seil, R.; Gunepin, F. X.; Sonnery-Cottet, B.; la, S. F. A.	Meniscal survival rate after anterior cruciate ligament reconstruction	2015	Not all patients had ACL tear plus meniscus tear
Rodriguez-Merchan, E. C.	Knee Bracing After Anterior Cruciate Ligament Reconstruction	2016	Systematic review
Rodriguez-Merchan, E. C.	Primary Repair of the Anterior Cruciate Ligament: A Review of Recent Literature (2016-2017)	2019	Systematic review
Rodriguez-Merchan, E. C.	Evidence-Based ACL Reconstruction	2015	Systematic review
Rodriguez-Roiz, J. M.; Sastre-Solsona, S.; Popescu, D.; Montanana-Burillo, J.; Combalia-Aleu, A.	The relationship between ACL reconstruction and meniscal repair: quality of life, sports return, and meniscal failure rate-2- to 12-year follow-up	2020	Irrelevant comparison

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Roger, J.; Bertani, A.; Vigouroux, F.; Mottier, F.; Gaillard, R.; Have, L.; Rongieras, F.	ACL reconstruction using a quadruple semitendinosus graft with cortical fixations gives suitable isokinetic and clinical outcomes after 2 years	2020	Irrelevant comparison; fixation methods
Ross, B. J.; Savage-Elliott, I.; Brown, S. M.; Mulcahey, M. K.	Return to Play and Performance After Primary ACL Reconstruction in American Football Players: A Systematic Review	2020	
Ross, C. A.; Clifford, A.; Louw, Q. A.	Intrinsic factors associated with return to sport after anterior cruciate ligament reconstruction: A systematic review	2015	Systematic review
Rostami, A.; Letafatkar, A.; Gokeler, A.; Khaleghi Tazji, M.	The Effects of Instruction Exercises on Performance and Kinetic Factors Associated With Lower-Extremity Injury in Landing After Volleyball Blocks	2019	No ACL injury
Rothermel, S. D.; Smuin, D.; Dhawan, A.	Are Outcomes After Meniscal Repair Age Dependent? A Systematic Review	2018	Systematic review
Rothermich, M. A.; Cohen, J. A.; Wright, R.	Stable Meniscal Tears Left In Situ at the Time of Arthroscopic Anterior Cruciate Ligament Reconstruction: A Systematic Review	2016	Systematic review
Ruano, J. S.; Sitler, M. R.; Driban, J. B.	Prevalence of Radiographic Knee Osteoarthritis After Anterior Cruciate Ligament Reconstruction, With or Without Meniscectomy: An Evidence-Based Practice Article	2017	Systematic review
Ruffilli, A.; Budada, R.; Pagagliazzi, G.; Baldadassarri, M.; Cavallo, M.; Luciani, D.; Ferranti, E.; Giannini, S.	Over-the-top anterior cruciate ligament reconstruction using single-or double-strand hamstrings autograft	2015	Irrelevant comparison: non-anatomic ACLR single strand or double strand
Runer, A.; Wierer, G.; Herbst, E.; Hepperger, C.; Herbort, M.; Gfoller, P.; Hoser, C.; Fink, C.	There is no difference between quadriceps- and hamstring tendon autografts in primary anterior cruciate ligament reconstruction: a 2-year patient-reported outcome study	2018	7/80 patients had concomitant MCL injuries
Ryu, R. K. N.; Dunbar, Iv W. H.	Arthroscopic meniscal repair with two-year follow-up: A clinical review	1988	Old article 1988
Saccomanno, M. F.; Shin, J. J.; Mascarenhas, R.; Haro, M.; Verma, N. N.; Cole, B. J.; Bach, B. R.	Clinical and functional outcomes after anterior cruciate ligament reconstruction using cortical button fixation versus transfemoral suspensory fixation: A systematic review of randomized controlled trials	2014	Sys rev
Sadoghi, P.; von Keudell, A.; Vavken, P.	Effectiveness of anterior cruciate ligament injury prevention training programs	2012	Systematic review

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Saithna, A.; Daggett, M.; Helito, C. P.; Monaco, E.; Franck, F.; Vieira, T. D.; Pioger, C.; Kim, J. G.; Sonnery-Cottet, B.	Clinical Results of Combined ACL and Anterolateral Ligament Reconstruction: A Narrative Review from the SANTI Study Group	2020	Narrative review
Salem, H. S.; Axibal, D. P.; Wolcott, M. L.; Vidal, A. F.; McCarty, E. C.; Bravman, J. T.; Frank, R. M.	Two-Stage Revision Anterior Cruciate Ligament Reconstruction: A Systematic Review of Bone Graft Options for Tunnel Augmentation	2020	Systematic review; irrelevant - bone graft options
Salmon, L. J.; Heath, E.; Akrawi, H.; Roe, J. P.; Linklater, J.; Pinczewski, L. A.	20-Year Outcomes of Anterior Cruciate Ligament Reconstruction With Hamstring Tendon Autograft: The Catastrophic Effect of Age and Posterior Tibial Slope	2018	No comparison group
Sanada, T.; Iwaso, H.; Fukai, A.; Honda, E.; Yoshitomi, H.; Inagawa, M.	Anatomic Anterior Cruciate Ligament Reconstruction Using Rectangular Bone-Tendon- Bone Autograft Versus Double-Bundle Hamstring Tendon Autograft in Young Female Athletes	2021	<2 yr. follow up (5 and 12 months)
Sandberg, R.; Balkfors, B.; Nilsson, B.; Westlin, N.	Operative versus non-operative treatment of recent injuries to the ligaments of the knee. A prospective randomized study	1987	Old article 1987
Sanders, T. L.; Kremers, H. M.; Bryan, A. J.; Kremers, W. K.; Stuart, M. J.; Krych, A. J.	Procedural intervention for arthrofibrosis after ACL reconstruction: trends over two decades	2017	Trends
Sanders, T. L.; Pareek, A.; Kremers, H. M.; Bryan, A. J.; Levy, B. A.; Stuart, M. J.; Dahm, D. L.; Krych, A. J.	Long-term follow-up of isolated ACL tears treated without ligament reconstruction	2017	Irrelevant comparison: ACL Injured vs ACL Intact
Sandon, A.; Werner, S.; Forssblad, M.	Factors associated with returning to football after anterior cruciate ligament reconstruction	2015	Very low quality
Saragaglia, D.; Pison, A.; Refaie, R.	Lateral tenodesis combined with anterior cruciate ligament reconstruction using a unique semitendinosus and gracilis transplant	2013	Case series; no comparison group
Sarraj, M.; Coughlin, R. P.; Solow, M.; Ekhtiari, S.; Simunovic, N.; Krych, A. J.; MacDonald, P.; Ayeni, O. R.	Anterior cruciate ligament reconstruction with concomitant meniscal surgery: a systematic review and meta-analysis of outcomes	2019	Systematic review

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Schilling, D.; Radwan, A.	Are athletes ready to return to competitive sports following ACL reconstruction and medical clearance?	2020	No comparison group
Schliemann, B.; Glasbrenner, J.; Rosenbaum, D.; Lammers, K.; Herbort, M.; Domnick, C.; Raschke, M. J.; Kosters, C.	Changes in gait pattern and early functional results after ACL repair are comparable to those of ACL reconstruction	2018	<2 yrs. follow up (12 months)
Schmale, G. A.; Kweon, C.; Larson, R. V.; Bompadre, V.	High satisfaction yet decreased activity 4 years after transphyseal ACL reconstruction	2014	No comparison group: all patients underwent ACLR
Scoz, R. D.; Amorim, C. F.; Mazziotti, B. O. A.; Da Silva, R. A.; Vieira, E. R.; Lopes, A. D.; Gabriel, Recd	Diagnostic Validity of an Isokinetic Testing to Identify Partial Anterior Cruciate Ligament Injuries	2019	Irrelevant diagnostic test; isokinetic dynamometer
Secrist, E. S.; Frederick, R. W.; Tjoumakaris, F. P.; Stache, S. A.; Hammoud, S.; Freedman, K. B.	A Comparison of Operative and Nonoperative Treatment of Anterior Cruciate Ligament Injuries	2016	Systematic review
Seijas, R.; Ares, O.; Sallent, A.; Alvarez, P.; Cusco, X.; Cugat, R.	Return to prelesional Tegner level after anatomic anterior cruciate ligament reconstruction	2016	No comparison group
Seo, S. S.; Kim, C. W.; Lee, C. R.; Park, D. H.; Kwon, Y. U.; Kim, O. G.; Kim, C. K.	Second-look arthroscopic findings and clinical outcomes of meniscal repair with concomitant anterior cruciate ligament reconstruction: comparison of suture and meniscus fixation device	2020	Irrelevant comparison; meniscal repair A vs repair B
Shah, S. D. B. A.; Hayat, S.; Khan, M. A.; Muhammad, A.; Akhtar, W.	Arthroscopic anterior cruciate ligament reconstruction experience at a tertiary care hospital	2019	All patients underwent arthroscopic ACLR; no comparison group
Shahpari, O.; FallahKezabi, M.; Kalati, H. H.; Bagheri, F.; Ebrahimzadeh, M. H.	Clinical Outcome of Anatomical Transportal Arthroscopic Anterior Cruciate Ligament Reconstruction with Hamstring Tendon Autograft	2018	No comparison group: all patients had single bundle reconstruction with hamstring autograft
Shakked, R.; Weinberg, M.; Capo, J.; Jazrawi, L.; Strauss, E.	Autograft Choice in Young Female Patients: Patella Tendon versus Hamstring	2017	Group 1 has <2 yr. follow up

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Shanmugaraj, A.; de Sa, D.; Skelly, M. M.; Duong, A.; Simunovic, N.; Musahl, V.; Peterson, D. C.; Ayeni, O. R.	Primary Allograft ACL Reconstruction in Skeletally Immature Patients-A Systematic Review of Surgical Techniques, Outcomes, and Complications	2019	Systematic review
Shi, F. D.; Hess, D. E.; Zuo, J. Z.; Liu, S. J.; Wang, X. C.; Zhang, Y.; Meng, X. G.; Cui, Z. J.; Zhao, S. P.; Li, C. J.; Hu, W. N.	Peroneus Longus Tendon Autograft is a Safe and Effective Alternative for Anterior Cruciate Ligament Reconstruction	2019	Irrelevant; in vitro
Shimizu, R.; Adachi, N.; Ishifuro, M.; Nakamae, A.; Ishikawa, M.; Deie, M.; Ochi, M.	Bone tunnel change develops within two weeks of double-bundle anterior cruciate ligament reconstruction using hamstring autograft: A comparison of different postoperative immobilization periods using computed tomography	2017	< 2 yr. follow up (6 mo)
Shirakura, K.; Terauchi, M.; Katayama, M.; Watanabe, H.; Yamaji, T.; Takagishi, K.	The management of medial ligament tears in patients with combined anterior cruciate and medial ligament lesions	2000	Conservative ACL tx + operative MCL
Shumborski, S.; Salmon, L. J.; Monk, C.; Heath, E.; Roe, J. P.; Pinczewski, L. A.	Allograft Donor Characteristics Significantly Influence Graft Rupture After Anterior Cruciate Ligament Reconstruction in a Young Active Population	2020	Irrelevant comparison - allograft from old vs young
Siddiqui, M. A.; Ahmad, I.; Sabir, A. B.; Ullah, E.; Rizvi, S. A.; Rizvi, S. W.	Clinical examination vs. MRI: evaluation of diagnostic accuracy in detecting ACL and meniscal injuries in comparison to arthroscopy	2013	Irrelevant diagnostic test; MRI
Siebold, R.; Dehler, C.; Boes, L.; Ellermann, A.	Arthroscopic all-inside repair using the Meniscus Arrow: long-term clinical follow-up of 113 patients	2007	Case series
Siebold, R.; Takada, T.; Feil, S.; Dietrich, C.; Stinton, S. K.; Branch, T. P.	Anatomical "C"-shaped double-bundle versus single-bundle anterior cruciate ligament reconstruction in pre-adolescent children with open growth plates	2016	Non RCT
Silvers, H. J.; Giza, E. R.; Mandelbaum, B. R.	Anterior cruciate ligament tear prevention in the female athlete	2005	Non-systematic review
Silvers, H. J.; Mandelbaum, B. R.; Adeniji, O.; Insler, S.; Bizzini, M.; Dvorak, J.	The Efficacy Of The Fifa 11+ Injury Prevention Program In The Collegiate Male Soccer Player	2014	Incomplete pdf

Author	Article Title	Year	Reason for Exclusion
Singh, A.; Singh, M.; Singh, S. P.; Sahni, B.	A comparison between early and delayed arthroscopic anterior cruciate ligament reconstruction: A prospective cohort study	2021	< 2 yr. follow up (1 yr.)
Smith, A. H.; Capin, J. J.; Zarzycki, R.; Snyder-Mackler, L.	Athletes With Bone-Patellar Tendon-Bone Autograft for Anterior Cruciate Ligament Reconstruction Were Slower to Meet Rehabilitation Milestones and Return-to-Sport Criteria Than Athletes With Hamstring Tendon Autograft or Soft Tissue Allograft : Secondary Analysis From the ACL-SPORTS Trial	2020	< 2 yr. follow up (1 yr.)
Smith, H. C.; Vacek, P.; Johnson, R. J.; Slauterbeck, J. R.; Hashemi, J.; Shultz, S.; Beynnon, B. D.	Risk factors for anterior cruciate ligament injury: a review of the literature-part 2: hormonal, genetic, cognitive function, previous injury, and extrinsic risk factors	2012	Systematic review
Smith, H. C.; Vacek, P.; Johnson, R. J.; Slauterbeck, J. R.; Hashemi, J.; Shultz, S.; Beynnon, B. D.	Risk factors for anterior cruciate ligament injury: a review of the literature - part 1: neuromuscular and anatomic risk	2012	Systematic review
Smith, I. D. M.; Irfan, A.; Huntley, J. S.; Spencer, S. J.	What is the best treatment for a child with an acute tear of the anterior cruciate ligament?	2018	Systematic review
Smith, S. D.; Laprade, R. F.; Jansson, K. S.; Aroen, A.; Wijdicks, C. A.	Functional bracing of ACL injuries: current state and future directions	2014	Systematic review
Smith, T. O.; Postle, K.; Penny, F.; McNamara, I.; Mann, C. J.	Is reconstruction the best management strategy for anterior cruciate ligament rupture? A systematic review and meta-analysis comparing anterior cruciate ligament reconstruction versus non-operative treatment	2014	Systematic review
Snyder-Mackler, L.; Fitzgerald, G. K.; Bartolozzi, A. R., 3rd; Ciccotti, M. G.	The relationship between passive joint laxity and functional outcome after anterior cruciate ligament injury	1997	All patients didn't get surgical treatment
Sochacki, K. R.; McCulloch, P. C.; Lintner, D. M.; Harris, J. D.	Hamstring Autograft Versus Hybrid Graft in Anterior Cruciate Ligament Reconstruction: A Systematic Review of Comparative Studies	2019	

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Solomon, D. H.; Simel, D. L.; Bates, D. W.; Katz, J. N.; Schaffer, J. L.	The rational clinical examination. Does this patient have a torn meniscus or ligament of the knee? Value of the physical examination	2001	Systematic review
Sommerfeldt, M.; Goodine, T.; Raheem, A.; Whittaker, J.; Otto, D.	Relationship Between Time to ACL Reconstruction and Presence of Adverse Changes in the Knee at the Time of Reconstruction	2018	< 2 yr. follow up; outcomes during ACLR
Sommerfeldt, M.; Raheem, A.; Whittaker, J.; Hui, C.; Otto, D.	Recurrent Instability Episodes and Meniscal or Cartilage Damage After Anterior Cruciate Ligament Injury: A Systematic Review	2018	Systematic review
Sonesson, S.; Kvist, J.; Ardern, C.; Osterberg, A.; Silbernagel, K. G.	Psychological factors are important to return to pre-injury sport activity after anterior cruciate ligament reconstruction: expect and motivate to satisfy	2017	Not a test of RTS criteria
Song, E. K.; Seon, J. K.; Kim, H.	Prospective Comparative Study of ACL Reconstruction Between Using Hamstring Autograft and Soft Tissue Allograft	2014	Incomplete pdf
Song, G. Y.; Hong, L.; Zhang, H.; Zhang, J.; Li, Y.; Feng, H.	Clinical Outcomes of Combined Lateral Extra-articular Tenodesis and Intra-articular Anterior Cruciate Ligament Reconstruction in Addressing High-Grade Pivot-Shift Phenomenon	2016	Systematic review
Song, G. Y.; Zhang, H.; Liu, X.; Zhang, J.; Xue, Z.; Qian, Y.; Feng, H.	Complete posterolateral meniscal root tear is associated with high-grade pivot-shift phenomenon in noncontact anterior cruciate ligament injuries	2017	Irrelevant topic: Relationship between pivot shift and partial or complete meniscal tear
Sonnery-Cottet, B.; Pioger, C.; Vieira, T. D.; Franck, F.; Kajetanek, C.; Fayard, J. M.; Thaunat, M.; Saithna, A.	Combined ACL and Anterolateral Reconstruction Is Not Associated With a Higher Risk of Adverse Outcomes: Preliminary Results From the SANTI Randomized Controlled Trial	2020	< 2 yr. follow up (1 yr.)
Stanak, M.; Strohmaier, C.	Minimum volume standards in day surgery: a systematic review	2020	Irrelevant systematic review
Stanczak, K.; Domzalski, M.; Synder, M.; Sibinski, M.	Return to motor activity after anterior cruciate ligament reconstruction--pilot study	2014	<2 yr. follow up (6 months)
Stannard, J. P.; Nuelle, C. W.; McGwin, G.; Volgas, D. A.	Hinged external fixation in the treatment of knee dislocations: a prospective randomized study	2014	Irrelevant topic: patients had ACL+MCL+PCL injuries

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Stevenson, J. H.; Beattie, C. S.; Schwartz, J. B.; Busconi, B. D.	Assessing the effectiveness of neuromuscular training programs in reducing the incidence of anterior cruciate ligament injuries in female athletes: a systematic review	2015	Systematic review
Stojanovic, M. D.; Ostojic, S. M.	Preventing ACL injuries in team-sport athletes: a systematic review of training interventions	2012	Systematic review
Strauss, M. J.; Varatojo, R.; Boutefnouchet, T.; Condello, V.; Samuelsson, K.; Gelber, P. E.; Adravanti, P.; Laver, L.; Dimmen, S.; Eriksson, K.; Verdonk, P.; Spalding, T.	The use of allograft tissue in posterior cruciate, collateral and multi-ligament knee reconstruction	2019	Systematic review
Strehl, A.; Eggli, S.	The value of conservative treatment in ruptures of the anterior cruciate ligament (ACL)	2007	No comparison group
Sugimoto, D.; Heyworth, B. E.; Carpenito, S. C.; Davis, F. W.; Kocher, M. S.; Micheli, L. J.	Low proportion of skeletally immature patients met return-to-sports criteria at 7 Months following ACL reconstruction	2020	Irrelevant topic: prevalence RTS pass rates
Sugimoto, D.; LeBlanc, J. C.; Wooley, S. E.; Micheli, L. J.; Kramer, D. E.	The Effectiveness of a Functional Knee Brace on Joint-Position Sense in Anterior Cruciate Ligament-Reconstructed Individuals	2016	
Sugimoto, D.; Myer, G. D.; Barber Foss, K. D.; Pepin, M. J.; Micheli, L. J.; Hewett, T. E.	Critical components of neuromuscular training to reduce ACL injury risk in female athletes: meta-regression analysis	2016	Systematic review
Sugimoto, D.; Myer, G. D.; Foss, K. D.; Hewett, T. E.	Specific exercise effects of preventive neuromuscular training intervention on anterior cruciate ligament injury risk reduction in young females: meta-analysis and subgroup analysis	2015	Systematic review
Sugimoto, D.; Myer, G. D.; Foss, K. D.; Hewett, T. E.	Dosage effects of neuromuscular training intervention to reduce anterior cruciate ligament injuries in female athletes: meta- and sub-group analyses	2014	Systematic review

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Sugimoto, D.; Myer, G. D.; McKeon, J. M.; Hewett, T. E.	Evaluation of the effectiveness of neuromuscular training to reduce anterior cruciate ligament injury in female athletes: a critical review of relative risk reduction and numbers-needed-to-treat analyses	2012	Systematic review
Svantesson, E.; Cristiani, R.; Hamrin Senorski, E.; Forssblad, M.; Samuelsson, K.; Stalman, A.	Meniscal repair results in inferior short-term outcomes compared with meniscal resection: a cohort study of 6398 patients with primary anterior cruciate ligament reconstruction	2018	Registry: < 2 year follow up (1 yr.)
Svantesson, E.; Hamrin Senorski, E.; Ostergaard, M.; Grassi, A.; Krupic, F.; Westin, O.; Samuelsson, K.	Graft Choice for Anterior Cruciate Ligament Reconstruction With a Concomitant Non-surgically Treated Medial Collateral Ligament Injury Does Not Influence the Risk of Revision	2020	Not isolated ACL injury
Swain, M. S.; Henschke, N.; Kamper, S. J.; Downie, A. S.; Koes, B. W.; Maher, C. G.	Accuracy of clinical tests in the diagnosis of anterior cruciate ligament injury: a systematic review	2014	Systematic review
Sward, P.; Struglics, A.; Englund, M.; Roos, H. P.; Frobell, R. B.	Soft tissue knee injury with concomitant osteochondral fracture is associated with higher degree of acute joint inflammation	2014	Irrelevant topic: association of osteochondral fracture with cortical bone with inflammation
Tahami, S. M.; Rad, S. M.	Outcome of ACL Reconstruction and Concomitant Articular Injury Treatment	2015	Irrelevant comparison: isolated ACL tear vs ACL tear plus chondral lesion
Tashman, S.; Zandiyeh, P.; Irrgang, J. J.; Musahl, V.; West, R. V.; Shah, N.; Fu, F. H.	Anatomic single- and double-bundle ACL reconstruction both restore dynamic knee function: a randomized clinical trial-part II: knee kinematics	2021	Irrelevant outcome
Taylor, J. B.; Ford, K. R.; Nguyen, A. D.; Terry, L. N.; Hegedus, E. J.	Prevention of Lower Extremity Injuries in Basketball: A Systematic Review and Meta-Analysis	2015	Systematic review
Taylor, J. B.; Waxman, J. P.; Richter, S. J.; Shultz, S. J.	Evaluation of the effectiveness of anterior cruciate ligament injury prevention programme training components: a systematic review and meta-analysis	2015	Systematic review
Taylor, S. A.; Khair, M. M.; Roberts, T. R.; DiFelice, G. S.	Primary Repair of the Anterior Cruciate Ligament: A Systematic Review	2015	Incomplete pdf

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Tejpal, T.; Gupta, A.; Shanmugaraj, A.; Horner, N. S.; Simunovic, N.; Peterson, D. C.; Ayeni, O. R.	Anteromedial Portal Double-Bundle Anterior Cruciate Ligament Reconstruction Yields Similar Outcomes to Non-AMP Femoral Drilling Double-Bundle Techniques: A Systematic Review of Comparative Studies	2019	Systematic review
Tejwani, S. G.; Chen, J.; Funahashi, T. T.; Love, R.; Maletis, G. B.	Revision Risk After Allograft Anterior Cruciate Ligament Reconstruction: Association With Graft Processing Techniques, Patient Characteristics, and Graft Type	2015	Repeat data from 1406
Theunissen, Wwes; van der Steen, M. C.; Liu, W. Y.; Janssen, R. P. A.	Timing of anterior cruciate ligament reconstruction and preoperative pain are important predictors for postoperative kinesiophobia	2019	< 2 yr. follow up (1 yr.) after ACLR
Thomsen, M. K.; Kristensen, M. B.; Gregersen, M. L.; MÃ¸lgaard, C. M.; Madeleine, P.; Kristiansen, M.	Predictors of a second anterior cruciate ligament injury following reconstruction: a systematic review	2019	Irrelevant systematic review
Tian, S.; Wang, B.; Liu, L.; Wang, Y.; Ha, C.; Li, Q.; Yang, X.; Sun, K.	Irradiated Hamstring Tendon Allograft Versus Autograft for Anatomic Double-Bundle Anterior Cruciate Ligament Reconstruction: Midterm Clinical Outcomes	2016	Minor MCL tear grade <2 were included
Tian, S.; Wang, Y.; Wang, B.; Liu, L.; Ha, C.; Li, Q.; Sun, K.	Anatomic Double-Bundle Anterior Cruciate Ligament Reconstruction With a Hamstring Tendon Autograft and Fresh-Frozen Allograft: A Prospective, Randomized, and Controlled Study	2016	Minor MCL sprains grade <2 were included
Tomihara, T.; Hashimoto, Y.; Taniuchi, M.; Takigami, J.; Han, C.; Shimada, N.	One-stage revision ACL reconstruction after primary ACL double bundle reconstruction: is bone-patella tendon-bone autograft reliable?	2017	Irrelevant comparison: postop outcome after ACLR vs ACL revision
Troyer, J. D.; Flanigan, D. C.; Kaeding, C. C.; Magnussen, R. A.	Anterior cruciate ligament reconstruction in patients over age sixty years	2017	No comparison group
Truong, L. K.; Mosewich, A. D.; Holt, C. J.; Le, C. Y.; Miciak, M.; Whittaker, J. L.	Psychological, social and contextual factors across recovery stages following a sport-related knee injury: a scoping review	2020	Systematic review

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Ulstein, S.; Ã?rÃ¸en, A.; Engebretsen, L.; Forssblad, M.; Lygre, S. H. L.; RÃ¸tterud, J. H.	Effect of Concomitant Cartilage Lesions on Patient-Reported Outcomes After Anterior Cruciate Ligament Reconstruction: A Nationwide Cohort Study From Norway and Sweden of 8470 Patients With 5-Year Follow-up	2018	Include concomitant ligament injuries
Undheim, M. B.; Cosgrave, C.; King, E.; Strike, S.; Marshall, B.; Falvey, E.; Franklyn-Miller, A.	Isokinetic muscle strength and readiness to return to sport following anterior cruciate ligament reconstruction: is there an association? A systematic review and a protocol recommendation	2015	
Urhausen, A.; Mouton, C.; KreckÃ©, R.; NÃ¼hrenbÃ¶rger, C.; Hoffmann, A.; Pape, D.; Theisen, D.; Seil, R.	The anterior cruciate ligament clinical pathway: Towards a systematic evaluation of ACL injured patients	2016	< 2 yr. follow up (12 months)
Usen, A.; Tolu, S.	Factors Affecting the Femoral Cartilage Thickness After Anterior Cruciate Ligament Reconstruction	2021	Irrelevant outcome
Vajapey, S. P.; Miller, T. L.	Clinical tests used to diagnose anterior cruciate ligament tears are less sensitive in obese patients: A retrospective cohort study	2021	Grandfather pico, not RCT
van der List, J. P.; DiFelice, G. S.	Range of motion and complications following primary repair versus reconstruction of the anterior cruciate ligament	2017	< 2 yr. follow up (6 mo)
van der List, J. P.; Vermeijden, H. D.; Sierevelt, I. N.; DiFelice, G. S.; van Noort, A.; Kerkhoffs, Gmmj	Arthroscopic primary repair of proximal anterior cruciate ligament tears seems safe but higher level of evidence is needed: a systematic review and meta-analysis of recent literature	2020	Systematic review
Van Der Merwe, W.; Lind, M.; Faunø, P.; Van Egmond, K.; Zaffagnini, S.; Marcacci, M.; Cugat, R.; Verdonk, R.; Ibañez, E.; Guillen, P.; Marcheggiani Muccioli, G. M.	Xenograft for anterior cruciate ligament reconstruction was associated with high graft processing infection	2020	Irrelevant comparison
van Eck, C. F.; Limpisvasti, O.; ElAttrache, N. S.	Is There a Role for Internal Bracing and Repair of the Anterior Cruciate Ligament? A Systematic Literature Review	2018	Systematic review

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van Meer, B. L.; Meuffels, D. E.; van Eijsden, W. A.; Verhaar, J. A.; Bierma-Zeinstra, S. M.; Reijman, M.	Which determinants predict tibiofemoral and patellofemoral osteoarthritis after anterior cruciate ligament injury? A systematic review	2015	Systematic review
van Melick, N.; van Cingel, R. E.; Brooijmans, F.; Neeter, C.; van Tienen, T.; Hullegie, W.; Nijhuis-van der Sanden, M. W.	Evidence-based clinical practice update: practice guidelines for anterior cruciate ligament rehabilitation based on a systematic review and multidisciplinary consensus	2016	Systematic review
Vanderhave, K. L.; Moravek Jr, J. E.; Sekiya, J. K.; Wojtys, E. M.	Meniscus tears in the young athlete: Results of arthroscopic repair	2011	No comparison group
Ventura, A.; Legnani, C.; Boisio, F.; Borgo, E.; Peretti, G. M.	The association of extra-articular tenodesis restores rotational stability more effectively compared to contralateral hamstring tendon autografts ACL reconstruction alone in patients undergoing ACL revision surgery	2021	Irrelevant topic; revision ACLR
Vereijken, A.; Aerts, I.; Jetten, J.; Tassignon, B.; Verschueren, J.; Meeusen, R.; van Trijffel, E.	Association between Functional Performance and Return to Performance in High-Impact Sports after Lower Extremity Injury: A Systematic Review	2020	Systematic review
Verhelst, L.; Van Der Bracht, H.; Oosterlinck, D.; Bellemans, J.	ACL repair with a single or double tunnel: a comparative laboratory study of knee stability using computer navigation	2012	Cadaver study (9 specimens)
Vermeijden, H. D.; van der List, J. P.; DiFelice, G. S.	Acute and delayed anterior cruciate ligament repair results in similar short to mid-term outcomes	2021	Irrelevant comparison
Vermeijden, H. D.; van der List, J. P.; O'Brien, R.; DiFelice, G. S.	Return to sports following arthroscopic primary repair of the anterior cruciate ligament in the adult population	2020	Irrelevant comparison: sports returners vs non-returners
Vermeijden, H. D.; van der List, J. P.; O'Brien, R.; DiFelice, G. S.	Patients Forget About Their Operated Knee More Following Arthroscopic Primary Repair of the Anterior Cruciate Ligament Than Following Reconstruction	2020	Irrelevant outcome; joint awareness
Vicenti, G.; Solarino, G.; Carrozzo, M.; De Giorgi, S.; Moretti, L.; De Crescenzo, A.; Moretti, B.	Major concern in the multiligament-injured knee treatment: A systematic review	2019	Systematic review; ACL+PCL

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Vilchez-Cavazos, F.; Davila-Martinez, A.; Garza-Castro, S.; Simental-Mendia, M.; Garay-Mendoza, D.; Tamez-Mata, Y.; Pena-Martinez, V.; Acosta-Olivo, C.	Anterior cruciate ligament injuries treated with quadriceps tendon autograft versus hamstring autograft: A randomized controlled trial	2020	<2 yrs. follow up (1 year)
Vindfeld, S.; Strand, T.; Solheim, E.; Inderhaug, E.	Failed Meniscal Repairs After Anterior Cruciate Ligament Reconstruction Increases Risk of Revision Surgery	2020	Irrelevant topic; post ACLR
WaldÃ©n, M.; HÃ¤gglund, M.; Magnusson, H.; Ekstrand, J.	ACL injuries in men's professional football: a 15-year prospective study on time trends and return-to-play rates reveals only 65% of players still play at the top level 3â??years after ACL rupture	2016	Time trend; no comparison group
Wall, E. J.; Myer, G. D.; May, M. M.	Anterior Cruciate Ligament Reconstruction Timing in Children with Open Growth Plates: New Surgical Techniques Including All-Epiphyseal	2011	Non-systematic review
Wang, B.; Zhong, J. L.; Xu, X. H.; Shang, J.; Lin, N.; Lu, H. D.	Incidence and risk factors of joint stiffness after Anterior Cruciate Ligament reconstruction	2020	Systematic review
Wang, D.; Eliasberg, C. D.; Wang, T.; Fader, R. R.; Coxe, F. R.; Pais, M. D.; Williams, R. J., 3rd	Similar Outcomes After Osteochondral Allograft Transplantation in Anterior Cruciate Ligament-Intact and -Reconstructed Knees: A Comparative Matched-Group Analysis With Minimum 2-Year Follow-Up	2017	Irrelevant comparison: tx for ACL intact vs ACL ruptured knees
Wang, H. D.; Gao, S. J.; Zhang, Y. Z.	Hamstring Autograft Versus Hybrid Graft for Anterior Cruciate Ligament Reconstruction: A Systematic Review	2020	Systematic review
Wang, H. D.; Gao, S. J.; Zhang, Y. Z.	Comparison of Clinical Outcomes After Anterior Cruciate Ligament Reconstruction Using a Hybrid Graft Versus a Hamstring Autograft	2018	Duplicate of article (AAOS ID-1161) Already extracted
Wang, H. D.; Zhang, H.; Wang, T. R.; Zhang, W. F.; Wang, F. S.; Zhang, Y. Z.	Comparison of clinical outcomes after anterior cruciate ligament reconstruction with hamstring tendon autograft versus soft-tissue allograft: A meta-analysis of randomised controlled trials	2018	Systematic review
Wang, H. D.; Zhu, Y. B.; Wang, T. R.; Zhang, W. F.; Zhang, Y. Z.	Irradiated allograft versus autograft for anterior cruciate ligament reconstruction: A meta-analysis and systematic review of prospective studies	2018	Systematic review

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Wang, S.; Zhang, C.; Cai, Y.; Lin, X.	Autograft or Allograft? Irradiated or Not? A Contrast Between Autograft and Allograft in Anterior Cruciate Ligament Reconstruction: A Meta-analysis	2018	Systematic review
Wang, W.; Shen, L.; Jin, Z.; Li, L.; Lu, Z.; Kou, Y.; Mao, H.; Hou, Y.	Clinical efficacy of anterior cruciate ligament reconstruction: Is an anatomical double - Bundle or anatomical single - Bundle better? A meta-analysis	2018	
Wang, X.; Bennell, K. L.; Wang, Y.; Wrigley, T. V.; Van Ginckel, A.; Fortin, K.; Saxby, D. J.; Cicuttini, F. M.; Lloyd, D. G.; Vertullo, C. J.; Feller, J. A.; Whitehead, T.; Gallie, P.; Bryant, A. L.	Tibiofemoral joint structural change from 2.5 to 4.5 years following ACL reconstruction with and without combined meniscal pathology	2019	Irrelevant comparison: isolated ACLR vs. ACLR +meniscal pathology vs. Healthy controls
Wang, Y.; Lei, G.; Zeng, C.; Wei, J.; He, H.; Li, X.; Zhu, Z.; Wang, H.; Wu, Z.; Wang, N.; Ding, X.; Li, H.	Comparative Risk-Benefit Profiles of Individual Devices for Graft Fixation in Anterior Cruciate Ligament Reconstruction: A Systematic Review and Network Meta-analysis	2020	Irrelevant systematic review; fixation devices
Webster, K. E.; Feller, J. A.	Return to Level I Sports After Anterior Cruciate Ligament Reconstruction: Evaluation of Age, Sex, and Readiness to Return Criteria	2018	Irrelevant prognostic factors; age sex
Webster, K. E.; Feller, J. A.	Who Passes Return-to-Sport Tests, and Which Tests Are Most Strongly Associated With Return to Play After Anterior Cruciate Ligament Reconstruction?	2020	Not a test of RTS criteria
Webster, K. E.; Feller, J. A.; Kimp, A. J.; Whitehead, T. S.	Revision Anterior Cruciate Ligament Reconstruction Outcomes in Younger Patients: Medial Meniscal Pathology and High Rates of Return to Sport Are Associated With Third ACL Injuries	2018	Irrelevant topic: outcomes of ACL revision
Webster, K. E.; Hewett, T. E.	Is There Value and Validity for the Use of Return to Sport Test Batteries After Anterior Cruciate Ligament Injury and Reconstruction?	2020	Systematic review; infographic
Webster, K. E.; Hewett, T. E.	What is the Evidence for and Validity of Return-to-Sport Testing after Anterior Cruciate Ligament Reconstruction Surgery? A Systematic Review and Meta-Analysis	2019	

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Webster, K. E.; Hewett, T. E.	Meta-analysis of meta-analyses of anterior cruciate ligament injury reduction training programs	2018	Systematic review
Webster, K. E.; Hewett, T. E.	Anterior Cruciate Ligament Injury and Knee Osteoarthritis: An Umbrella Systematic Review and Meta-analysis	2021	Systematic review
Webster, K. E.; McPherson, A. L.; Hewett, T. E.; Feller, J. A.	Factors Associated With a Return to Preinjury Level of Sport Performance After Anterior Cruciate Ligament Reconstruction Surgery	2019	
Webster, K. E.; Nagelli, C. V.; Hewett, T. E.; Feller, J. A.	Factors Associated With Psychological Readiness to Return to Sport After Anterior Cruciate Ligament Reconstruction Surgery	2018	< 2 yr. follow up
Wei, J.; Yang, H. B.; Qin, J. B.; Yang, T. B.	A meta-analysis of anterior cruciate ligament reconstruction with autograft compared with nonirradiated allograft	2015	Systematic review
Welling, W.; Benjaminse, A.; Gokeler, A.; Otten, B.	Retention of Movement Technique: Implications for Primary Prevention of Acl Injuries	2017	No ACL injury
Welling, W.; Benjaminse, A.; Lemmink, K.; Gokeler, A.	Passing return to sports tests after ACL reconstruction is associated with greater likelihood for return to sport but fail to identify second injury risk	2020	Irrelevant comparison: sports returners vs non-returners
Wenning, M.; Heitner, A. H.; Mauch, M.; Gehring, D.; Ramsenthaler, C.; Paul, J.	The effect of meniscal repair on strength deficits 6 months after ACL reconstruction	2020	< 2 yr. follow up (6 mo)
Westermann, R. W.; Wright, R. W.; Spindler, K. P.; Huston, L. J.; Moon Knee Group; Wolf, B. R.	Meniscal repair with concurrent anterior cruciate ligament reconstruction: operative success and patient outcomes at 6-year follow-up	2014	No comparison group
White, A. E.; Van Nest, D.; Tjoumakaris, F. P.; Freedman, K. B.	Journey around the Notch: A Systematic Review on the History of ACL Reconstruction in the United States	2020	Irrelevant systematic review
White, K.; Di Stasi, S. L.; Smith, A. H.; Snyder-Mackler, L.	Anterior cruciate ligament- specialized post-operative return-to-sports (ACL-SPORTS) training: a randomized control trial	2013	Rehab after ACLR
White, K.; Zeni, J.; Snyder-Mackler, L.	ACL-RSI and KOOS Measures Predict Normal Knee Function after ACL-SPORTS Training	2014	Incomplete pdf

Author	Article Title	Year	Reason for Exclusion
Wiggins, A. J.; Grandhi, R. K.; Schneider, D. K.; Stanfield, D.; Webster, K. E.; Myer, G. D.	Risk of Secondary Injury in Younger Athletes After Anterior Cruciate Ligament Reconstruction: A Systematic Review and Meta-analysis	2016	Systematic review
Wilde, J.; Bedi, A.; Altchek, D. W.	Revision anterior cruciate ligament reconstruction	2014	Systematic review
Willadsen, E. M.; Zahn, A. B.; Durall, C. J.	What Is the Most Effective Training Approach for Preventing Noncontact ACL Injuries in High School-Aged Female Athletes?	2018	Systematic review
Williams, D.; Heidloff, D.; Haglage, E.; Schumacher, K.; Cole, B. J.; Campbell, K. A.	Anterior Cruciate Ligament Functional Sports Assessment	2016	Non-systematic review
Wingfield, K.	Neuromuscular Training to prevent knee injuries in adolescent female soccer players	2013	Incomplete article
Wirth, W.; Eckstein, F.; Culvenor, A. G.; Hudelmaier, M. I.; Stefan Lohmander, L.; Frobell, R. B.	Early anterior cruciate ligament reconstruction does not affect 5-year change in knee cartilage thickness: secondary analysis of a randomized clinical trial	2021	Irrelevant outcome
Wittenberg, R. H.; Oxfort, H. U.; Plafki, C.	A comparison of conservative and delayed surgical treatment of anterior cruciate ligament ruptures. A matched pair analysis	1998	11/60 Patients had collateral ligament lesions
Wu, W. H.; Hackett, T.; Richmond, J. C.	Effects of meniscal and articular surface status on knee stability, function, and symptoms after anterior cruciate ligament reconstruction: a long-term prospective study	2002	Irrelevant factor; meniscal status at time of ACLR
Xiang, X.; Qu, Z.; Sun, H.; Ma, X.; Wang, W.; Huang, L.	Single-tunnel anatomic double-bundle anterior cruciate ligament reconstruction has the same effectiveness as double femoral, double tibial tunnel: A prospective randomized study	2019	Irrelevant comparison; single-tunnel vs double tunnel
Xie, X.; Liu, X.; Chen, Z.; Yu, Y.; Peng, S.; Li, Q.	A meta-analysis of bone-patellar tendon-bone autograft versus four-strand hamstring tendon autograft for anterior cruciate ligament reconstruction	2015	Systematic review
Xie, X.; Xiao, Z.; Li, Q.; Zhu, B.; Chen, J.; Chen, H.; Yang, F.; Chen, Y.; Lai, Q.; Liu, X.	Increased incidence of osteoarthritis of knee joint after ACL reconstruction with bone-patellar tendon-bone autografts than hamstring autografts: a meta-analysis of 1,443 patients at a minimum of 5 years	2015	Systematic review

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Xu, C.; Chen, J.; Cho, E.; Zhao, J.	The Effect of Combined Anterolateral and Anterior Cruciate Ligament Reconstruction on Reducing Pivot Shift Rate and Clinical Outcomes: A Meta-analysis	2021	
Yan, D.; Song, Y.; Pei, F.	Allograft ligament transplantation in anterior cruciate ligament reconstruction patients with meniscal tears	2014	< 2 yr. follow up
Yanagisawa, S.; Kimura, M.; Hagiwara, K.; Ogoshi, A.; Nakagawa, T.; Shiozawa, H.; Ohsawa, T.	Factors affecting knee laxity following anterior cruciate ligament reconstruction using a hamstring tendon	2017	< 2 yr. follow up (1 yr.)
Yang, C.; Yao, W.; Garrett, W. E.; Givens, D. L.; Hacke, J.; Liu, H.; Yu, B.	Effects of an Intervention Program on Lower Extremity Biomechanics in Stop-Jump and Side-Cutting Tasks	2018	<10 cases (9 cases)
Yang, R.; Deng, H.; Hou, J.; Ouyang, Y.; Chen, Z.; Song, B.; Zhou, Y.; Tan, W.; Li, W.; Shen, H.	Comparison of Knee Stability and Synovial Fluid Alterations in Anterior Cruciate Ligament Reconstruction With a Hamstring Autograft or an Allograft	2017	< 2 yr. follow up (1 yr.)
Yang, W.; Huang, X.; Wang, S.; Wang, H.; Huang, W.; Shao, Z.	The long-term outcome of different grafts in anterior cruciate ligament reconstruction: a network meta-analysis of randomised controlled trials	2020	Systematic review
Yang, W.; Huang, X.; Wang, S.; Wang, H.; Huang, W.; Shao, Z.	The long-term outcomes of different grafts in anterior cruciate ligament reconstruction: a network meta-analysis	2021	Systematic review
Yang, X. G.; Feng, J. T.; He, X.; Wang, F.; Hu, Y. C.	The effect of knee bracing on the knee function and stability following anterior cruciate ligament reconstruction: A systematic review and meta-analysis of randomized controlled trials	2019	Systematic review
Yang, X. G.; Wang, F.; He, X.; Feng, J. T.; Hu, Y. C.; Zhang, H.; Yang, L.; Hua, K.	Network meta-analysis of knee outcomes following anterior cruciate ligament reconstruction with various types of tendon grafts	2020	Systematic review
Yao, L. W.; Wang, Q.; Zhang, L.; Zhang, C.; Zhang, B.; Zhang, Y. J.; Feng, S. Q.	Patellar tendon autograft versus patellar tendon allograft in anterior cruciate ligament reconstruction: a systematic review and meta-analysis	2015	Systematic review
Yavari, P.; Mohammadsharifi, G.; Fadaei, B.; Talebi, S.; Akbari, M.	A survey on prognosis of anterior cruciate ligament (ACL) reconstruction surgeries following fixed loop and adjustable loop methods	2020	Irrelevant comparison: fixed loop vs. Adjustable loop surgical procedure

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Yin, J.; Yang, K.; Zheng, D.; Xu, N.	Anatomic reconstruction of the anterior cruciate ligament of the knee with or without reconstruction of the anterolateral ligament: A meta-analysis	2021	Systematic review
Yoo, J. H.; Lim, B. O.; Ha, M.; Lee, S. W.; Oh, S. J.; Lee, Y. S.; Kim, J. G.	A meta-analysis of the effect of neuromuscular training on the prevention of the anterior cruciate ligament injury in female athletes	2010	Systematic review
Yoo, W. J.; Jang, W. Y.; Park, M. S.; Chung, C. Y.; Cheon, J. E.; Cho, T. J.; Choi, I. H.	Arthroscopic treatment for symptomatic discoid meniscus in children: Midterm outcomes and prognostic factors	2015	Not all have ACL tears
Yoo, Y. S.; Song, S. Y.; Yang, C. J.; Ha, J. M.; Kim, Y. S.; Seo, Y. J.	A comparison between clinical results of selective bundle and double bundle anterior cruciate ligament reconstruction	2016	Grandfather PICO non RCT
Yoon, K. H.; Hwang, I. U.; Kim, E. J.; Kwon, Y. B.; Kim, S. G.	Anterolateral Ligament Reconstruction Improves Anteroposterior Stability As Well As Rotational Stability in Revision Anterior Cruciate Ligament Reconstruction with High-Grade Pivot Shift	2020	All patients underwent ACLR revision
Young, E. P.; Chan, P. H.; Prentice, H. A.; Amar, K.; Hurvitz, A. P.; Khan, N. A.	Aseptic Revision and Reoperation Risks After Meniscectomy at the Time of Anterior Cruciate Ligament Reconstruction	2021	Irrelevant comparison
Young, S. W.; Valladares, R. D.; Loi, F.; Dragoo, J. L.	Mechanoreceptor Reinnervation of Autografts Versus Allografts After Anterior Cruciate Ligament Reconstruction	2016	< 10 per group; n1 = 5, n2 = 5
Zaffagnini, S.; Bonanzinga, T.; Marcheggiani Muccioli, G. M.; Giordano, G.; Bruni, D.; Bignozzi, S.; Lopomo, N.; Marcacci, M.	Does chronic medial collateral ligament laxity influence the outcome of anterior cruciate ligament reconstruction? A prospective evaluation with a minimum three-year follow-up	2011	Irrelevant comparison: isolated ACL vs ACL+MCL lesions
Zaffagnini, S.; Bruni, D.; Russo, A.; Takazawa, Y.; Lo Presti, M.; Giordano, G.; Marcacci, M.	ST/G ACL reconstruction: double strand plus extra-articular sling vs double bundle, randomized study at 3-year follow-up	2008	Confounded; (double bundle) vs (single bundle + extra articular sling)
Zaffagnini, S.; Iacono, F.; Marcacci, M.; Della Villa, S.; Nataloni, C.; Lo Presti, M.; Vascellari, A.	Isokinetic muscle performance after ACL reconstruction with hamstrings at three months and two years follow-up	2001	All patients underwent ACLR

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Zaffagnini, S.; Poggi, A.; Reale, D.; Andriolo, L.; Flanigan, D. C.; Filardo, G.	Biologic Augmentation Reduces the Failure Rate of Meniscal Repair: A Systematic Review and Meta-analysis	2021	Systematic review
Zebis, M. K.; Warming, S.; Pedersen, M. B.; Kraft, M. H.; Magnusson, S. P.; Rathcke, M.; Krogsgaard, M.; Dossing, S.; Alkjaer, T.	Outcome Measures After ACL Injury in Pediatric Patients: A Scoping Review	2019	Systematic review
Zee, M. J. M.; Robben, B. J.; Zuurmond, R. G.; Bulstra, S. K.; Diercks, R. L.	Effect of ACL Reconstruction on Range of Tibial Rotation: A Systematic Review of Current Literature and a Recommendation for a Standard Measuring Protocol	2020	Systematic review
Zemanovic, J. R.; McAllister, D. R.; Hame, S. L.	Nonoperative treatment of partial-thickness meniscal tears identified during anterior cruciate ligament reconstruction	2004	Irrelevant topic: temporal relationship with the type of meniscal pathology noted at ACL reconstruction.
Zeng, C.; Gao, S. G.; Li, H.; Yang, T.; Luo, W.; Li, Y. S.; Lei, G. H.	Autograft Versus Allograft in Anterior Cruciate Ligament Reconstruction: A Meta-analysis of Randomized Controlled Trials and Systematic Review of Overlapping Systematic Reviews	2016	Systematic review
Zhang, H.; Qiu, M.; Zhou, A.; Zhang, J.; Jiang, D.	Anatomic Anterolateral Ligament Reconstruction Improves Postoperative Clinical Outcomes Combined with Anatomic Anterior Cruciate Ligament Reconstruction	2016	< 2 yr. follow up (3,6,12 months)
Zhang, H.; Sun, Y.; Han, X.; Wang, Y.; Wang, L.; Alquhali, A.; Bai, X.	Simultaneous Reconstruction of the Anterior Cruciate Ligament and Medial Collateral Ligament in Patients With Chronic ACL-MCL Lesions: A Minimum 2-Year Follow-up Study	2014	Case series
Zhang, Y.; Xu, C.; Dong, S.; Shen, P.; Su, W.; Zhao, J.	Systemic Review of Anatomic Single- Versus Double-Bundle Anterior Cruciate Ligament Reconstruction: Does Femoral Tunnel Drilling Technique Matter?	2016	Systematic review
Zhao, L.; Lu, M.; Deng, M.; Xing, J.; He, L.; Wang, C.	Outcome of bone-patellar tendon-bone vs hamstring tendon autograft for anterior cruciate ligament reconstruction: A meta-analysis of randomized controlled trials with a 5-year minimum follow-up	2020	Systematic review

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Zheng, X.; Hu, Y.; Xie, P.; Li, T.; Feng, Y. E.; Gu, J.; Gao, S.	Clinical outcomes and second-look arthroscopic findings of anterior cruciate ligament reconstruction with autograft, hybrid graft, and allograft	2019	< 2 yr. follow up
Zhou, J.; Schilaty, N. D.; Hewett, T. E.; Bates, N. A.	Analysis of Timing of Secondary Acl Injury in Professional Athletes Does Not Support Game Timing or Season Timing as a Contributor to Injury Risk	2020	Irrelevant predictive factor for Secondary ACL Injury - fatigue
Ziedas, A.; Abed, V.; Swantek, A.; Cross, A.; Chaides, S.; Rahman, T.; Makhni, E. C.	Social Determinants of Health Influence Access to Care and Outcomes in Patients Undergoing Anterior Cruciate Ligament Reconstruction: A Systematic Review	2021	Systematic review
Zimmerer, A.; Sobau, C.; Nietschke, R.; Schneider, M.; Ellermann, A.	Long-term outcome after all inside meniscal repair using the FasT-Fix system	2018	Irrelevant population: not all pts have combined ACL tear + meniscal tear
Zoller, S. D.; Toy, K. A.; Wang, P.; Ebramzadeh, E.; Bowen, R. E.	Temporal relation of meniscal tear incidence, severity, and outcome scores in adolescents undergoing anterior cruciate ligament reconstruction	2017	< 2 yr. follow up
Zysk, S. P.; Refior, H. J.	Operative or conservative treatment of the acutely torn anterior cruciate ligament in middle-aged patients. A follow-up study of 133 patients between the ages of 40 and 59 years	2000	Conservative t/t vs primary suture vs suture + tendinous augmentation