

Supplement to the Treatment of Clavicle Fractures Evidence-Based Clinical Practice Guideline

e-Appendix 2

- Quality Evaluation
- Data Tables
- Meta Analyses

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.

Quality Appraisal Tables

Quality Evaluation: Intervention – Randomized

Study	Random Sequence Generation	Allocation Concealment	Blinding	Incomplete Outcome Data	Selective Reporting	Other Bias	Strength
Ahrens, P. M., 2017	●	◐	◐	●	◐	●	High Quality
Anand, A., 2021	○	○	◐	◐	●	●	Moderate Quality
Ban, I., 2021	●	●	◐	●	●	◐	High Quality
Bhardwaj, A., 2018	◐	◐	◐	◐	◐	◐	Moderate Quality
Calbiyik, M., 2017	●	◐	◐	◐	◐	●	Moderate Quality
Canadian Orthopaedic Trauma, Society, 2007	●	●	○	○	○	◐	Moderate Quality
Chen, Q. Y., 2011	◐	◐	○	◐	◐	◐	Moderate Quality
Fuglesang, H. F. S., 2017	◐	●	◐	◐	◐	●	Moderate Quality
Fuglesang, H. F. S., 2018	●	●	●	●	●	○	High Quality
Hulsmans, M. H., 2017	◐	◐	◐	●	◐	○	Moderate Quality
King, P. R., 2019	●	○	◐	●	◐	●	Moderate Quality
Lubbert, P. H., 2008	●	●	●	○	●	◐	High Quality
Melean, P. A., 2015	●	○	◐	●	◐	●	Moderate Quality
Narsaria, N., 2014	◐	◐	◐	◐	◐	◐	Moderate Quality

Study	Random Sequence Generation	Allocation Concealment	Blinding	Incomplete Outcome Data	Selective Reporting	Other Bias	Strength
Nicholson, J. A., 2021	●	●	●	●	●	●	Moderate Quality
Qvist, A. H., 2018	●	●	●	●	●	●	High Quality
Rafique, M., 2020	○	○	●	●	●	●	Moderate Quality
Robinson, C. M., 2013	●	●	●	●	●	○	Moderate Quality
Saha, P., 2014	○	○	●	●	●	●	Moderate Quality
Schemitsch, L. A., 2011	●	●	○	○	●	○	Low Quality
Smekal, V., 2009	●	●	●	●	●	○	Moderate Quality
Tamaoki, M. J. S., 2017	●	●	○	●	●	●	High Quality
van der Meijden, O. A., 2015	●	●	○	●	●	●	Moderate Quality
van der Meijden, O. A., 2016	●	●	●	●	●	●	Moderate Quality
Wang, H. K., 2020	●	●	●	●	●	●	High Quality
Woltz, S., 2018	●	●	●	●	●	●	Moderate Quality
Woltz, Sarah, 2017	●	●	●	○	●	●	Moderate Quality
Zhang, T., 2019	●	○	●	●	●	●	Moderate Quality

Quality Evaluation: Intervention – Observational ROBINS 1

Study	Participant Recruitment	Treatment recording	Confounding Variables	Outcome measurement bias	Incomplete Outcome Data	Adequate Reporting	Strength
Abbas, A., 2020	●	●	●	●	●	●	Low Quality
Chen, X., 2017	●	●	●	○	●	●	Low Quality
Chen, Y. F., 2012	●	●	●	○	●	●	Low Quality
Chinkam-Akrapat, P., 2018	●	●	●	○	●	●	Low Quality
Chu, J. Y., 2018	●	●	●	○	●	●	Low Quality
DeBaun, M. R., 2020	●	●	●	○	●	●	Low Quality
Eden, L., 2015	●	●	●	●	●	●	Low Quality
Fang, C. X., 2020	●	●	●	○	●	●	Low Quality
Herman, A., 2019	●	●	●	●	●	●	Low Quality
Kc, K. M., 2021	●	●	●	●	●	●	Low Quality
Lake, N., 2020	●	●	●	○	●	●	Low Quality
Lee, C., 2020	●	●	●	○	●	●	Low Quality
Liu, H. H., 2010	●	●	●	○	●	●	Low Quality
Liu, W., 2015	●	●	○	○	●	●	Low Quality
Ma, X., 2020	●	●	○	○	●	●	Low Quality
Malik, A., 2017	●	●	●	●	●	●	Low Quality
Murray, I. R., 2013	●	●	●	○	○	●	Low Quality
Napora, J. K., 2016	●	○	○	●	●	●	Low Quality
Napora, J. K., 2018	●	●	●	○	●	●	Low Quality
Naveen, B. M., 2017	●	●	●	●	●	●	Low Quality
Nicholson, J. A., 2020	●	●	○	●	●	●	Low Quality

Study	Participant Recruitment	Treatment recording	Confounding Variables	Outcome measurement bias	Incomplete Outcome Data	Adequate Reporting	Strength
Nicholson, J. A., 2021	●	●	◐	●	●	●	Low Quality
Park, J. S., 2020	●	●	●	○	●	●	Low Quality
Riiser, M. O., 2021	●	◐	○	○	●	●	Low Quality
Robinson, C. M., 2004	●	●	◐	○	○	●	Low Quality
Rongguang, A., 2016	●	●	○	○	●	●	Low Quality
Rugpolmuang, L., 2016	●	●	◐	◐	●	●	Low Quality
Serrano, R., 2017	●	◐	◐	○	●	●	Low Quality
Smekal, V., 2011	○	●	◐	◐	●	●	Low Quality
Swarup, I., 2021	●	●	○	○	●	●	Low Quality
Tagliapietra, J., 2020	●	●	◐	○	●	●	Low Quality
Tutuhatunewa, E. D., 2017	●	●	◐	○	○	●	Low Quality
Wijdicks, F. J., 2012	●	◐	○	○	●	●	Low Quality
Yang, T. H., 2021	●	◐	◐	◐	●	●	Low Quality
Zehir, S., 2016	●	●	○	○	●	●	Low Quality

Data Tables:

Table 1: PICO 5- Bone Stimulator- Union

Reference Title	Quality	Outcome Details	Duration	Treatment 1 (Details)	Treatment 2 (Details)	Effect Measure	Result (95% CI)	Favored Treatment
Lubbert, 2008	High	Fracture Healing (days)	8 wks.	Active Transducer (Ultrasound Stimulation): Signal Intensity: 30 mW/cm ² Spatial Average, Temporal Average, Burst Width 200us in 1.5 MHz sine waves pulsed at 1 kHz	Placebo Transducer	Author Reported - T-Test, Chi-Square Test;	0.33(-5.27,5.92)	NS

Table 2: PICO 6- Non-Modifiable Risk Factors - Age <35 Years vs. Age >= 35 Years - Union

Reference Title	Quality	Outcome Details	Duration	Treatment 1 (Details)	Treatment 2 (Details)	Effect Measure	Result (95% CI)	Favored Treatment
Robinson, 2004	Low	Union	6 wks.	Age < 35 Years: Midshaft Fx	Age >= 35 Years: Midshaft Fx	RR	3.67(1.60,8.43)	Age < 35 Years
Robinson, 2004	Low	Union	12 wks.	Age < 35 Years: Midshaft Fx	Age >= 35 Years: Midshaft Fx	RR	1.76(1.40,2.21)	Age < 35 Years
Robinson, 2004	Low	Union	24 wks.	Age < 35 Years: Midshaft Fx	Age >= 35 Years: Midshaft Fx	RR	1.09(0.97,1.21)	NS
Robinson, 2004	Low	Union	6 wks.	Age < 35 Years: Lateral Fx	Age >= 35 Years: Lateral Fx	RR	1.00(0.64,1.58)	NS
Robinson, 2004	Low	Union	12 wks.	Age < 35 Years: Lateral Fx	Age >= 35 Years: Lateral Fx	RR	2.19(1.53,3.13)	Age < 35 Years
Robinson, 2004	Low	Union	24 wks.	Age < 35 Years: Lateral Fx	Age >= 35 Years: Lateral Fx	RR	1.12(0.89,1.40)	NS

Table 3: PICO 6- Non-Modifiable Risk Factors - 1Age <40 Years vs. Age >40 Years - Union

Reference Title	Quality	Outcome Details	Duration	Treatment 1 (Details)	Treatment 2 (Details)	Effect Measure	Result (95% CI)	Favored Treatment
Abbas, 2020	Low	Nonunion	12 wks.	Age < 40 Years: Polysling	Age > 40 Years: Polysling	RR	2.36(0.53,10.44)	NS

Table 4: PICO 6- Non-Modifiable Risk Factors - Bridging Callus - Composite

Reference Title	Quality	Outcome Details	Duration	Treatment 1 (Details)	Treatment 2 (Details)	Effect Measure	Result (95% CI)	Favored Treatment
Nicholson, 2021 (b)	Low	EQ-5D	6 wks.	Bridging Callus	No Callus	Mean Difference	0.15 (0.06, 0.24)	Bridging Callus
Nicholson, 2021 (b)	Low	EQ-5D	12 wks.	Bridging Callus	No Callus	Mean Difference	0.22 (0.12, 0.32)	Bridging Callus
Nicholson, 2021 (b)	Low	EQ-5D	24 wks.	Bridging Callus	No Callus	Mean Difference	0.23 (0.14, 0.32)	Bridging Callus
Nicholson, 2021 (b)	Low	QuickDASH	6 wks.	Bridging Callus	No Callus	Mean Difference	-17.3 (-25.55, -9.05)	Bridging Callus
Nicholson, 2021 (b)	Low	QuickDASH	12 wks.	Bridging Callus	No Callus	Mean Difference	-16.4 (-24.76, -8.04)	Bridging Callus
Nicholson, 2021 (b)	Low	QuickDASH	24 wks.	Bridging Callus	No Callus	Mean Difference	-15.8 (-23.95, -7.65)	Bridging Callus

Table 5: PICO 6- Non-Modifiable Risk Factors - Bridging Callus - Union

Reference Title	Quality	Outcome Details	Duration	Treatment 1 (Details)	Treatment 2 (Details)	Effect Measure	Result (95% CI)	Favored Treatment
Nicholson, 2021 (b)	Low	Union	6 mos.	Bridging Callus	No Callus	RR	1.66(1.29,2.13)	Bridging Callus

Table 6: PICO 6- Non-Modifiable Risk Factors - Chest Injury vs. No Chest Injury - Composite

Reference Title	Quality	Outcome Details	Duration	Treatment 1 (Details)	Treatment 2 (Details)	Effect Measure	Result (95% CI)	Favored Treatment
Napora, 2016	Low	ASES	56 mos.	Mechanism of Injury: Chest Injury	Mechanism of Injury: No Chest Injury	Mean Difference	-2.4 (-7.92, 3.12)	NS

Table 72: PICO 6- Non-Modifiable Risk Factors - Fall Height - Union

Reference Title	Quality	Outcome Details	Duration	Treatment 1 (Details)	Treatment 2 (Details)	Effect Measure	Result (95% CI)	Favored Treatment
Nicholson, 2020	Low	Nonunion	6 mos.	Injury Mechanism, Fall <2m	Injury Mechanism, >=2m	RR	0.48(0.15,1.59)	NS

Table 83: PICO 6- Non-Modifiable Risk Factors - Fracture Type - Union

Reference Title	Quality	Outcome Details	Duration	Treatment 1 (Details)	Treatment 2 (Details)	Effect Measure	Result (95% CI)	Favored Treatment
Yang, 2021	Low	Nonunion/Delayed Union	1 yrs.	AO Type 15.2 Midshaft Clavicle Fracture	AO Type 15.3 Distal Clavicle Fracture	RR	0.66(0.16,2.70)	NS

Table 94: PICO 6- Non-Modifiable Risk Factors - Gender or Sex - Composite

Reference Title	Quality	Outcome Details	Duration	Treatment 1 (Details)	Treatment 2 (Details)	Effect Measure	Result (95% CI)	Favored Treatment
Napora, 2016	Low	ASES	56 mos.	Female Sex	Male Sex	Mean Difference	-4.1 (-10.22, 2.02)	NS
Napora, 2016	Low	ASES	56 mos.	Female Sex: Operative Treatment	Male Sex: Operative Treatment	Mean Difference	-5.4 (-17.30, 6.50)	NS
Napora, 2016	Low	ASES	56 mos.	Female Sex: Non-Operative	Male Sex: Non-Operative Treatment	Mean Difference	-2.6 (-9.94, 4.74)	NS
Napora, 2016	Low	ASES	56 mos.	Female Sex: Non-Operative	Male Sex: Operative Treatment	Mean Difference	-8.4 (-15.87, -0.93)	Male Sex
Napora, 2016	Low	ASES	56 mos.	Female Sex: Operative Treatment	Male Sex: Non-Operative Treatment	Mean Difference	0.4 (-11.41, 12.21)	NS
Napora, 2018	Low	ASES <60	12 wks.	Female Sex: Operative Treatment	Male Sex: Operative Treatment	RR	1.65(0.76,3.56)	NS
Napora, 2018	Low	ASES <60	12 wks.	Female Sex: Operative Treatment	Male Sex: Non-Operative Treatment	RR	1.65(0.76,3.56)	NS
Napora, 2018	Low	ASES <60	12 wks.	Female Sex: Non-Operative Treatment	Male Sex: Non-Operative Treatment	RR	0.99(0.35,2.83)	NS
Napora, 2018	Low	ASES <60	12 wks.	Female Sex: Non-Operative Treatment	Male Sex: Operative Treatment	RR	0.99(0.35,2.83)	NS

Table 105: PICO 6- Non-Modifiable Risk Factors - Gender or Sex - Union

Reference Title	Quality	Outcome Details	Duration	Treatment 1 (Details)	Treatment 2 (Details)	Effect Measure	Result (95% CI)	Favored Treatment
Nicholson, 2020	Low	Nonunion	6 mos.	Female Sex	Male Sex	RR	2.47(1.18,5.17)	Male Sex
Abbas, 2020	Low	Nonunion	12 wks.	Female Sex: Polysling	Male Sex: Polysling	RR	0.18(0.02,1.39)	NS
Robinson, 2013	Moderate	Nonunion	12 mos.	Female Sex	Male Sex	RR	1.05(0.26,4.27)	NS
Robinson, 2004	Low	Union	6 wks.	Female Sex: Midshaft Fx	Male Sex: Midshaft Fx	RR	0.27(0.10,0.73)	Male Sex
Robinson, 2004	Low	Union	12 wks.	Female Sex: Midshaft Fx	Male Sex: Midshaft Fx	RR	0.60(0.46,0.78)	Male Sex
Robinson, 2004	Low	Union	24 wks.	Female Sex: Midshaft Fx	Male Sex: Midshaft Fx	RR	0.88(0.77,1.00)	NS

Table 116: PICO 6- Non-Modifiable Risk Factors - Hand Dominance - Union

Reference Title	Quality	Outcome Details	Duration	Treatment 1 (Details)	Treatment 2 (Details)	Effect Measure	Result (95% CI)	Favored Treatment
Nicholson, 2020	Low	Nonunion	6 mos.	Dominant Hand (+)	Dominant Hand (-)	RR	1.81(0.87,3.75)	NS

Table 127: PICO 6- Non-Modifiable Risk Factors - Head Trauma vs. No Head Trauma - Composite

Reference Title	Quality	Outcome Details	Duration	Treatment 1 (Details)	Treatment 2 (Details)	Effect Measure	Result (95% CI)	Favored Treatment
Napora, 2016	Low	ASES	56 mos.	Mechanism of Injury: Head Trauma	Mechanism of Injury: No Head Trauma	Mean Difference	7.5 (2.17, 12.83)	Mechanism of Injury

Table 138: PICO 6- Non-Modifiable Risk Factors - High vs. Low Energy - Union

Reference Title	Quality	Outcome Details	Duration	Treatment 1 (Details)	Treatment 2 (Details)	Effect Measure	Result (95% CI)	Favored Treatment
Nicholson, 2020	Low	Nonunion	6 mos.	Injury Mechanism, High Energy	Injury Mechanism, Low Energy	RR	1.19(0.49,2.92)	NS

Table 149: PICO 6- Non-Modifiable Risk Factors - Isolated Trauma vs. Polytrauma - Composite

Reference Title	Quality	Outcome Details	Duration	Treatment 1 (Details)	Treatment 2 (Details)	Effect Measure	Result (95% CI)	Favored Treatment
Napora, 2016	Low	ASES	56 mos.	Mechanism of Injury: Isolated Trauma to Clavicle	Mechanism of Injury: Polytrauma	Mean Difference	-0.3 (-7.19, 6.59)	NS

Table 1510: PICO 6- Non-Modifiable Risk Factors - Prognostic - Composite

Reference Title	Quality	Outcome Details	Prognostic Factor	Prognostic Reference	Prognostic Adjustment	Prognostic Statistic	Prognostic Result	Favored Treatment
Ban, 2021	High	Constant Murley	Age	(per increasing year)	Sex, Edinburgh Type, Fx Shortening, Fx Displacement Ratio, Operative	Odds Ratio	1.03 (0.99, 1.10)	NS
Ban, 2021	High	Constant Murley	Female Sex	Male Sex	Age, Edinburgh Type, Fx Shortening, Fx Displacement Ratio, Operative	Odds Ratio	2.44 (0.65, 9.20)	NS
Ban, 2021	High	Constant Murley	Edinburgh Type 2B1	Edinburgh Type 2B2	Age, Sex, Fx Shortening, Fx Displacement Ratio, Operative	Odds Ratio	0.66 (0.17, 2.5)	NS
Ban, 2021	High	Constant Murley	Fx Shortening	(per increasing mm)	Age, Sex, Edinburgh Type, Fx Displacement Ratio, Operative	Odds Ratio	1.02 (0.96, 1.1)	NS
Ban, 2021	High	Constant Murley	Fx Displacement	(per increasing unit)	Age, Sex, Edinburgh Type, Fx. Shortening, Operative	Odds Ratio	2.47 (0.68, 9)	NS

Table 1611: PICO 6- Non-Modifiable Risk Factors - Prognostic – Pain

Reference Title	Quality	Outcome Details	Prognostic Factor	Prognostic Reference	Prognostic Adjustment	Prognostic Statistic	Prognostic Result	Favored Treatment
Chu, 2018	Low	VAS > 40	Age	(per increasing year)	Non-Operative, Sex, Robinson Classification, Fx Shortening	Odds Ratio	1.03 (0.98; 1.09)	NS
Chu, 2018	Low	VAS > 40	Age	(per increasing year)	Non-Operative, Sex, Robinson Classification, Fx Shortening	Odds Ratio	1.04 (0.99; 1.08)	NS

Chu, 2018	Low	VAS > 40	Age	(per increasing year)	Non-Operative, Sex, Robinson Classification, Fx Shortening	Odds Ratio	0.99 (0.95; 1.04)	NS
Chu, 2018	Low	VAS > 40	Female Sex	Male Sex	Non-Operative, Age, Robinson Classification, Fx Shortening	Odds Ratio	26.60 (2.36; 299.47)	Female Sex
Chu, 2018	Low	VAS > 40	Female Sex	Male Sex	Non-Operative, Age, Robinson Classification, Fx Shortening	Odds Ratio	1.79 (0.40;7.90)	NS
Chu, 2018	Low	VAS > 40	Female Sex	Male Sex	Non-Operative, Age, Robinson Classification, Fx Shortening	Odds Ratio	0.73 (0.12;4.50)	NS
Chu, 2018	Low	VAS > 40	Fx Shortening	(per increasing mm)	Non-Operative, Age, Sex, Robinson Classification	Odds Ratio	0.28 (<0.01;35.64);	NS
Chu, 2018	Low	VAS > 40	Fx Shortening	(per increasing mm)	Non-Operative, Age, Sex, Robinson Classification	Odds Ratio	0	NS
Chu, 2018	Low	VAS > 40	Fx Shortening	(per increasing mm)	Non-Operative, Age, Sex, Robinson Classification	Odds Ratio	0	NS
Chu, 2018	Low	VAS > 40	Robinson Classification Type 2B1	Robinson Classification Type 2B2	Non-Operative, Age, Sex, Fx Shortening	Odds Ratio	0.25 (0.02;2.85)	NS
Chu, 2018	Low	VAS > 40	Robinson Classification Type 2B1	Robinson Classification Type 2B2	Non-Operative, Age, Sex, Fx Shortening	Odds Ratio	0.58 (0.05-6.21)	NS
Chu, 2018	Low	VAS > 40	Robinson Classification Type 2B1	Robinson Classification Type 2B2	Non-Operative, Age, Sex, Fx Shortening	Odds Ratio	0	NS

Table 1712: PICO 6- Non-Modifiable Risk Factors - Prognostic – Union

Reference Title	Quality	Outcome Details	Prognostic Factor	Prognostic Reference	Prognostic Adjustment	Prognostic Statistic	Prognostic Result	Favored Treatment
Tagliapietra, 2020	Low	Nonunion	Age	N/A	N/A	sig only	p = 0.72	NS
Tagliapietra, 2020	Low	Nonunion	Type of Fracture (A1, A2, A3, B1, B2, B3)	N/A	N/A	sig only	p = 0.494	NS
Tagliapietra, 2020	Low	Nonunion	Type of Fracture (A, B)	N/A	N/A	Relative Risk Ratio	0.174 (0.033, 0.929)	Type of Fracture (B)
Ban, 2021	High	Nonunion	Age	(per increasing year)	Sex, Edinburgh Type, Fx Shortening, Fx Displacement Ratio, Operative	Odds Ratio	1.08 (1.01, 1.2)	NS

Ban, 2021	High	Nonunion	Female Sex	Male Sex	Age, Edinburgh Type, Fx Shortening, Fx Displacement Ratio, Operative	Odds Ratio	4.03 (0.63, 25.9)	NS
Ban, 2021	High	Nonunion	Edinburgh Type 2B1	Edinburgh Type 2B2	Age, Sex, Fx Shortening, Fx Displacement Ratio, Operative	Odds Ratio	0.95 (0.12, 7.4)	NS
Ban, 2021	High	Nonunion	Fx Shortening	(per increasing mm)	Age, Sex, Edinburgh Type, Fx Displacement Ratio, Operative	Odds Ratio	1.04 (0.95, 1.1)	NS
Ban, 2021	High	Nonunion	Fx Displacement	(per increasing unit)	Age, Sex, Edinburgh Type, Fx Shortening, Operative	Odds Ratio	2.89 (0.4, 20.8)	NS
Chu, 2018	Low	Delayed Union	Age	(per increasing year)	Non-Operative, Sex, Robinson Classification, Fx Shortening	Odds Ratio	0.99 (0.95;1.03)	NS
Chu, 2018	Low	Delayed Union	Female Sex	Male Sex	Non-Operative, Age, Robinson Classification, Fx Shortening	Odds Ratio	0.55 (0.10;3.16)	NS
Chu, 2018	Low	Delayed Union	Fx Shortening	(per increasing mm)	Non-Operative, Age, Sex, Robinson Classification	Odds Ratio	2.84 (0.17;48.27)	NS
Chu, 2018	Low	Delayed Union	Robinson Classification Type 2B1	Robinson Classification Type 2B2	Non-Operative, Age, Sex, Fx Shortening	Odds Ratio	1.94 (0.25;15.09)	NS
Chu, 2018	Low	Delayed Union	Dominant Hand	Non-Dominant Hand	Diabetes	Odds Ratio	1.06 (0.26;4.28)	NS
Chu, 2018	Low	Delayed Union	Diabetes (+)	Diabetes (-)	Hand Dominance	Odds Ratio	0	NS

Table 18: PICO 7- Modifiable Risk Factors - Smoker vs. Non-Smoker - Composite

Reference Title	Quality	Outcome Details	Duration	Treatment 1 (Details)	Treatment 2 (Details)	Effect Measure	Result (95% CI)	Favored Treatment
Napora, 2018	Low	ASES <60	12 wks.	Smoker: Operative Treatment	Non-Smoker: Non-Operative Treatment	RR	1.98(0.94,4.16)	NS
Napora, 2018	Low	ASES <60	12 wks.	Smoker: Non-Operative Treatment	Non-Smoker: Operative Treatment	RR	1.49(0.73,3.06)	NS
Napora, 2018	Low	ASES <60	12 wks.	Smoker: Non-Operative Treatment	Non-Smoker: Non-Operative Treatment	RR	1.63(0.76,3.48)	NS
Napora, 2018	Low	ASES <60	12 wks.	Smoker: Operative Treatment	Non-Smoker: Operative Treatment	RR	1.82(0.91,3.64)	NS
Napora, 2016	Low	ASES	56 mos.	Smoker	Non-Smoker	Mean Difference	-9.5 (-15.64, -3.36)	Non-Smoker

Reference Title	Quality	Outcome Details	Duration	Treatment 1 (Details)	Treatment 2 (Details)	Effect Measure	Result (95% CI)	Favored Treatment
Napora, 2016	Low	ASES	56 mos.	Smoker: Operative Treatment	Non-Smoker: Operative Treatment	Mean Difference	-10.6 (-20.99, -0.21)	Non-Smoker
Napora, 2016	Low	ASES	56 mos.	Smoker: Operative Treatment	Non-Smoker: Non-Operative Treatment	Mean Difference	-4.8 (-15.07, 5.47)	NS
Napora, 2016	Low	ASES	56 mos.	Smoker: Non-Operative	Non-Smoker: Non-Operative Treatment	Mean Difference	-8.7 (-16.36, -1.04)	Non-Smoker
Napora, 2016	Low	ASES	56 mos.	Smoker: Non-Operative	Non-Smoker: Operative Treatment	Mean Difference	-14.5 (-22.33, -6.67)	Non-Smoker

Table 19: PICO 7- Modifiable Risk Factors - Smoker vs. Non-Smoker - Union

Reference Title	Quality	Outcome Details	Duration	Treatment 1 (Details)	Treatment 2 (Details)	Effect Measure	Result (95% CI)	Favored Treatment
Nicholson, 2020	Low	Nonunion	6 mos.	Smoker	Non-Smoker	RR	3.64(1.87,7.11)	Non-Smoker
Robinson, 2013	Moderate	Nonunion	12 mos.	Smoker	Non-Smoker	RR	3.64(1.50,8.85)	Non-Smoker

Table 20: PICO 7- Modifiable Risk Factors - Prognostic – Union

Reference Title	Quality	Outcome Details	Prognostic Factor	Prognostic Reference	Prognostic Adjustment	Prognostic Statistic	Prognostic Result	Favored Treatment
Chu, 2018	Low	Delayed Union	Smoker	Non-Smoker	N/A	Odds Ratio	3.90 (0.61;25.21)	NS
Liu, 2015	Low	Nonunion	Smoker	Non-Smoker	Age, Sex, Overall Fracture Displacement, Presence of Complete Displacement of Fracture, Shortening of an Off-Ended Fracture, Translation of Fracture, Angulation of Fracture, Comminution of Fracture	Odds Ratio	4.16 (1.01, 14.16)	Non-Smoker
Murray, 2013	Low	Nonunion	Smoker	Non-Smoker	Comminuted Fracture, Absolute Fracture Displacement	Odds Ratio	3.76 (2.39, 5.89)	Non-Smoker

Table 21: PICO 8- Midshaft Fx - Operative vs. Non-Operative Treatment - Adverse Events

Reference Title	Quality	Outcome Details	Duration	Treatment 1 (Details)	Treatment 2 (Details)	Effect Measure	Result (95% CI)	Favored Treatment
Lake, 2020	Low	Revision Surgery	28 mos.	Operative Treatment	Non-Operative Treatment	RR	0.73(0.35,1.54)	NS
Woltz, 2018	Moderate	Unanticipated Surgery (F/U Range 34-79 mos. median 53 mos.)	79 mos.	Operative Treatment: Open Reduction and Plate Fixation	Non-Operative Treatment: Sling	RR	0.14(0.02,1.08)	NS
Smekal, 2011	Low	Complications (F/U 22-27 months, mean 24 months)	2 yrs.	Intramedullary Nailing	Non-Operative Treatment: Shoulder Sling	RR	0.82(0.50,1.37)	NS
Smekal, 2011	Low	Infection (F/U 22-27 months, mean 24 months)	2 yrs.	Intramedullary Nailing	Non-Operative Treatment: Shoulder Sling	RD	0.02(-0.02,0.05)	NS
Smekal, 2011	Low	Symptomatic Malunion (F/U 22-27 months, mean 24 months)	2 yrs.	Intramedullary Nailing	Non-Operative Treatment: Shoulder Sling	RD	-0.04(-0.09,0.01)	NS
Tamaoki, 2017	High	Unanticipated Surgery	6 mos.	Anterior Plate Osteosynthesis	Non-Operative Treatment: Figure-of-Eight Harness	RD	-0.04(-0.10,0.02)	NS
Robinson, 2013	Moderate	Unanticipated Surgery	12 mos.	Open Reduction and Plate Fixation	Non-Operative Treatment: Collar and Cuff	RR	1.01(0.54,1.86)	NS
Naveen, 2017	Low	Complications	6 mos.	Plate Fixation	Non-Operative Treatment: Figure-of-Eight Bandage	RR	0.67(0.27,1.64)	NS
Smekal, 2009	Moderate	Complications	2 yrs.	ESIN	Non-Operative Treatment: Shoulder Sling	RR	0.71(0.38,1.35)	NS
Smekal, 2009	Moderate	Unanticipated Surgery	2 yrs.	ESIN	Non-Operative Treatment: Shoulder Sling	RR	9.00(3.06,26.51)	Non-Operative Treatment
Ahrens, 2017	High	Unanticipated Surgery	9 mos.	ORIF	Non-Operative Treatment: Sling	RR	0.13(0.04,0.43)	ORIF
Tutuhatunewa, 2017	Low	Complications	120 days	ORIF: Locking Plate	Non-Operative Treatment: Sling or Collar and Cuff	RR	2.93(2.02,4.24)	Non-Operative Treatment
COTS, 2007	Moderate	Complex regional pain syndrome	1 yrs.	Plate Fixation	Non-Operative Treatment	RD	-0.02(-0.06,0.02)	NS
COTS, 2007	Moderate	Complications	1 yrs.	Plate Fixation	Non-Operative Treatment	RR	0.59(0.40,0.86)	Plate Fixation

Reference Title	Quality	Outcome Details	Duration	Treatment 1 (Details)	Treatment 2 (Details)	Effect Measure	Result (95% CI)	Favored Treatment
COTS, 2007	Moderate	Unanticipated Surgery	1 yrs.	Plate Fixation	Non-Operative Treatment	RR	1.98(0.40,9.75)	NS
Napora, 2018	Low	Unanticipated Surgery (F/U Range 7-48 wks., mean 25.9 wks.)	25.9 wks.	Operative Treatment: ORIF with Plating	Non-Operative Treatment: Optional Sling	RR	1.00(0.46,2.15)	NS
Ban, 2021	High	Second Operation	Postop .	Fixation w/ Anatomical Locking Plate	Simple Sling: Two Weeks or Less	RR	0.99(0.53,1.84)	NS
Napora, 2016	Low	Unanticipated Surgery	56 mos.	Operative Treatment	Non-Operative Treatment	RR	1.31(0.70,2.46)	NS
Ma, 2020	Low	Complex regional pain syndrome	32 mos.	Plate Fixation	Non-Operative Treatment: Sling	RD	-0.07(-0.16,0.02)	NS
Ma, 2020	Low	Complications	32 mos.	Plate Fixation	Non-Operative Treatment: Sling	RR	0.94(0.60,1.49)	NS
Ma, 2020	Low	Infection	32 mos.	Plate Fixation	Non-Operative Treatment: Sling	RD	0.03(-0.03,0.10)	NS
Chinkam-Akrapat, 2018	Low	Complications (Mean F/U 5.26/3.34, respectively)	5 yrs.	Nail Fixation	Clavicle Support	RD	0.00(0.00,0.00)	NS
Chinkam-Akrapat, 2018	Low	Infection (Mean F/U 5.26/3.34, respectively)	5 yrs.	Nail Fixation	Clavicle Support	RD	0.00(0.00,0.00)	NS
Chinkam-Akrapat, 2018	Low	Reoperation (Mean F/U 5.26/3.34, respectively)	5 yrs.	Nail Fixation	Clavicle Support	RD	-0.21(-0.34,-0.07)	Nail Fixation
Chen, 2011	Moderate	Complications (10-20 mos. follow-up)	15 mos.	ESIN	Simple Sling: Start pain-dependent mobilization after three weeks and discard sling when pain subsides.	RR	0.71(0.38,1.35)	NS
Woltz, 2017	Moderate	Complications	1 yrs.	Plate Fixation	Non-Operative Treatment	RR	1.60(0.86,2.97)	NS
Woltz, 2017	Moderate	Unanticipated Surgery	1 yrs.	Plate Fixation	Non-Operative Treatment	RR	1.27(0.50,3.22)	NS
Eden, 2015	Low	Unanticipated Surgery	52 wks.	Plate Osteosynthesis: Plate Fixation	Non-Operative Treatment: Rucksack Bandage	RR	1.80(0.17,19.10)	NS
Melean, 2015	Moderate	Unanticipated Surgery	12 wks.	ORIF	Non-Operative Treatment: Sling	RR	1.24(0.33,4.58)	NS

Table 22: PICO 8- Midshaft Fx - Operative vs. Non-Operative Treatment - Composite

Reference Title	Quality	Outcome Details	Duration	Treatment 1 (Details)	Treatment 2 (Details)	Effect Measure	Result (95% CI)	Favored Treatment
Smekal, 2011	Low	Constant Murley	2 yrs.	Intramedullary Nailing	Non-Operative Treatment: Shoulder Sling	Mean Difference	2.9 (0.79, 5.01)	Intramedullary Nailing
Smekal, 2011	Low	Constant Murley	2 yrs.	Intramedullary Nailing: Simple Fracture	Non-Operative Treatment: Simple Fracture, Shoulder Sling	Mean Difference	-0.7 (-2.07, 0.67)	NS
Smekal, 2011	Low	Constant Murley	2 yrs.	Intramedullary Nailing: Wedge Fracture	Non-Operative Treatment: Wedge Fracture, Shoulder Sling	Mean Difference	1.8 (0.26, 3.34)	Intramedullary Nailing
Smekal, 2011	Low	Constant Murley	2 yrs.	Intramedullary Nailing: Comminuted Fracture	Non-Operative Treatment: Comminuted Fracture, Shoulder Sling	Mean Difference	5.9 (3.35, 8.45)	Intramedullary Nailing
Smekal, 2011	Low	DASH	2 yrs.	Intramedullary Nailing	Non-Operative Treatment: Shoulder Sling	Mean Difference	-2.6 (-4.66, -0.54)	Intramedullary Nailing
Smekal, 2011	Low	DASH	2 yrs.	Intramedullary Nailing: Simple Fracture	Non-Operative Treatment: Simple Fracture, Shoulder Sling	Mean Difference	-0.9 (-1.57, -0.23)	Intramedullary Nailing
Smekal, 2011	Low	DASH	2 yrs.	Intramedullary Nailing: Wedge Fracture	Non-Operative Treatment: Wedge Fracture, Shoulder Sling	Mean Difference	-1.7 (-2.82, -0.58)	Intramedullary Nailing
Smekal, 2011	Low	DASH	2 yrs.	Intramedullary Nailing: Comminuted Fracture	Non-Operative Treatment: Comminuted Fracture, Shoulder Sling	Mean Difference	-4.1 (-6.88, -1.32)	Intramedullary Nailing
Tamaoki, 2017	High	DASH	6 wks.	Anterior Plate Osteosynthesis	Non-Operative Treatment: Figure-of-Eight Harness	Mean Difference	-3.6 (-12.48, 5.28)	NS
Tamaoki, 2017	High	DASH	6 mos.	Anterior Plate Osteosynthesis	Non-Operative Treatment: Figure-of-Eight Harness	Mean Difference	-2 (-6.58, 2.58)	NS
Tamaoki, 2017	High	DASH	1 yrs.	Anterior Plate Osteosynthesis	Non-Operative Treatment: Figure-of-Eight Harness	Mean Difference	0.3 (-3.62, 4.22)	NS

Reference Title	Quality	Outcome Details	Duration	Treatment 1 (Details)	Treatment 2 (Details)	Effect Measure	Result (95% CI)	Favored Treatment
Robinson, 2013	Moderate	Constant Murley	6 wks.	Open Reduction and Plate Fixation	Non-Operative Treatment: Collar and Cuff	Author Reported - Student's T-Test; Chi-Square Test; Fisher's Exact Test; Multivariate Logistic Regression; Linear Regression Analysis;	N/A	NS
Robinson, 2013	Moderate	Constant Murley	3 mos.	Open Reduction and Plate Fixation	Non-Operative Treatment: Collar and Cuff	Author Reported - Student's T-Test; Chi-Square Test; Fisher's Exact Test; Multivariate Logistic Regression; Linear Regression Analysis;	N/A	Open Reduction and Plate Fixation
Robinson, 2013	Moderate	Constant Murley	6 mos.	Open Reduction and Plate Fixation	Non-Operative Treatment: Collar and Cuff	Author Reported - Student's T-Test; Chi-Square Test; Fisher's Exact Test; Multivariate Logistic Regression; Linear Regression Analysis;	N/A	NS
Robinson, 2013	Moderate	Constant Murley	12 mos.	Open Reduction and Plate Fixation	Non-Operative Treatment: Collar and Cuff	Mean Difference	4.2 (1.00, 7.40)	Open Reduction and Plate Fixation
Robinson, 2013	Moderate	DASH	12 mos.	Open Reduction and Plate Fixation	Non-Operative Treatment: Collar and Cuff	Mean Difference	-2.7 (-5.20, -0.20)	Open Reduction and Plate Fixation
Naveen, 2017	Low	Constant Murley	6 wks.	Plate Fixation	Non-Operative Treatment: Figure-of-Eight Bandage	Mean Difference	7.93 (5.23, 10.63)	Plate Fixation
Naveen, 2017	Low	Constant Murley	3 mos.	Plate Fixation	Non-Operative Treatment: Figure-of-Eight Bandage	Mean Difference	7.86 (5.12, 10.60)	Plate Fixation
Naveen, 2017	Low	Constant Murley	6 mos.	Plate Fixation	Non-Operative Treatment: Figure-of-Eight Bandage	Mean Difference	4.4 (1.79, 7.01)	Plate Fixation
Smekal, 2009	Moderate	Constant Murley	6 mos.	ESIN: Simple Fracture	Non-Operative Treatment: Simple Fracture, Shoulder Sling	Mean Difference	5.8 (2.31, 9.29)	ESIN
Smekal, 2009	Moderate	Constant Murley	6 mos.	ESIN: Wedge Fracture	Non-Operative Treatment: Wedge Fracture, Shoulder Sling	Mean Difference	12.2 (8.44, 15.96)	ESIN
Smekal, 2009	Moderate	Constant Murley	6 mos.	ESIN: Comminuted Fracture	Non-Operative Treatment: Comminuted Fracture, Shoulder Sling	Mean Difference	10.4 (5.48, 15.32)	ESIN

Reference Title	Quality	Outcome Details	Duration	Treatment 1 (Details)	Treatment 2 (Details)	Effect Measure	Result (95% CI)	Favored Treatment
Smekal, 2009	Moderate	Constant Murley	2 yrs.	ESIN: Simple Fracture	Non-Operative Treatment: Simple Fracture, Shoulder Sling	Mean Difference	0.2 (-1.43, 1.83)	NS
Smekal, 2009	Moderate	Constant Murley	2 yrs.	ESIN: Wedge Fracture	Non-Operative Treatment: Wedge Fracture, Shoulder Sling	Mean Difference	5 (3.28, 6.72)	ESIN
Smekal, 2009	Moderate	Constant Murley	2 yrs.	ESIN: Comminuted Fracture	Non-Operative Treatment: Comminuted Fracture, Shoulder Sling	Mean Difference	6.4 (3.26, 9.54)	ESIN
Smekal, 2009	Moderate	Constant Murley	6 mos.	ESIN	Non-Operative Treatment: Shoulder Sling	Mean Difference	9 (4.62, 13.38)	ESIN
Smekal, 2009	Moderate	Constant Murley	2 yrs.	ESIN	Non-Operative Treatment: Shoulder Sling	Mean Difference	4.2 (1.97, 6.43)	ESIN
Smekal, 2009	Moderate	DASH	1 wks.	ESIN	Non-Operative Treatment: Shoulder Sling	Author Reported - Mann-Whitney U Test; T-test; Wilcoxon Rank Sum Test; Kolmogorov-Smirnov Test; Fisher's Exact Test; Pearson Coefficient;	N/A	ESIN
Smekal, 2009	Moderate	DASH	2 wks.	ESIN	Non-Operative Treatment: Shoulder Sling	Author Reported - Mann-Whitney U Test; T-test; Wilcoxon Rank Sum Test; Kolmogorov-Smirnov Test; Fisher's Exact Test; Pearson Coefficient;	N/A	ESIN
Smekal, 2009	Moderate	DASH	3 wks.	ESIN	Non-Operative Treatment: Shoulder Sling	Author Reported - Mann-Whitney U Test; T-test; Wilcoxon Rank Sum Test; Kolmogorov-Smirnov Test; Fisher's Exact Test; Pearson Coefficient;	N/A	ESIN
Smekal, 2009	Moderate	DASH	4 wks.	ESIN	Non-Operative Treatment: Shoulder Sling	Author Reported - Mann-Whitney U Test; T-test; Wilcoxon Rank Sum Test; Kolmogorov-Smirnov Test; Fisher's Exact Test; Pearson Coefficient;	N/A	ESIN

Reference Title	Quality	Outcome Details	Duration	Treatment 1 (Details)	Treatment 2 (Details)	Effect Measure	Result (95% CI)	Favored Treatment
Smekal, 2009	Moderate	DASH	5 wks.	ESIN	Non-Operative Treatment: Shoulder Sling	Author Reported - Mann-Whitney U Test; T-test; Wilcoxon Rank Sum Test; Kolmogorov-Smirnov Test; Fisher's Exact Test; Pearson Coefficient;	N/A	ESIN
Smekal, 2009	Moderate	DASH	6 wks.	ESIN	Non-Operative Treatment: Shoulder Sling	Author Reported - Mann-Whitney U Test; T-test; Wilcoxon Rank Sum Test; Kolmogorov-Smirnov Test; Fisher's Exact Test; Pearson Coefficient;	N/A	ESIN
Smekal, 2009	Moderate	DASH	7 wks.	ESIN	Non-Operative Treatment: Shoulder Sling	Author Reported - Mann-Whitney U Test; T-test; Wilcoxon Rank Sum Test; Kolmogorov-Smirnov Test; Fisher's Exact Test; Pearson Coefficient;	N/A	ESIN
Smekal, 2009	Moderate	DASH	8 wks.	ESIN	Non-Operative Treatment: Shoulder Sling	Author Reported - Mann-Whitney U Test; T-test; Wilcoxon Rank Sum Test; Kolmogorov-Smirnov Test; Fisher's Exact Test; Pearson Coefficient;	N/A	ESIN
Smekal, 2009	Moderate	DASH	9 wks.	ESIN	Non-Operative Treatment: Shoulder Sling	Author Reported - Mann-Whitney U Test; T-test; Wilcoxon Rank Sum Test; Kolmogorov-Smirnov Test; Fisher's Exact Test; Pearson Coefficient;	N/A	ESIN
Smekal, 2009	Moderate	DASH	10 wks.	ESIN	Non-Operative Treatment: Shoulder Sling	Author Reported - Mann-Whitney U Test; T-test; Wilcoxon Rank Sum Test; Kolmogorov-Smirnov Test; Fisher's Exact Test; Pearson Coefficient;	N/A	ESIN
Smekal, 2009	Moderate	DASH	11 wks.	ESIN	Non-Operative Treatment: Shoulder Sling	Author Reported - Mann-Whitney U Test; T-test; Wilcoxon Rank Sum Test; Kolmogorov-Smirnov Test; Fisher's Exact Test; Pearson Coefficient;	N/A	ESIN

Reference Title	Quality	Outcome Details	Duration	Treatment 1 (Details)	Treatment 2 (Details)	Effect Measure	Result (95% CI)	Favored Treatment
Smekal, 2009	Moderate	DASH	12 wks.	ESIN	Non-Operative Treatment: Shoulder Sling	Author Reported - Mann-Whitney U Test; T-test; Wilcoxon Rank Sum Test; Kolmogorov-Smirnov Test; Fisher's Exact Test; Pearson Coefficient;	N/A	ESIN
Smekal, 2009	Moderate	DASH	13 wks.	ESIN	Non-Operative Treatment: Shoulder Sling	Author Reported - Mann-Whitney U Test; T-test; Wilcoxon Rank Sum Test; Kolmogorov-Smirnov Test; Fisher's Exact Test; Pearson Coefficient;	N/A	ESIN
Smekal, 2009	Moderate	DASH	14 wks.	ESIN	Non-Operative Treatment: Shoulder Sling	Author Reported - Mann-Whitney U Test; T-test; Wilcoxon Rank Sum Test; Kolmogorov-Smirnov Test; Fisher's Exact Test; Pearson Coefficient;	N/A	ESIN
Smekal, 2009	Moderate	DASH	15 wks.	ESIN	Non-Operative Treatment: Shoulder Sling	Author Reported - Mann-Whitney U Test; T-test; Wilcoxon Rank Sum Test; Kolmogorov-Smirnov Test; Fisher's Exact Test; Pearson Coefficient;	N/A	ESIN
Smekal, 2009	Moderate	DASH	16 wks.	ESIN	Non-Operative Treatment: Shoulder Sling	Author Reported - Mann-Whitney U Test; T-test; Wilcoxon Rank Sum Test; Kolmogorov-Smirnov Test; Fisher's Exact Test; Pearson Coefficient;	N/A	ESIN
Smekal, 2009	Moderate	DASH	17 wks.	ESIN	Non-Operative Treatment: Shoulder Sling	Author Reported - Mann-Whitney U Test; T-test; Wilcoxon Rank Sum Test; Kolmogorov-Smirnov Test; Fisher's Exact Test; Pearson Coefficient;	N/A	ESIN
Smekal, 2009	Moderate	DASH	18 wks.	ESIN	Non-Operative Treatment: Shoulder Sling	Author Reported - Mann-Whitney U Test; T-test; Wilcoxon Rank Sum Test; Kolmogorov-Smirnov Test; Fisher's Exact Test; Pearson Coefficient;	N/A	ESIN

Reference Title	Quality	Outcome Details	Duration	Treatment 1 (Details)	Treatment 2 (Details)	Effect Measure	Result (95% CI)	Favored Treatment
Smekal, 2009	Moderate	DASH	19 wks.	ESIN	Non-Operative Treatment: Shoulder Sling	Author Reported - Mann-Whitney U Test; T-test; Wilcoxon Rank Sum Test; Kolmogorov-Smirnov Test; Fisher's Exact Test; Pearson Coefficient;	N/A	NS
Smekal, 2009	Moderate	DASH	20 wks.	ESIN	Non-Operative Treatment: Shoulder Sling	Author Reported - Mann-Whitney U Test; T-test; Wilcoxon Rank Sum Test; Kolmogorov-Smirnov Test; Fisher's Exact Test; Pearson Coefficient;	N/A	NS
Smekal, 2009	Moderate	DASH	21 wks.	ESIN	Non-Operative Treatment: Shoulder Sling	Author Reported - Mann-Whitney U Test; T-test; Wilcoxon Rank Sum Test; Kolmogorov-Smirnov Test; Fisher's Exact Test; Pearson Coefficient;	N/A	NS
Smekal, 2009	Moderate	DASH	22 wks.	ESIN	Non-Operative Treatment: Shoulder Sling	Author Reported - Mann-Whitney U Test; T-test; Wilcoxon Rank Sum Test; Kolmogorov-Smirnov Test; Fisher's Exact Test; Pearson Coefficient;	N/A	NS
Smekal, 2009	Moderate	DASH	23 wks.	ESIN	Non-Operative Treatment: Shoulder Sling	Author Reported - Mann-Whitney U Test; T-test; Wilcoxon Rank Sum Test; Kolmogorov-Smirnov Test; Fisher's Exact Test; Pearson Coefficient;	N/A	NS
Smekal, 2009	Moderate	DASH	24 wks.	ESIN	Non-Operative Treatment: Shoulder Sling	Author Reported - Mann-Whitney U Test; T-test; Wilcoxon Rank Sum Test; Kolmogorov-Smirnov Test; Fisher's Exact Test; Pearson Coefficient;	N/A	NS
Smekal, 2009	Moderate	DASH	25 wks.	ESIN	Non-Operative Treatment: Shoulder Sling	Author Reported - Mann-Whitney U Test; T-test; Wilcoxon Rank Sum Test; Kolmogorov-Smirnov Test; Fisher's Exact Test; Pearson Coefficient;	N/A	NS

Reference Title	Quality	Outcome Details	Duration	Treatment 1 (Details)	Treatment 2 (Details)	Effect Measure	Result (95% CI)	Favored Treatment
Smekal, 2009	Moderate	DASH	1 wks.	ESIN: Simple Fracture	Non-Operative Treatment: Simple Fracture, Shoulder Sling	Author Reported - Mann-Whitney U Test; T-test; Wilcoxon Rank Sum Test; Kolmogorov-Smirnov Test; Fisher's Exact Test; Pearson Coefficient;	N/A	ESIN
Smekal, 2009	Moderate	DASH	2 wks.	ESIN: Simple Fracture	Non-Operative Treatment: Simple Fracture, Shoulder Sling	Author Reported - Mann-Whitney U Test; T-test; Wilcoxon Rank Sum Test; Kolmogorov-Smirnov Test; Fisher's Exact Test; Pearson Coefficient;	N/A	ESIN
Smekal, 2009	Moderate	DASH	3 wks.	ESIN: Simple Fracture	Non-Operative Treatment: Simple Fracture, Shoulder Sling	Author Reported - Mann-Whitney U Test; T-test; Wilcoxon Rank Sum Test; Kolmogorov-Smirnov Test; Fisher's Exact Test; Pearson Coefficient;	N/A	ESIN
Smekal, 2009	Moderate	DASH	4 wks.	ESIN: Simple Fracture	Non-Operative Treatment: Simple Fracture, Shoulder Sling	Author Reported - Mann-Whitney U Test; T-test; Wilcoxon Rank Sum Test; Kolmogorov-Smirnov Test; Fisher's Exact Test; Pearson Coefficient;	N/A	ESIN
Smekal, 2009	Moderate	DASH	5 wks.	ESIN: Simple Fracture	Non-Operative Treatment: Simple Fracture, Shoulder Sling	Author Reported - Mann-Whitney U Test; T-test; Wilcoxon Rank Sum Test; Kolmogorov-Smirnov Test; Fisher's Exact Test; Pearson Coefficient;	N/A	ESIN
Smekal, 2009	Moderate	DASH	6 wks.	ESIN: Simple Fracture	Non-Operative Treatment: Simple Fracture, Shoulder Sling	Author Reported - Mann-Whitney U Test; T-test; Wilcoxon Rank Sum Test; Kolmogorov-Smirnov Test; Fisher's Exact Test; Pearson Coefficient;	N/A	NS
Smekal, 2009	Moderate	DASH	7 wks.	ESIN: Simple Fracture	Non-Operative Treatment: Simple Fracture, Shoulder Sling	Author Reported - Mann-Whitney U Test; T-test; Wilcoxon Rank Sum Test; Kolmogorov-Smirnov Test; Fisher's Exact Test; Pearson Coefficient;	N/A	NS

Reference Title	Quality	Outcome Details	Duration	Treatment 1 (Details)	Treatment 2 (Details)	Effect Measure	Result (95% CI)	Favored Treatment
Smekal, 2009	Moderate	DASH	8 wks.	ESIN: Simple Fracture	Non-Operative Treatment: Simple Fracture, Shoulder Sling	Author Reported - Mann-Whitney U Test; T-test; Wilcoxon Rank Sum Test; Kolmogorov-Smirnov Test; Fisher's Exact Test; Pearson Coefficient;	N/A	NS
Smekal, 2009	Moderate	DASH	9 wks.	ESIN: Simple Fracture	Non-Operative Treatment: Simple Fracture, Shoulder Sling	Author Reported - Mann-Whitney U Test; T-test; Wilcoxon Rank Sum Test; Kolmogorov-Smirnov Test; Fisher's Exact Test; Pearson Coefficient;	N/A	NS
Smekal, 2009	Moderate	DASH	10 wks.	ESIN: Simple Fracture	Non-Operative Treatment: Simple Fracture, Shoulder Sling	Author Reported - Mann-Whitney U Test; T-test; Wilcoxon Rank Sum Test; Kolmogorov-Smirnov Test; Fisher's Exact Test; Pearson Coefficient;	N/A	NS
Smekal, 2009	Moderate	DASH	11 wks.	ESIN: Simple Fracture	Non-Operative Treatment: Simple Fracture, Shoulder Sling	Author Reported - Mann-Whitney U Test; T-test; Wilcoxon Rank Sum Test; Kolmogorov-Smirnov Test; Fisher's Exact Test; Pearson Coefficient;	N/A	NS
Smekal, 2009	Moderate	DASH	12 wks.	ESIN: Simple Fracture	Non-Operative Treatment: Simple Fracture, Shoulder Sling	Author Reported - Mann-Whitney U Test; T-test; Wilcoxon Rank Sum Test; Kolmogorov-Smirnov Test; Fisher's Exact Test; Pearson Coefficient;	N/A	NS
Smekal, 2009	Moderate	DASH	13 wks.	ESIN: Simple Fracture	Non-Operative Treatment: Simple Fracture, Shoulder Sling	Author Reported - Mann-Whitney U Test; T-test; Wilcoxon Rank Sum Test; Kolmogorov-Smirnov Test; Fisher's Exact Test; Pearson Coefficient;	N/A	NS
Smekal, 2009	Moderate	DASH	14 wks.	ESIN: Simple Fracture	Non-Operative Treatment: Simple Fracture, Shoulder Sling	Author Reported - Mann-Whitney U Test; T-test; Wilcoxon Rank Sum Test; Kolmogorov-Smirnov Test; Fisher's Exact Test; Pearson Coefficient;	N/A	NS

Reference Title	Quality	Outcome Details	Duration	Treatment 1 (Details)	Treatment 2 (Details)	Effect Measure	Result (95% CI)	Favored Treatment
Smekal, 2009	Moderate	DASH	15 wks.	ESIN: Simple Fracture	Non-Operative Treatment: Simple Fracture, Shoulder Sling	Author Reported - Mann-Whitney U Test; T-test; Wilcoxon Rank Sum Test; Kolmogorov-Smirnov Test; Fisher's Exact Test; Pearson Coefficient;	N/A	NS
Smekal, 2009	Moderate	DASH	16 wks.	ESIN: Simple Fracture	Non-Operative Treatment: Simple Fracture, Shoulder Sling	Author Reported - Mann-Whitney U Test; T-test; Wilcoxon Rank Sum Test; Kolmogorov-Smirnov Test; Fisher's Exact Test; Pearson Coefficient;	N/A	NS
Smekal, 2009	Moderate	DASH	17 wks.	ESIN: Simple Fracture	Non-Operative Treatment: Simple Fracture, Shoulder Sling	Author Reported - Mann-Whitney U Test; T-test; Wilcoxon Rank Sum Test; Kolmogorov-Smirnov Test; Fisher's Exact Test; Pearson Coefficient;	N/A	NS
Smekal, 2009	Moderate	DASH	18 wks.	ESIN: Simple Fracture	Non-Operative Treatment: Simple Fracture, Shoulder Sling	Author Reported - Mann-Whitney U Test; T-test; Wilcoxon Rank Sum Test; Kolmogorov-Smirnov Test; Fisher's Exact Test; Pearson Coefficient;	N/A	NS
Smekal, 2009	Moderate	DASH	1 wks.	ESIN: Wedge Fracture	Non-Operative Treatment: Wedge Fracture, Shoulder Sling	Author Reported - Mann-Whitney U Test; T-test; Wilcoxon Rank Sum Test; Kolmogorov-Smirnov Test; Fisher's Exact Test; Pearson Coefficient;	N/A	ESIN
Smekal, 2009	Moderate	DASH	7 wks.	ESIN: Comminuted Fracture	Non-Operative Treatment: Comminuted Fracture, Shoulder Sling	Author Reported - Mann-Whitney U Test; T-test; Wilcoxon Rank Sum Test; Kolmogorov-Smirnov Test; Fisher's Exact Test; Pearson Coefficient;	N/A	Operative Treatment
Smekal, 2009	Moderate	DASH	2 wks.	ESIN: Wedge Fracture	Non-Operative Treatment: Wedge Fracture, Shoulder Sling	Author Reported - Mann-Whitney U Test; T-test; Wilcoxon Rank Sum Test; Kolmogorov-Smirnov Test; Fisher's Exact Test; Pearson Coefficient;	N/A	ESIN

Reference Title	Quality	Outcome Details	Duration	Treatment 1 (Details)	Treatment 2 (Details)	Effect Measure	Result (95% CI)	Favored Treatment
Smekal, 2009	Moderate	DASH	8 wks.	ESIN: Comminuted Fracture	Non-Operative Treatment: Comminuted Fracture, Shoulder Sling	Author Reported - Mann-Whitney U Test; T-test; Wilcoxon Rank Sum Test; Kolmogorov-Smirnov Test; Fisher's Exact Test; Pearson Coefficient;	N/A	Operative Treatment
Smekal, 2009	Moderate	DASH	3 wks.	ESIN: Wedge Fracture	Non-Operative Treatment: Wedge Fracture, Shoulder Sling	Author Reported - Mann-Whitney U Test; T-test; Wilcoxon Rank Sum Test; Kolmogorov-Smirnov Test; Fisher's Exact Test; Pearson Coefficient;	N/A	ESIN
Smekal, 2009	Moderate	DASH	9 wks.	ESIN: Comminuted Fracture	Non-Operative Treatment: Comminuted Fracture, Shoulder Sling	Author Reported - Mann-Whitney U Test; T-test; Wilcoxon Rank Sum Test; Kolmogorov-Smirnov Test; Fisher's Exact Test; Pearson Coefficient;	N/A	Operative Treatment
Smekal, 2009	Moderate	DASH	4 wks.	ESIN: Wedge Fracture	Non-Operative Treatment: Wedge Fracture, Shoulder Sling	Author Reported - Mann-Whitney U Test; T-test; Wilcoxon Rank Sum Test; Kolmogorov-Smirnov Test; Fisher's Exact Test; Pearson Coefficient;	N/A	ESIN
Smekal, 2009	Moderate	DASH	10 wks.	ESIN: Comminuted Fracture	Non-Operative Treatment: Comminuted Fracture, Shoulder Sling	Author Reported - Mann-Whitney U Test; T-test; Wilcoxon Rank Sum Test; Kolmogorov-Smirnov Test; Fisher's Exact Test; Pearson Coefficient;	N/A	Operative Treatment
Smekal, 2009	Moderate	DASH	5 wks.	ESIN: Wedge Fracture	Non-Operative Treatment: Wedge Fracture, Shoulder Sling	Author Reported - Mann-Whitney U Test; T-test; Wilcoxon Rank Sum Test; Kolmogorov-Smirnov Test; Fisher's Exact Test; Pearson Coefficient;	N/A	ESIN
Smekal, 2009	Moderate	DASH	11 wks.	ESIN: Comminuted Fracture	Non-Operative Treatment: Comminuted Fracture, Shoulder Sling	Author Reported - Mann-Whitney U Test; T-test; Wilcoxon Rank Sum Test; Kolmogorov-Smirnov Test; Fisher's Exact Test; Pearson Coefficient;	N/A	Operative Treatment

Reference Title	Quality	Outcome Details	Duration	Treatment 1 (Details)	Treatment 2 (Details)	Effect Measure	Result (95% CI)	Favored Treatment
Smekal, 2009	Moderate	DASH	6 wks.	ESIN: Wedge Fracture	Non-Operative Treatment: Wedge Fracture, Shoulder Sling	Author Reported - Mann-Whitney U Test; T-test; Wilcoxon Rank Sum Test; Kolmogorov-Smirnov Test; Fisher's Exact Test; Pearson Coefficient;	N/A	ESIN
Smekal, 2009	Moderate	DASH	12 wks.	ESIN: Comminuted Fracture	Non-Operative Treatment: Comminuted Fracture, Shoulder Sling	Author Reported - Mann-Whitney U Test; T-test; Wilcoxon Rank Sum Test; Kolmogorov-Smirnov Test; Fisher's Exact Test; Pearson Coefficient;	N/A	Operative Treatment
Smekal, 2009	Moderate	DASH	7 wks.	ESIN: Wedge Fracture	Non-Operative Treatment: Wedge Fracture, Shoulder Sling	Author Reported - Mann-Whitney U Test; T-test; Wilcoxon Rank Sum Test; Kolmogorov-Smirnov Test; Fisher's Exact Test; Pearson Coefficient;	N/A	ESIN
Smekal, 2009	Moderate	DASH	13 wks.	ESIN: Comminuted Fracture	Non-Operative Treatment: Comminuted Fracture, Shoulder Sling	Author Reported - Mann-Whitney U Test; T-test; Wilcoxon Rank Sum Test; Kolmogorov-Smirnov Test; Fisher's Exact Test; Pearson Coefficient;	N/A	Operative Treatment
Smekal, 2009	Moderate	DASH	8 wks.	ESIN: Wedge Fracture	Non-Operative Treatment: Wedge Fracture, Shoulder Sling	Author Reported - Mann-Whitney U Test; T-test; Wilcoxon Rank Sum Test; Kolmogorov-Smirnov Test; Fisher's Exact Test; Pearson Coefficient;	N/A	ESIN
Smekal, 2009	Moderate	DASH	14 wks.	ESIN: Comminuted Fracture	Non-Operative Treatment: Comminuted Fracture, Shoulder Sling	Author Reported - Mann-Whitney U Test; T-test; Wilcoxon Rank Sum Test; Kolmogorov-Smirnov Test; Fisher's Exact Test; Pearson Coefficient;	N/A	Operative Treatment
Smekal, 2009	Moderate	DASH	9 wks.	ESIN: Wedge Fracture	Non-Operative Treatment: Wedge Fracture, Shoulder Sling	Author Reported - Mann-Whitney U Test; T-test; Wilcoxon Rank Sum Test; Kolmogorov-Smirnov Test; Fisher's Exact Test; Pearson Coefficient;	N/A	ESIN

Reference Title	Quality	Outcome Details	Duration	Treatment 1 (Details)	Treatment 2 (Details)	Effect Measure	Result (95% CI)	Favored Treatment
Smekal, 2009	Moderate	DASH	15 wks.	ESIN: Comminuted Fracture	Non-Operative Treatment: Comminuted Fracture, Shoulder Sling	Author Reported - Mann-Whitney U Test; T-test; Wilcoxon Rank Sum Test; Kolmogorov-Smirnov Test; Fisher's Exact Test; Pearson Coefficient;	N/A	Operative Treatment
Smekal, 2009	Moderate	DASH	10 wks.	ESIN: Wedge Fracture	Non-Operative Treatment: Wedge Fracture, Shoulder Sling	Author Reported - Mann-Whitney U Test; T-test; Wilcoxon Rank Sum Test; Kolmogorov-Smirnov Test; Fisher's Exact Test; Pearson Coefficient;	N/A	NS
Smekal, 2009	Moderate	DASH	16 wks.	ESIN: Comminuted Fracture	Non-Operative Treatment: Comminuted Fracture, Shoulder Sling	Author Reported - Mann-Whitney U Test; T-test; Wilcoxon Rank Sum Test; Kolmogorov-Smirnov Test; Fisher's Exact Test; Pearson Coefficient;	N/A	Operative Treatment
Smekal, 2009	Moderate	DASH	11 wks.	ESIN: Wedge Fracture	Non-Operative Treatment: Wedge Fracture, Shoulder Sling	Author Reported - Mann-Whitney U Test; T-test; Wilcoxon Rank Sum Test; Kolmogorov-Smirnov Test; Fisher's Exact Test; Pearson Coefficient;	N/A	NS
Smekal, 2009	Moderate	DASH	17 wks.	ESIN: Comminuted Fracture	Non-Operative Treatment: Comminuted Fracture, Shoulder Sling	Author Reported - Mann-Whitney U Test; T-test; Wilcoxon Rank Sum Test; Kolmogorov-Smirnov Test; Fisher's Exact Test; Pearson Coefficient;	N/A	Operative Treatment
Smekal, 2009	Moderate	DASH	12 wks.	ESIN: Wedge Fracture	Non-Operative Treatment: Wedge Fracture, Shoulder Sling	Author Reported - Mann-Whitney U Test; T-test; Wilcoxon Rank Sum Test; Kolmogorov-Smirnov Test; Fisher's Exact Test; Pearson Coefficient;	N/A	NS
Smekal, 2009	Moderate	DASH	18 wks.	ESIN: Comminuted Fracture	Non-Operative Treatment: Comminuted Fracture, Shoulder Sling	Author Reported - Mann-Whitney U Test; T-test; Wilcoxon Rank Sum Test; Kolmogorov-Smirnov Test; Fisher's Exact Test; Pearson Coefficient;	N/A	Operative Treatment

Reference Title	Quality	Outcome Details	Duration	Treatment 1 (Details)	Treatment 2 (Details)	Effect Measure	Result (95% CI)	Favored Treatment
Smekal, 2009	Moderate	DASH	13 wks.	ESIN: Wedge Fracture	Non-Operative Treatment: Wedge Fracture, Shoulder Sling	Author Reported - Mann-Whitney U Test; T-test; Wilcoxon Rank Sum Test; Kolmogorov-Smirnov Test; Fisher's Exact Test; Pearson Coefficient;	N/A	NS
Smekal, 2009	Moderate	DASH	14 wks.	ESIN: Wedge Fracture	Non-Operative Treatment: Wedge Fracture, Shoulder Sling	Author Reported - Mann-Whitney U Test; T-test; Wilcoxon Rank Sum Test; Kolmogorov-Smirnov Test; Fisher's Exact Test; Pearson Coefficient;	N/A	NS
Smekal, 2009	Moderate	DASH	15 wks.	ESIN: Wedge Fracture	Non-Operative Treatment: Wedge Fracture, Shoulder Sling	Author Reported - Mann-Whitney U Test; T-test; Wilcoxon Rank Sum Test; Kolmogorov-Smirnov Test; Fisher's Exact Test; Pearson Coefficient;	N/A	NS
Smekal, 2009	Moderate	DASH	16 wks.	ESIN: Wedge Fracture	Non-Operative Treatment: Wedge Fracture, Shoulder Sling	Author Reported - Mann-Whitney U Test; T-test; Wilcoxon Rank Sum Test; Kolmogorov-Smirnov Test; Fisher's Exact Test; Pearson Coefficient;	N/A	NS
Smekal, 2009	Moderate	DASH	17 wks.	ESIN: Wedge Fracture	Non-Operative Treatment: Wedge Fracture, Shoulder Sling	Author Reported - Mann-Whitney U Test; T-test; Wilcoxon Rank Sum Test; Kolmogorov-Smirnov Test; Fisher's Exact Test; Pearson Coefficient;	N/A	NS
Smekal, 2009	Moderate	DASH	18 wks.	ESIN: Wedge Fracture	Non-Operative Treatment: Wedge Fracture, Shoulder Sling	Author Reported - Mann-Whitney U Test; T-test; Wilcoxon Rank Sum Test; Kolmogorov-Smirnov Test; Fisher's Exact Test; Pearson Coefficient;	N/A	NS
Smekal, 2009	Moderate	DASH	1 wks.	ESIN: Comminuted Fracture	Non-Operative Treatment: Comminuted Fracture, Shoulder Sling	Author Reported - Mann-Whitney U Test; T-test; Wilcoxon Rank Sum Test; Kolmogorov-Smirnov Test; Fisher's Exact Test; Pearson Coefficient;	N/A	Operative Treatment

Reference Title	Quality	Outcome Details	Duration	Treatment 1 (Details)	Treatment 2 (Details)	Effect Measure	Result (95% CI)	Favored Treatment
Smekal, 2009	Moderate	DASH	2 wks.	ESIN: Comminuted Fracture	Non-Operative Treatment: Comminuted Fracture, Shoulder Sling	Author Reported - Mann-Whitney U Test; T-test; Wilcoxon Rank Sum Test; Kolmogorov-Smirnov Test; Fisher's Exact Test; Pearson Coefficient;	N/A	Operative Treatment
Smekal, 2009	Moderate	DASH	3 wks.	ESIN: Comminuted Fracture	Non-Operative Treatment: Comminuted Fracture, Shoulder Sling	Author Reported - Mann-Whitney U Test; T-test; Wilcoxon Rank Sum Test; Kolmogorov-Smirnov Test; Fisher's Exact Test; Pearson Coefficient;	N/A	Operative Treatment
Smekal, 2009	Moderate	DASH	4 wks.	ESIN: Comminuted Fracture	Non-Operative Treatment: Comminuted Fracture, Shoulder Sling	Author Reported - Mann-Whitney U Test; T-test; Wilcoxon Rank Sum Test; Kolmogorov-Smirnov Test; Fisher's Exact Test; Pearson Coefficient;	N/A	Operative Treatment
Smekal, 2009	Moderate	DASH	5 wks.	ESIN: Comminuted Fracture	Non-Operative Treatment: Comminuted Fracture, Shoulder Sling	Author Reported - Mann-Whitney U Test; T-test; Wilcoxon Rank Sum Test; Kolmogorov-Smirnov Test; Fisher's Exact Test; Pearson Coefficient;	N/A	Operative Treatment
Smekal, 2009	Moderate	DASH	6 wks.	ESIN: Comminuted Fracture	Non-Operative Treatment: Comminuted Fracture, Shoulder Sling	Author Reported - Mann-Whitney U Test; T-test; Wilcoxon Rank Sum Test; Kolmogorov-Smirnov Test; Fisher's Exact Test; Pearson Coefficient;	N/A	Operative Treatment
Ahrens, 2017	High	Constant Murley	6 wks.	ORIF	Non-Operative Treatment: Sling	Author Reported - Chi-Square Test; Logistic Regression Model; Quantile Regression;	N/A	ORIF
Ahrens, 2017	High	Constant Murley	3 mos.	ORIF	Non-Operative Treatment: Sling	Author Reported - Chi-Square Test; Logistic Regression Model; Quantile Regression;	N/A	ORIF
Ahrens, 2017	High	Constant Murley	9 mos.	ORIF	Non-Operative Treatment: Sling	Author Reported - Chi-Square Test; Logistic Regression Model; Quantile Regression;	N/A	NS

Reference Title	Quality	Outcome Details	Duration	Treatment 1 (Details)	Treatment 2 (Details)	Effect Measure	Result (95% CI)	Favored Treatment
Ahrens, 2017	High	DASH	6 wks.	ORIF	Non-Operative Treatment: Sling	Author Reported - Chi-Square Test; Logistic Regression Model; Quantile Regression;	N/A	ORIF
Ahrens, 2017	High	DASH	3 mos.	ORIF	Non-Operative Treatment: Sling	Author Reported - Chi-Square Test; Logistic Regression Model; Quantile Regression;	N/A	ORIF
Ahrens, 2017	High	DASH	9 mos.	ORIF	Non-Operative Treatment: Sling	Author Reported - Chi-Square Test; Logistic Regression Model; Quantile Regression;	N/A	NS
Nicholson, 2021 (a)	Moderate	QuickDASH	6 wks.	ORIF	Non-Operative Treatment	Mean Difference	-2.6 (-8.55, 3.35)	NS
Nicholson, 2021 (a)	Moderate	QuickDASH	12 wks.	ORIF	Non-Operative Treatment	Mean Difference	-1.4 (-5.82, 3.02)	NS
Nicholson, 2021 (a)	Moderate	QuickDASH	24 wks.	ORIF	Non-Operative Treatment	Mean Difference	-0.6 (-3.98, 2.78)	NS
COTS, 2007	Moderate	Constant Murley	6 wks.	Plate Fixation	Non-Operative Treatment	Author Reported - Kolmogorov-Smirnov Test; ANOVA, Tukey's Test; Student's T-Test; Chi-Square Test; Fisher's Exact Test; Pearson Correlation Coefficient;	N/A	Plate Fixation
COTS, 2007	Moderate	Constant Murley	12 wks.	Plate Fixation	Non-Operative Treatment	Author Reported - Kolmogorov-Smirnov Test; ANOVA, Tukey's Test; Student's T-Test; Chi-Square Test; Fisher's Exact Test; Pearson Correlation Coefficient;	N/A	Plate Fixation
COTS, 2007	Moderate	Constant Murley	24 wks.	Plate Fixation	Non-Operative Treatment	Author Reported - Kolmogorov-Smirnov Test; ANOVA, Tukey's Test; Student's T-Test; Chi-Square Test; Fisher's Exact Test; Pearson Correlation Coefficient;	N/A	Plate Fixation

Reference Title	Quality	Outcome Details	Duration	Treatment 1 (Details)	Treatment 2 (Details)	Effect Measure	Result (95% CI)	Favored Treatment
COTS, 2007	Moderate	Constant Murley	52 wks.	Plate Fixation	Non-Operative Treatment	Author Reported - Kolmogorov-Smirnov Test; ANOVA, Tukey's Test; Student's T-Test; Chi-Square Test; Fisher's Exact Test; Pearson Correlation Coefficient;	N/A	Plate Fixation
COTS, 2007	Moderate	DASH	6 wks.	Plate Fixation	Non-Operative Treatment	Author Reported - Kolmogorov-Smirnov Test; ANOVA, Tukey's Test; Student's T-Test; Chi-Square Test; Fisher's Exact Test; Pearson Correlation Coefficient;	N/A	Plate Fixation
COTS, 2007	Moderate	DASH	12 wks.	Plate Fixation	Non-Operative Treatment	Author Reported - Kolmogorov-Smirnov Test; ANOVA, Tukey's Test; Student's T-Test; Chi-Square Test; Fisher's Exact Test; Pearson Correlation Coefficient;	N/A	Plate Fixation
COTS, 2007	Moderate	DASH	24 wks.	Plate Fixation	Non-Operative Treatment	Author Reported - Kolmogorov-Smirnov Test; ANOVA, Tukey's Test; Student's T-Test; Chi-Square Test; Fisher's Exact Test; Pearson Correlation Coefficient;	N/A	Plate Fixation
COTS, 2007	Moderate	DASH	52 wks.	Plate Fixation	Non-Operative Treatment	Author Reported - Kolmogorov-Smirnov Test; ANOVA, Tukey's Test; Student's T-Test; Chi-Square Test; Fisher's Exact Test; Pearson Correlation Coefficient;	N/A	Plate Fixation
Qvist, 2018	High	Constant Murley	6 wks.	Pre-Contoured Plate: Locking Screws	Sling: Collar 'n' Cuff, Molnlycke Health Care, Sweden for 3 weeks	Author Reported - Mann-Whitney U Test;	N/A	Precontoured Plate
Qvist, 2018	High	Constant Murley	3 mos.	Pre-Contoured Plate: Locking Screws	Sling: Collar 'n' Cuff, Molnlycke Health Care, Sweden for 3 weeks	Author Reported - Mann-Whitney U Test;	N/A	Precontoured Plate
Qvist, 2018	High	Constant Murley	6 mos.	Pre-Contoured Plate: Locking Screws	Sling: Collar 'n' Cuff, Molnlycke Health Care, Sweden for 3 weeks	Author Reported - Mann-Whitney U Test;	N/A	NS

Reference Title	Quality	Outcome Details	Duration	Treatment 1 (Details)	Treatment 2 (Details)	Effect Measure	Result (95% CI)	Favored Treatment
Qvist, 2018	High	Constant Murley	1 yrs.	Pre-Contoured Plate: Locking Screws	Sling: Collar 'n' Cuff, Molnlycke Health Care, Sweden for 3 weeks	Author Reported - Mann-Whitney U Test;	N/A	NS
Qvist, 2018	High	DASH	6 wks.	Pre-Contoured Plate: Locking Screws	Sling: Collar 'n' Cuff, Molnlycke Health Care, Sweden for 3 weeks	Author Reported - Mann-Whitney U Test;	N/A	Precontoured Plate
Qvist, 2018	High	DASH	3 mos.	Pre-Contoured Plate: Locking Screws	Sling: Collar 'n' Cuff, Molnlycke Health Care, Sweden for 3 weeks	Author Reported - Mann-Whitney U Test;	N/A	Precontoured Plate
Qvist, 2018	High	DASH	6 mos.	Pre-Contoured Plate: Locking Screws	Sling: Collar 'n' Cuff, Molnlycke Health Care, Sweden for 3 weeks	Author Reported - Mann-Whitney U Test;	N/A	NS
Qvist, 2018	High	DASH	1 yrs.	Pre-Contoured Plate: Locking Screws	Sling: Collar 'n' Cuff, Molnlycke Health Care, Sweden for 3 weeks	Author Reported - Mann-Whitney U Test;	N/A	NS
Riiser, 2021	Low	Oxford Shoulder Score (mean follow-up 69 (49-97) mos.)	69 mos.	Intramedullary Nailing or Anatomic Plate and Screws: 26 pts Nail, 22 pts Plate	Non-Operative Treatment	Author Reported - Mann-Whitney U Test;	N/A	Non-Operative Treatment
Riiser, 2021	Low	QuickDASH (mean follow-up 69 (49-97) mos.)	69 mos.	Intramedullary Nailing or Anatomic Plate and Screws: 26 pts Nail, 22 pts Plate	Non-Operative Treatment	Author Reported - Mann-Whitney U Test;	N/A	NS
Napora, 2018	Low	ASES (Minimum F/U 12 mos.)	12 mos.	Operative Treatment: ORIF with Plating	Non-Operative Treatment: Optional Sling	Author Reported - T-Test; Levene's Test for Equality of Variances; Pearson's Chi-Square Test; Fisher's Exact Test; Binary Logistic Regression Analysis;	N/A	NS
Napora, 2018	Low	ASES <60	12 wks.	Simple Fracture: Operative Treatment	Wedge Fracture: Non-Operative Treatment	RR	0.97(0.43,2.15)	NS
Napora, 2018	Low	ASES <60	12 wks.	Simple Fracture: Operative Treatment	Complex Fracture: Non-Operative Treatment	RR	1.69(0.26,10.85)	NS
Napora, 2018	Low	ASES <60	12 wks.	Simple Fracture: Operative Treatment	Simple Fracture: Non-Operative Treatment	RR	1.00(0.49,2.03)	NS

Reference Title	Quality	Outcome Details	Duration	Treatment 1 (Details)	Treatment 2 (Details)	Effect Measure	Result (95% CI)	Favored Treatment
Napora, 2018	Low	ASES <60	12 wks.	Wedge Fracture: Operative Treatment	Simple Fracture: Non-Operative Treatment	RR	1.03(0.46,2.30)	NS
Napora, 2018	Low	ASES <60	12 wks.	Wedge Fracture: Operative Treatment	Wedge Fracture: Non-Operative Treatment	RR	1.00(0.41,2.42)	NS
Napora, 2018	Low	ASES <60	12 wks.	Wedge Fracture: Operative Treatment	Complex Fracture: Non-Operative Treatment	RR	1.75(0.26,11.64)	NS
Napora, 2018	Low	ASES <60	12 wks.	Complex Fracture: Operative Treatment	Complex Fracture: Non-Operative Treatment	RR	3.00(0.42,21.30)	NS
Napora, 2018	Low	ASES <60	12 wks.	Complex Fracture: Operative Treatment	Wedge Fracture: Non-Operative Treatment	RR	1.71(0.62,4.73)	NS
Napora, 2018	Low	ASES <60	12 wks.	Complex Fracture: Operative Treatment	Simple Fracture: Non-Operative Treatment	RR	1.77(0.69,4.56)	NS
Napora, 2018	Low	ASES <60, Complex Fracture	12 mos.	Operative Treatment: ORIF with Plating	Non-Operative Treatment: Optional Sling	RR	0.83(0.54,1.13)	Non-Operative Treatment
Napora, 2018	Low	ASES <60, Simple Fracture	12 mos.	Operative Treatment: ORIF with Plating	Non-Operative Treatment: Optional Sling	RR	1.00(0.49,2.03)	NS
Napora, 2018	Low	ASES <60, Total	12 mos.	Operative Treatment: ORIF with Plating	Non-Operative Treatment: Optional Sling	RR	1.11(0.65,1.87)	NS
Napora, 2018	Low	ASES <60, Wedge Fracture	12 mos.	Operative Treatment: ORIF with Plating	Non-Operative Treatment: Optional Sling	RR	1.00(0.41,2.42)	NS
Ban, 2021	High	Constant Murley	6 mos.	Fixation w/ Anatomical Locking Plate	Simple Sling: Two Weeks or Less	Author Reported - Mann-Whitney U Test;	N/A	NS
Ban, 2021	High	Constant Murley	12 mos.	Fixation w/ Anatomical Locking Plate	Simple Sling: Two Weeks or Less	Author Reported - Mann-Whitney U Test;	N/A	NS
Ban, 2021	High	DASH	6 wks.	Fixation w/ Anatomical Locking Plate	Simple Sling: Two Weeks or Less	Author Reported - Mann-Whitney U Test;	N/A	Fixation w/ Anatomical Locking Plate
Ban, 2021	High	DASH	6 mos.	Fixation w/ Anatomical Locking Plate	Simple Sling: Two Weeks or Less	Author Reported - Mann-Whitney U Test;	N/A	NS
Ban, 2021	High	DASH	12 mos.	Fixation w/ Anatomical Locking Plate	Simple Sling: Two Weeks or Less	Author Reported - Mann-Whitney U Test;	N/A	NS

Reference Title	Quality	Outcome Details	Duration	Treatment 1 (Details)	Treatment 2 (Details)	Effect Measure	Result (95% CI)	Favored Treatment
Napora, 2016	Low	ASES	56 mos.	Operative Treatment	Non-Operative Treatment	Mean Difference	3 (-2.70, 8.70)	NS
Ma, 2020	Low	Constant Murley	32 mos.	Plate Fixation	Non-Operative Treatment: Sling	Mean Difference	6.9 (3.63, 10.17)	Plate Fixation
Ma, 2020	Low	DASH	32 mos.	Plate Fixation	Non-Operative Treatment: Sling	Mean Difference	-2.3 (-4.10, -0.50)	Plate Fixation
Swarup, 2021	Low	QuickDASH	3.8 yrs.	Plate Fixation	Non-Operative Treatment: Sling	Author Reported - Mann-Whitney U Test;	N/A	NS
KC, 2021	Low	Constant Murley	6 mos.	ORIF: Precontoured Locking Compression Plate	Non-Operative Treatment: Figure of Eight Brace and Arm Sling	Mean Difference	3 (1.75, 4.25)	ORIF
KC, 2021	Low	Constant Murley	12 mos.	ORIF: Precontoured Locking Compression Plate	Non-Operative Treatment: Figure of Eight Brace and Arm Sling	Mean Difference	1.9 (1.23, 2.57)	ORIF
Chinkam-Akrapat, 2018	Low	Constant Murley (Mean F/U 5.26/3.34, respectively)	5 yrs.	Nail Fixation	Clavicle Support	Mean Difference	1.4 (-28.37, 31.17)	NS
Chinkam-Akrapat, 2018	Low	DASH (Mean F/U 5.26/3.34, respectively)	5 yrs.	Nail Fixation	Clavicle Support	Mean Difference	-0.4 (-3.32, 2.52)	NS
Chen, 2011	Moderate	Constant Murley (10-20 mos. follow-up)	15 mos.	ESIN	Simple Sling: Start pain-dependent mobilization after three weeks and discard sling when pain subsides.	Mean Difference	3 (0.54, 5.46)	ESIN
Chen, 2011	Moderate	DASH (10-20 mos. follow-up)	15 mos.	ESIN	Simple Sling: Start pain-dependent mobilization after three weeks and discard sling when pain subsides.	Mean Difference	-5.17 (-9.86, -0.48)	ESIN
Woltz, 2017	Moderate	Constant Murley	6 wks.	Plate Fixation	Non-Operative Treatment	Mean Difference	3.7 (-0.33, 7.73)	NS
Woltz, 2017	Moderate	Constant Murley	3 mos.	Plate Fixation	Non-Operative Treatment	Mean Difference	0 (-2.57, 2.57)	NS
Woltz, 2017	Moderate	Constant Murley	12 mos.	Plate Fixation	Non-Operative Treatment	Mean Difference	-1.2 (-3.60, 1.20)	NS

Reference Title	Quality	Outcome Details	Duration	Treatment 1 (Details)	Treatment 2 (Details)	Effect Measure	Result (95% CI)	Favored Treatment
Woltz, 2017	Moderate	DASH	6 wks.	Plate Fixation	Non-Operative Treatment	Mean Difference	-3.8 (-8.19, 0.59)	NS
Woltz, 2017	Moderate	DASH	3 mos.	Plate Fixation	Non-Operative Treatment	Mean Difference	0.4 (-2.56, 3.36)	NS
Woltz, 2017	Moderate	DASH	12 mos.	Plate Fixation	Non-Operative Treatment	Mean Difference	1.3 (-1.16, 3.76)	NS
Bhardwaj, 2018	Moderate	Constant Murley	24 mos.	ORIF: LCP Superior Clavicle Plate (DePuy Synthes, Switzerland)	Non-Operative Treatment: Arm Pouch	Mean Difference	13.18 (11.01, 15.35)	ORIF
Schemitsch, 2011	Low	Constant Murley	6 wks.	Plate Fixation	Sling	Author Reported - Repeated Measures ANOVA;	N/A	NS
Schemitsch, 2011	Low	Constant Murley	12 wks.	Plate Fixation	Sling	Author Reported - Repeated Measures ANOVA;	N/A	NS
Schemitsch, 2011	Low	Constant Murley	24 wks.	Plate Fixation	Sling	Author Reported - Repeated Measures ANOVA;	N/A	NS
Schemitsch, 2011	Low	Constant Murley	52 wks.	Plate Fixation	Sling	Author Reported - Repeated Measures ANOVA;	N/A	NS
Schemitsch, 2011	Low	Constant Murley	104 wks.	Plate Fixation	Sling	Author Reported - Repeated Measures ANOVA;	N/A	NS
Schemitsch, 2011	Low	DASH	6 wks.	Plate Fixation	Sling	Author Reported - Repeated Measures ANOVA;	N/A	Plate Fixation
Schemitsch, 2011	Low	DASH	12 wks.	Plate Fixation	Sling	Author Reported - Repeated Measures ANOVA;	N/A	NS
Schemitsch, 2011	Low	DASH	24 wks.	Plate Fixation	Sling	Author Reported - Repeated Measures ANOVA;	N/A	NS
Schemitsch, 2011	Low	DASH	52 wks.	Plate Fixation	Sling	Author Reported - Repeated Measures ANOVA;	N/A	Plate Fixation
Schemitsch, 2011	Low	DASH	104 wks.	Plate Fixation	Sling	Author Reported - Repeated Measures ANOVA;	N/A	Plate Fixation
Eden, 2015	Low	Constant Murley	6 wks.	Plate Osteosynthesis: Plate Fixation	Non-Operative Treatment: Rucksack Bandage	Author Reported - Two-Tailed Mann Whitney U-Test;	N/A	NS
Eden, 2015	Low	Constant Murley	12 wks.	Plate Osteosynthesis: Plate Fixation	Non-Operative Treatment: Rucksack Bandage	Author Reported - Two-Tailed Mann Whitney U-Test;	N/A	NS

Reference Title	Quality	Outcome Details	Duration	Treatment 1 (Details)	Treatment 2 (Details)	Effect Measure	Result (95% CI)	Favored Treatment
Eden, 2015	Low	Constant Murley	26 wks.	Plate Osteosynthesis: Plate Fixation	Non-Operative Treatment: Rucksack Bandage	Author Reported - Two-Tailed Mann Whitney U-Test;	N/A	NS
Eden, 2015	Low	Constant Murley	52 wks.	Plate Osteosynthesis: Plate Fixation	Non-Operative Treatment: Rucksack Bandage	Author Reported - Two-Tailed Mann Whitney U-Test;	N/A	Plate Fixation
Eden, 2015	Low	DASH	6 wks.	Plate Osteosynthesis: Plate Fixation	Non-Operative Treatment: Rucksack Bandage	Author Reported - Two-Tailed Mann Whitney U-Test;	N/A	NS
Eden, 2015	Low	DASH	12 wks.	Plate Osteosynthesis: Plate Fixation	Non-Operative Treatment: Rucksack Bandage	Author Reported - Two-Tailed Mann Whitney U-Test;	N/A	NS
Eden, 2015	Low	DASH	26 wks.	Plate Osteosynthesis: Plate Fixation	Non-Operative Treatment: Rucksack Bandage	Author Reported - Two-Tailed Mann Whitney U-Test;	N/A	NS
Eden, 2015	Low	DASH	52 wks.	Plate Osteosynthesis: Plate Fixation	Non-Operative Treatment: Rucksack Bandage	Author Reported - Two-Tailed Mann Whitney U-Test;	N/A	NS
Melean, 2015	Moderate	Constant Murley	12 wks.	ORIF	Non-Operative Treatment: Sling	Mean Difference	2 (-25.02, 29.02)	NS
Melean, 2015	Moderate	Constant Murley	6 mos.	ORIF	Non-Operative Treatment: Sling	Mean Difference	4 (-41.88, 49.88)	NS
Melean, 2015	Moderate	Constant Murley	12 mos.	ORIF	Non-Operative Treatment: Sling	Mean Difference	6 (-2.25, 14.25)	NS

Table 23: PICO 8- Midshaft Fx - Operative vs. Non-Operative Treatment - Displacement

Reference Title	Quality	Outcome Details	Duration	Treatment 1 (Details)	Treatment 2 (Details)	Effect Measure	Result (95% CI)	Favored Treatment
Smekal, 2011	Low	Shortening (%), contralateral side after union (F/U 22-27 months, mean 24 months)	2 yrs.	Intramedullary Nailing	Non-Operative Treatment: Shoulder Sling	Mean Difference	-1.6 (-2.95, -0.25)	Intramedullary Nailing
Smekal, 2011	Low	Shortening (%), contralateral side after union	24 wks.	Intramedullary Nailing: Simple Fracture	Non-Operative Treatment: Simple Fracture, Shoulder Sling	Mean Difference	-3.1 (-4.20, -2.00)	Intramedullary Nailing
Smekal, 2011	Low	Shortening (%), contralateral side after union	24 wks.	Intramedullary Nailing: Wedge Fracture	Non-Operative Treatment: Wedge Fracture, Shoulder Sling	Mean Difference	-2.7 (-4.15, -1.25)	Intramedullary Nailing
Smekal, 2011	Low	Shortening (%), contralateral side after union	24 wks.	Intramedullary Nailing: Comminuted Fracture	Non-Operative Treatment: Comminuted Fracture, Shoulder Sling	Mean Difference	-0.3 (-1.73, 1.13)	NS
Tamaoki, 2017	High	Shortening (%)	6 mos.	Anterior Plate Osteosynthesis	Non-Operative Treatment: Figure-of-Eight Harness	RR	0.27(0.14,0.54)	Anterior Plate Osteosynthesis
Tamaoki, 2017	High	Shortening (cm)	6 mos.	Anterior Plate Osteosynthesis	Non-Operative Treatment: Figure-of-Eight Harness	Mean Difference	-0.45 (-0.68, -0.22)	Anterior Plate Osteosynthesis
Smekal, 2009	Moderate	Initial Shortening (%)	2 yrs.	ESIN	Non-Operative Treatment: Shoulder Sling	Mean Difference	-1.7 (-3.62, 0.22)	NS
Smekal, 2009	Moderate	Initial Shortening (%)	2 yrs.	ESIN: Simple Fracture	Non-Operative Treatment: Simple Fracture, Shoulder Sling	Mean Difference	-0.6 (-1.70, 0.50)	NS
Smekal, 2009	Moderate	Initial Shortening (%)	2 yrs.	ESIN: Wedge Fracture	Non-Operative Treatment: Wedge Fracture, Shoulder Sling	Mean Difference	-6.4 (-8.18, -4.62)	ESIN
Smekal, 2009	Moderate	Initial Shortening (%)	2 yrs.	ESIN: Comminuted Fracture	Non-Operative Treatment: Comminuted Fracture, Shoulder Sling	Mean Difference	-0.9 (-2.91, 1.11)	NS
Chu, 2018	Low	Shortening (%)	6 mos.	Operative Treatment: ORIF	Non-Operative Treatment: Figure-of-Eight Bandage	RR	1.00(0.15,6.87)	NS

Table 24: PICO 8- Midshaft Fx - Operative vs. Non-Operative Treatment - Function

Reference Title	Quality	Outcome Details	Duration	Treatment 1 (Details)	Treatment 2 (Details)	Effect Measure	Result (95% CI)	Favored Treatment
Lake, 2020	Low	LIMDU Period, 1	28 mos.	Operative Treatment	Non-Operative Treatment	Author Reported - T-Test;	N/A	NS
Lake, 2020	Low	LIMDU Period, >1	28 mos.	Operative Treatment	Non-Operative Treatment	Author Reported - T-Test;	N/A	NS
Tamaoki, 2017	High	Return to Work/Activities (days)	Postop .	Anterior Plate Osteosynthesis	Non-Operative Treatment: Figure-of-Eight Harness	Mean Difference	-14.9 (-49.38, 19.58)	NS
Tamaoki, 2017	High	Restriction of ROM	6 mos.	Anterior Plate Osteosynthesis	Non-Operative Treatment: Figure-of-Eight Harness	RD	0.00(0.00,0.00)	NS
Robinson, 2013	Moderate	SF-12 Physical	12 mos.	Open Reduction and Plate Fixation	Non-Operative Treatment: Collar and Cuff	Mean Difference	1.4 (-0.23, 3.03)	NS
Naveen, 2017	Low	Restriction of ROM	6 mos.	Plate Fixation	Non-Operative Treatment: Figure-of-Eight Bandage	RD	-0.03(-0.10,0.03)	NS
Ahrens, 2017	High	DASH Work and Sport and Music (no scale provided)	6 wks.	ORIF	Non-Operative Treatment: Sling	Author Reported - Chi-Square Test; Logistic Regression Model; Quantile Regression;	N/A	NS
Ahrens, 2017	High	DASH Work and Sport and Music (no scale provided)	3 mos.	ORIF	Non-Operative Treatment: Sling	Author Reported - Chi-Square Test; Logistic Regression Model; Quantile Regression;	N/A	NS
Ahrens, 2017	High	DASH Work and Sport and Music (no scale provided)	9 mos.	ORIF	Non-Operative Treatment: Sling	Author Reported - Chi-Square Test; Logistic Regression Model; Quantile Regression;	N/A	NS
Nicholson, 2021 (a)	Moderate	Return to Work (days)	24 wks.	ORIF	Non-Operative Treatment	Mean Difference	-1.2 (-11.32, 8.92)	NS
Tutuhatunewa, 2017	Low	Current Subjective Function (QuickDASH) (median follow-up)	2.1 yrs.	ORIF: Locking Plate	Non-Operative Treatment: Sling or Collar-and Cuff	Author Reported - Mann-Whitney U Test;	N/A	NS

Reference Title	Quality	Outcome Details	Duration	Treatment 1 (Details)	Treatment 2 (Details)	Effect Measure	Result (95% CI)	Favored Treatment
Tutuhatonewa, 2017	Low	Return to Work (days) (median follow-up)	2.1 yrs.	ORIF: Locking Plate	Non-Operative Treatment: Sling or Collar and Cuff	Author Reported - Mann-Whitney U Test;	N/A	Sling or Collar and-Cuff
COTS, 2007	Moderate	Restriction of ROM	1 yrs.	Plate Fixation	Non-Operative Treatment	RD	0.00(0.00,0.00)	NS
Swarup, 2021	Low	HSS Pedi-FABS	3.8 yrs.	Plate Fixation	Non-Operative Treatment: Sling	Author Reported - Mann-Whitney U Test;	N/A	NS
Swarup, 2021	Low	UCLA Activity	3.8 yrs.	Plate Fixation	Non-Operative Treatment: Sling	Author Reported - Mann-Whitney U Test;	N/A	NS
Swarup, 2021	Low	PROMIS PF UE	3.8 yrs.	Plate Fixation	Non-Operative Treatment: Sling	Author Reported - Mann-Whitney U Test;	N/A	NS
Chu, 2018	Low	Subjective Shoulder Value	6 mos.	Operative Treatment: ORIF	Non-Operative Treatment: Figure-of-Eight Bandage	Mean Difference	13.9 (10.17, 17.63)	Operative Treatment
KC, 2021	Low	Terminal Restriction of ROM	12 mos.	ORIF: Precontoured Locking Compression Plate	Non-Operative Treatment: Figure of Eight Brace and Arm Sling	RR	0.40(0.08,1.94)	NS
Chinkam-Akrapat, 2018	Low	Return to Work (wks.) (Mean F/U 5.26/3.34, respectively)	Postop .	Nail Fixation	Clavicle Support	Mean Difference	-0.5 (-1.09, 0.09)	NS
Woltz, 2017	Moderate	SF-36 Physical Component Summary	6 wks.	Plate Fixation	Non-Operative Treatment	Mean Difference	2.6 (0.16, 5.04)	Plate Fixation
Woltz, 2017	Moderate	SF-36 Physical Component Summary	3 mos.	Plate Fixation	Non-Operative Treatment	Mean Difference	0.1 (-2.23, 2.43)	NS
Woltz, 2017	Moderate	SF-36 Physical Component Summary	12 mos.	Plate Fixation	Non-Operative Treatment	Mean Difference	-0.9 (-2.84, 1.04)	NS
Eden, 2015	Low	VAS Function	Postop .	Plate Osteosynthesis: Plate Fixation	Non-Operative Treatment: Rucksack Bandage	Author Reported - Two-Tailed Mann Whitney U-Test;	N/A	NS
Eden, 2015	Low	VAS Function	2 wks.	Plate Osteosynthesis: Plate Fixation	Non-Operative Treatment: Rucksack Bandage	Author Reported - Two-Tailed Mann Whitney U-Test;	N/A	NS

Reference Title	Quality	Outcome Details	Duration	Treatment 1 (Details)	Treatment 2 (Details)	Effect Measure	Result (95% CI)	Favored Treatment
Eden, 2015	Low	VAS Function	3 wks.	Plate Osteosynthesis: Plate Fixation	Non-Operative Treatment: Rucksack Bandage	Author Reported - Two-Tailed Mann Whitney U-Test;	N/A	NS
Eden, 2015	Low	VAS Function	4 wks.	Plate Osteosynthesis: Plate Fixation	Non-Operative Treatment: Rucksack Bandage	Author Reported - Two-Tailed Mann Whitney U-Test;	N/A	NS
Eden, 2015	Low	VAS Function	5 wks.	Plate Osteosynthesis: Plate Fixation	Non-Operative Treatment: Rucksack Bandage	Author Reported - Two-Tailed Mann Whitney U-Test;	N/A	NS
Eden, 2015	Low	VAS Function	6 wks.	Plate Osteosynthesis: Plate Fixation	Non-Operative Treatment: Rucksack Bandage	Author Reported - Two-Tailed Mann Whitney U-Test;	N/A	NS
Eden, 2015	Low	VAS Function	12 wks.	Plate Osteosynthesis: Plate Fixation	Non-Operative Treatment: Rucksack Bandage	Author Reported - Two-Tailed Mann Whitney U-Test;	N/A	NS
Eden, 2015	Low	VAS Function	26 wks.	Plate Osteosynthesis: Plate Fixation	Non-Operative Treatment: Rucksack Bandage	Author Reported - Two-Tailed Mann Whitney U-Test;	N/A	NS
Eden, 2015	Low	VAS Function	52 wks.	Plate Osteosynthesis: Plate Fixation	Non-Operative Treatment: Rucksack Bandage	Author Reported - Two-Tailed Mann Whitney U-Test;	N/A	Plate Fixation
Eden, 2015	Low	Return to Work (wks.)	52 wks.	Plate Osteosynthesis: Plate Fixation	Non-Operative Treatment: Rucksack Bandage	Author Reported - Two-Tailed Mann Whitney U-Test;	N/A	Plate Fixation
Melean, 2015	Moderate	Return to Work (mos.)	12 mos.	ORIF	Non-Operative Treatment: Sling	Mean Difference	-0.8 (-1.23, - 0.37)	ORIF

Table 25: PICO 8- Midshaft Fx - Operative vs. Non-Operative Treatment - Pain

Reference Title	Quality	Outcome Details	Duration	Treatment 1 (Details)	Treatment 2 (Details)	Effect Measure	Result (95% CI)	Favored Treatment
Woltz, 2018	Moderate	Pain	79 mos.	Operative Treatment: Open Reduction and Plate Fixation	Non-Operative Treatment: Sling	RR	1.26(0.80,1.99)	NS
Tamaoki, 2017	High	VAS Pain	6 wks.	Anterior Plate Osteosynthesis	Non-Operative Treatment: Figure-of-Eight Harness	Mean Difference	-0.46 (-1.37, 0.45)	NS
Tamaoki, 2017	High	VAS Pain	3 mos.	Anterior Plate Osteosynthesis	Non-Operative Treatment: Figure-of-Eight Harness	Mean Difference	-0.18 (-1.01, 0.65)	NS
Tamaoki, 2017	High	VAS Pain	6 mos.	Anterior Plate Osteosynthesis	Non-Operative Treatment: Figure-of-Eight Harness	Mean Difference	-0.14 (-0.73, 0.45)	NS
Tamaoki, 2017	High	VAS Pain	1 yrs.	Anterior Plate Osteosynthesis	Non-Operative Treatment: Figure-of-Eight Harness	Mean Difference	0.08 (-0.36, 0.52)	NS
Tutuhatunewa, 2017	Low	Current Average Pain (VAS) (median follow-up)	2.1 yrs.	ORIF: Locking Plate	Non-Operative Treatment: Sling or Collar-and Cuff	Author Reported - Mann-Whitney U Test;	N/A	NS
COTS, 2007	Moderate	Sensitive and/or Painful Fracture Site	1 yrs.	Plate Fixation	Non-Operative Treatment	RR	0.71(0.31,1.61)	NS
Riiser, 2021	Low	VAS Pain (mean follow-up 69 (49-97) mos.)	69 mos.	Intramedullary Nailing or Anatomic Plate and Screws: 26 pts Nail, 22 pts Plate	Non-Operative Treatment	Author Reported - Mann-Whitney U Test;	N/A	Non-Operative Treatment
Swarup, 2021	Low	VAS Pain Best	3.8 yrs.	Plate Fixation	Non-Operative Treatment: Sling	Author Reported - Mann-Whitney U Test;	N/A	NS
Swarup, 2021	Low	VAS Pain Worst	3.8 yrs.	Plate Fixation	Non-Operative Treatment: Sling	Author Reported - Mann-Whitney U Test;	N/A	NS
Swarup, 2021	Low	PROMIS PI	3.8 yrs.	Plate Fixation	Non-Operative Treatment: Sling	Author Reported - Mann-Whitney U Test;	N/A	NS

Reference Title	Quality	Outcome Details	Duration	Treatment 1 (Details)	Treatment 2 (Details)	Effect Measure	Result (95% CI)	Favored Treatment
Chu, 2018	Low	VAS Pain	6 wks.	Operative Treatment: ORIF	Non-Operative Treatment: Figure-of-Eight Bandage	Mean Difference	-27.5 (-32.94, -22.06)	Operative Treatment
Chu, 2018	Low	VAS Pain	3 mos.	Operative Treatment: ORIF	Non-Operative Treatment: Figure-of-Eight Bandage	Mean Difference	-20.7 (-25.80, -15.60)	Operative Treatment
Chu, 2018	Low	VAS Pain	6 mos.	Operative Treatment: ORIF	Non-Operative Treatment: Figure-of-Eight Bandage	Mean Difference	-11.6 (-17.24, -5.96)	Operative Treatment
Woltz, 2017	Moderate	VAS Pain	1 yrs.	Plate Fixation	Non-Operative Treatment	Author Reported - Mann-Whitney U Test;	N/A	NS
Eden, 2015	Low	VAS Pain	Postop .	Plate Osteosynthesis: Plate Fixation	Non-Operative Treatment: Rucksack Bandage	Author Reported - Two-Tailed Mann Whitney U-Test;	N/A	NS
Eden, 2015	Low	VAS Pain	2 wks.	Plate Osteosynthesis: Plate Fixation	Non-Operative Treatment: Rucksack Bandage	Author Reported - Two-Tailed Mann Whitney U-Test;	N/A	Plate Fixation
Eden, 2015	Low	VAS Pain	3 wks.	Plate Osteosynthesis: Plate Fixation	Non-Operative Treatment: Rucksack Bandage	Author Reported - Two-Tailed Mann Whitney U-Test;	N/A	NS
Eden, 2015	Low	VAS Pain	4 wks.	Plate Osteosynthesis: Plate Fixation	Non-Operative Treatment: Rucksack Bandage	Author Reported - Two-Tailed Mann Whitney U-Test;	N/A	NS
Eden, 2015	Low	VAS Pain	5 wks.	Plate Osteosynthesis: Plate Fixation	Non-Operative Treatment: Rucksack Bandage	Author Reported - Two-Tailed Mann Whitney U-Test;	N/A	Plate Fixation
Eden, 2015	Low	VAS Pain	6 wks.	Plate Osteosynthesis: Plate Fixation	Non-Operative Treatment: Rucksack Bandage	Author Reported - Two-Tailed Mann Whitney U-Test;	N/A	NS
Eden, 2015	Low	VAS Pain	12 wks.	Plate Osteosynthesis: Plate Fixation	Non-Operative Treatment: Rucksack Bandage	Author Reported - Two-Tailed Mann Whitney U-Test;	N/A	NS

Reference Title	Quality	Outcome Details	Duration	Treatment 1 (Details)	Treatment 2 (Details)	Effect Measure	Result (95% CI)	Favored Treatment
Eden, 2015	Low	VAS Pain	26 wks.	Plate Osteosynthesis: Plate Fixation	Non-Operative Treatment: Rucksack Bandage	Author Reported - Two-Tailed Mann Whitney U-Test;	N/A	NS
Eden, 2015	Low	VAS Pain	52 wks.	Plate Osteosynthesis: Plate Fixation	Non-Operative Treatment: Rucksack Bandage	Author Reported - Two-Tailed Mann Whitney U-Test;	N/A	NS

Table 26: PICO 8- Midshaft Fx - Operative vs. Non-Operative Treatment - QOL

Reference Title	Quality	Outcome Details	Duration	Treatment 1 (Details)	Treatment 2 (Details)	Effect Measure	Result (95% CI)	Favored Treatment
Woltz, 2018	Moderate	Shoulder Function Satisfaction	79 mos.	Operative Treatment: Open Reduction and Plate Fixation	Non-Operative Treatment: Sling	Mean Difference	0.5 (-0.30, 1.30)	NS
Woltz, 2018	Moderate	Satisfaction	79 mos.	Operative Treatment: Open Reduction and Plate Fixation	Non-Operative Treatment: Sling	Mean Difference	0.8 (-0.20, 1.80)	NS
Woltz, 2018	Moderate	Cosmetic Satisfaction	79 mos.	Operative Treatment: Open Reduction and Plate Fixation	Non-Operative Treatment: Sling	Mean Difference	1.4 (0.60, 2.20)	Operative Treatment
Woltz, 2018	Moderate	Limitations in Daily Life	79 mos.	Operative Treatment: Open Reduction and Plate Fixation	Non-Operative Treatment: Sling	RR	0.29(0.09,0.98)	Operative Treatment
Woltz, 2018	Moderate	Impact of Symptoms	79 mos.	Operative Treatment: Open Reduction and Plate Fixation	Non-Operative Treatment: Sling	Author Reported - Independent T-Test; Chi-Square Test;	N/A	NS
Woltz, 2018	Moderate	Perception of Incomplete Recovery	79 mos.	Operative Treatment: Open Reduction and Plate Fixation	Non-Operative Treatment: Sling	RR	0.98(0.64,1.47)	NS
Tamaoki, 2017	High	Dissatisfaction with Cosmetic Results	6 mos.	Anterior Plate Osteosynthesis	Non-Operative Treatment: Figure-of-Eight Harness	RR	1.45(0.61,3.43)	NS
Robinson, 2013	Moderate	SF-12 Mental	12 mos.	Open Reduction and Plate Fixation	Non-Operative Treatment: Collar and Cuff	Mean Difference	1.7 (-0.44, 3.84)	NS
Robinson, 2013	Moderate	Dissatisfaction	12 mos.	Open Reduction and Plate Fixation	Non-Operative Treatment: Collar and Cuff	RR	0.59(0.46,0.75)	Open Reduction and Plate Fixation
Naveen, 2017	Low	Satisfaction	6 mos.	Plate Fixation	Non-Operative Treatment: Figure-of-Eight Bandage	RR	1.14(0.87,1.49)	NS
Naveen, 2017	Low	Partially Satisfied	6 mos.	Plate Fixation	Non-Operative Treatment: Figure-of-Eight Bandage	RR	0.83(0.28,2.44)	NS

Reference Title	Quality	Outcome Details	Duration	Treatment 1 (Details)	Treatment 2 (Details)	Effect Measure	Result (95% CI)	Favored Treatment
Naveen, 2017	Low	Unsatisfied	6 mos.	Plate Fixation	Non-Operative Treatment: Figure-of-Eight Bandage	RD	-0.07(-0.16,0.02)	NS
Ahrens, 2017	High	Patient Satisfaction - Poor	6 wks.	ORIF	Non-Operative Treatment: Sling	RD	-0.03(-0.06,0.00)	NS
Ahrens, 2017	High	Patient Satisfaction - Poor	3 mos.	ORIF	Non-Operative Treatment: Sling	RD	-0.02(-0.05,0.01)	NS
Ahrens, 2017	High	Patient Satisfaction - Poor	9 mos.	ORIF	Non-Operative Treatment: Sling	RD	0.02(-0.01,0.05)	NS
Nicholson, 2021 (a)	Moderate	Return of Normality	6 wks.	ORIF	Non-Operative Treatment	RR	1.07(0.63,1.81)	NS
Nicholson, 2021 (a)	Moderate	Return of Normality	12 wks.	ORIF	Non-Operative Treatment	RR	1.05(0.77,1.42)	NS
Nicholson, 2021 (a)	Moderate	Return of Normality	24 wks.	ORIF	Non-Operative Treatment	RR	0.95(0.85,1.06)	NS
Tutuhatunewa, 2017	Low	Health Related Quality of Life (Eq-5D-5L) (median follow-up)	2.1 yrs.	ORIF: Locking Plate	Non-Operative Treatment: Sling or Collar-and Cuff	Author Reported - Mann-Whitney U Test;	N/A	NS
Tutuhatunewa, 2017	Low	Overall Satisfaction Result (median follow-up)	2.1 yrs.	ORIF: Locking Plate	Non-Operative Treatment: Sling or Collar-and Cuff	Author Reported - Mann-Whitney U Test;	N/A	ORIF
Tutuhatunewa, 2017	Low	Current Shoulder Function (median follow-up)	2.1 yrs.	ORIF: Locking Plate	Non-Operative Treatment: Sling or Collar-and Cuff	Author Reported - Mann-Whitney U Test;	N/A	NS
Tutuhatunewa, 2017	Low	Cosmetic Appearance (median follow-up)	2.1 yrs.	ORIF: Locking Plate	Non-Operative Treatment: Sling or Collar-and Cuff	Author Reported - Mann-Whitney U Test;	N/A	NS
COTS, 2007	Moderate	Satisfaction with Appearance	1 yrs.	Plate Fixation	Non-Operative Treatment	RR	1.58(1.19,2.10)	Plate Fixation
COTS, 2007	Moderate	Satisfaction	6 wks.	Plate Fixation	Non-Operative Treatment	Author Reported - Kolmogorov-Smirnov Test; ANOVA, Tukey's Test; Student's T-Test; Chi-Square Test; Fisher's Exact Test; Pearson Correlation Coefficient;	N/A	Plate Fixation

Reference Title	Quality	Outcome Details	Duration	Treatment 1 (Details)	Treatment 2 (Details)	Effect Measure	Result (95% CI)	Favored Treatment
COTS, 2007	Moderate	Satisfaction	12 wks.	Plate Fixation	Non-Operative Treatment	Author Reported - Kolmogorov-Smirnov Test; ANOVA, Tukey's Test; Student's T-Test; Chi-Square Test; Fisher's Exact Test; Pearson Correlation Coefficient;	N/A	Plate Fixation
COTS, 2007	Moderate	Satisfaction	24 wks.	Plate Fixation	Non-Operative Treatment	Author Reported - Kolmogorov-Smirnov Test; ANOVA, Tukey's Test; Student's T-Test; Chi-Square Test; Fisher's Exact Test; Pearson Correlation Coefficient;	N/A	Plate Fixation
COTS, 2007	Moderate	Satisfaction	52 wks.	Plate Fixation	Non-Operative Treatment	Author Reported - Kolmogorov-Smirnov Test; ANOVA, Tukey's Test; Student's T-Test; Chi-Square Test; Fisher's Exact Test; Pearson Correlation Coefficient;	N/A	Plate Fixation
Riiser, 2021	Low	VAS Appearance (mean follow-up 69 (49-97) mos.)	69 mos.	Intramedullary Nailing or Anatomic Plate and Screws: 26 pts Nail, 22 pts Plate	Non-Operative Treatment	Author Reported - Mann-Whitney U Test;	N/A	Non-Operative Treatment
Riiser, 2021	Low	VAS Satisfaction (mean follow-up 69 (49-97) mos.)	69 mos.	Intramedullary Nailing or Anatomic Plate and Screws: 26 pts Nail, 22 pts Plate	Non-Operative Treatment	Author Reported - Mann-Whitney U Test;	N/A	Non-Operative Treatment
Ma, 2020	Low	Satisfaction	32 mos.	Plate Fixation	Non-Operative Treatment: Sling	RR	1.27(1.01,1.61)	Plate Fixation
KC, 2021	Low	Patient Fully Satisfied	12 mos.	ORIF: Precontoured Locking Compression Plate	Non-Operative Treatment: Figure of Eight Brace and Arm Sling	RR	1.21(0.96,1.51)	NS
Chen, 2011	Moderate	Patient Satisfaction - Poor (10-20 mos. follow-up)	15 mos.	ESIN	Simple Sling: Start pain-dependent mobilization after three weeks and discard sling when pain subsides.	RR	0.33(0.04,3.03)	NS
Woltz, 2017	Moderate	SF-36 Mental Component Summary	6 wks.	Plate Fixation	Non-Operative Treatment	Mean Difference	-1.5 (-4.03, 1.03)	NS

Reference Title	Quality	Outcome Details	Duration	Treatment 1 (Details)	Treatment 2 (Details)	Effect Measure	Result (95% CI)	Favored Treatment
Woltz, 2017	Moderate	SF-36 Mental Component Summary	3 mos.	Plate Fixation	Non-Operative Treatment	Mean Difference	-1.3 (-3.49, 0.89)	NS
Woltz, 2017	Moderate	SF-36 Mental Component Summary	12 mos.	Plate Fixation	Non-Operative Treatment	Mean Difference	0.4 (-2.64, 3.44)	NS
Woltz, 2017	Moderate	Unsatisfied With Cosmetic Appearance	1 yrs.	Plate Fixation	Non-Operative Treatment	RR	0.27(0.09,0.80)	Non-Operative Treatment

Table 27: PICO 8- Midshaft Fx - Operative vs. Non-Operative Treatment - Union

Reference Title	Quality	Outcome Details	Duration	Treatment 1 (Details)	Treatment 2 (Details)	Effect Measure	Result (95% CI)	Favored Treatment
Lake, 2020	Low	Nonunion	28 mos.	Operative Treatment	Non-Operative Treatment	RR	0.22(0.07,0.72)	Operative Treatment
Lake, 2020	Low	Malunion	28 mos.	Operative Treatment	Non-Operative Treatment	RD	-0.05(-0.08,-0.01)	Operative Treatment
Smekal, 2011	Low	Time to Union (wks.) (F/U 22-27 months, mean 24 months)	24 wks.	Intramedullary Nailing	Non-Operative Treatment: Shoulder Sling	Mean Difference	-4.7 (-7.78, -1.62)	Intramedullary Nailing
Smekal, 2011	Low	Nonunion (F/U 22-27 months, mean 24 months)	2 yrs.	Intramedullary Nailing	Non-Operative Treatment: Shoulder Sling	RD	-0.12(-0.20,-0.03)	Intramedullary Nailing
Smekal, 2011	Low	Delayed Union (F/U 22-27 months, mean 24 months)	2 yrs.	Intramedullary Nailing	Non-Operative Treatment: Shoulder Sling	RR	0.19(0.04,0.85)	Intramedullary Nailing
Smekal, 2011	Low	Time to Union (wks.)	24 wks.	Intramedullary Nailing: Simple Fracture	Non-Operative Treatment: Simple Fracture, Shoulder Sling	Mean Difference	-7.7 (-11.21, -4.19)	Intramedullary Nailing
Smekal, 2011	Low	Time to Union (wks.)	24 wks.	Intramedullary Nailing: Wedge Fracture	Non-Operative Treatment: Wedge Fracture, Shoulder Sling	Mean Difference	0 (-1.59, 1.59)	NS
Smekal, 2011	Low	Time to Union (wks.)	24 wks.	Intramedullary Nailing: Comminuted Fracture	Non-Operative Treatment: Comminuted Fracture, Shoulder Sling	Mean Difference	-4.7 (-7.79, -1.61)	Intramedullary Nailing
Tamaoki, 2017	High	Nonunion	6 mos.	Anterior Plate Osteosynthesis	Non-Operative Treatment: Figure-of-Eight Harness	RD	-0.15(-0.25,-0.05)	Anterior Plate Osteosynthesis
Robinson, 2013	Moderate	Nonunion	6 mos.	Open Reduction and Plate Fixation	Non-Operative Treatment: Collar and Cuff	RR	0.04(0.01,0.32)	Open Reduction and Plate Fixation
Robinson, 2013	Moderate	Delayed Union	6 mos.	Open Reduction and Plate Fixation	Non-Operative Treatment: Collar and Cuff	RD	-0.09(-0.14,-0.03)	Open Reduction and Plate Fixation

Reference Title	Quality	Outcome Details	Duration	Treatment 1 (Details)	Treatment 2 (Details)	Effect Measure	Result (95% CI)	Favored Treatment
Robinson, 2013	Moderate	Nonunion	12 mos.	Open Reduction and Plate Fixation	Non-Operative Treatment: Collar and Cuff	RR	0.07(0.01,0.49)	Open Reduction and Plate Fixation
Robinson, 2013	Moderate	Union	12 mos.	Open Reduction and Plate Fixation	Non-Operative Treatment: Collar and Cuff	RR	1.20(1.09,1.32)	Open Reduction and Plate Fixation
Robinson, 2013	Moderate	Nonunion	12 mos.	Open Reduction and Plate Fixation: Age 16-30	Non-Operative Treatment: Age 16-30 Collar and Cuff	RD	0.14(0.03,0.24)	Non-Operative Treatment
Robinson, 2013	Moderate	Nonunion	12 mos.	Open Reduction and Plate Fixation: Age 16-30	Non-Operative Treatment: Age 31-40 Collar and Cuff	RD	0.14(0.03,0.24)	Non-Operative Treatment
Robinson, 2013	Moderate	Nonunion	12 mos.	Open Reduction and Plate Fixation: Age 16-30	Non-Operative Treatment: Age 41-60 Collar and Cuff	RR	3.14(0.40,24.51)	NS
Robinson, 2013	Moderate	Nonunion	12 mos.	Open Reduction and Plate Fixation: Age31-40	Non-Operative Treatment: Age 41-60 Collar and Cuff	RR	4.60(0.56,37.86)	NS
Robinson, 2013	Moderate	Nonunion	12 mos.	Open Reduction and Plate Fixation: Age 31-40	Non-Operative Treatment: Age 31-40 Collar and Cuff	RD	0.20(0.02,0.38)	Non-Operative Treatment
Robinson, 2013	Moderate	Nonunion	12 mos.	Open Reduction and Plate Fixation: Age 41-60	Non-Operative Treatment: Age 41-60 Collar and Cuff	RR	4.93(0.64,38.05)	NS
Robinson, 2013	Moderate	Nonunion	12 mos.	Open Reduction and Plate Fixation: Age 31-60	Non-Operative Treatment: Age 16-30 Collar and Cuff	RD	-0.14(-0.24,-0.03)	Open Reduction and Plate Fixation
Robinson, 2013	Moderate	Nonunion	12 mos.	Open Reduction and Plate Fixation: Age 41-60	Non-Operative Treatment: Age 31-40 Collar and Cuff	RR	0.22(0.03,1.79)	NS
Robinson, 2013	Moderate	Nonunion	12 mos.	Open Reduction and Plate Fixation: Age 41-60	Non-Operative Treatment: Age 16-30 Collar and Cuff	RR	0.32(0.04,2.49)	NS
Robinson, 2013	Moderate	Nonunion	12 mos.	Open Reduction and Plate Fixation	Non-Operative Treatment: Collar and Cuff	RD	-0.14(-0.24,-0.03)	Open Reduction and Plate Fixation
Robinson, 2013	Moderate	Nonunion	12 mos.	Open Reduction and Plate Fixation	Non-Operative Treatment: Collar and Cuff	RD	-0.20(-0.38,-0.02)	Open Reduction and Plate Fixation
Robinson, 2013	Moderate	Nonunion	12 mos.	Open Reduction and Plate Fixation	Non-Operative Treatment: Collar and Cuff	RR	0.20(0.03,1.57)	NS
Naveen, 2017	Low	Time to Union, <12 wks.	12 wks.	Plate Fixation	Non-Operative Treatment: Figure-of-Eight Bandage	RR	1.33(1.04,1.72)	Plate Fixation

Reference Title	Quality	Outcome Details	Duration	Treatment 1 (Details)	Treatment 2 (Details)	Effect Measure	Result (95% CI)	Favored Treatment
Naveen, 2017	Low	Time to Union, 12-24 wks.	24 wks.	Plate Fixation	Non-Operative Treatment: Figure-of-Eight Bandage	RR	0.29(0.06,1.26)	NS
Naveen, 2017	Low	Nonunion	6 mos.	Plate Fixation	Non-Operative Treatment: Figure-of-Eight Bandage	RD	-0.07(-0.16,0.02)	NS
Naveen, 2017	Low	Malunion with cosmetic deformity	6 mos.	Plate Fixation	Non-Operative Treatment: Figure-of-Eight Bandage	RR	0.17(0.02,1.30)	NS
Smekal, 2009	Moderate	Time to Union (wks.)	24 wks.	ESIN	Non-Operative Treatment: Shoulder Sling	Mean Difference	-5.5 (-10.41, -0.59)	ESIN
Smekal, 2009	Moderate	Delayed Union	24 wks.	ESIN	Non-Operative Treatment: Shoulder Sling	RR	0.17(0.02,1.30)	NS
Smekal, 2009	Moderate	Nonunion	2 yrs.	ESIN	Non-Operative Treatment: Shoulder Sling	RD	-0.10(-0.21,0.01)	NS
Smekal, 2009	Moderate	Symptomatic Malunion	2 yrs.	ESIN	Non-Operative Treatment: Shoulder Sling	RD	-0.07(-0.16,0.02)	NS
Ahrens, 2017	High	Union	3 mos.	ORIF	Non-Operative Treatment: Sling	RR	0.99(0.85,1.14)	NS
Ahrens, 2017	High	Nonunion	3 mos.	ORIF	Non-Operative Treatment: Sling	RR	1.03(0.70,1.52)	NS
Ahrens, 2017	High	Union	9 mos.	ORIF	Non-Operative Treatment: Sling	RR	1.11(1.04,1.18)	ORIF
Ahrens, 2017	High	Nonunion	9 mos.	ORIF	Non-Operative Treatment: Sling	RR	0.07(0.01,0.54)	ORIF
Tutuhatunewa, 2017	Low	Impaired Union	120 days	ORIF: Locking Plate	Non-Operative Treatment: Sling or Collar-and Cuff	RR	0.18(0.05,0.58)	ORIF
Tutuhatunewa, 2017	Low	Malunion	120 days	ORIF: Locking Plate	Non-Operative Treatment: Sling or Collar-and Cuff	RD	-0.02(-0.04,0.00)	NS
COTS, 2007	Moderate	Nonunion	1 yrs.	Plate Fixation	Non-Operative Treatment	RR	0.23(0.05,1.04)	NS
COTS, 2007	Moderate	Symptomatic Malunion	1 yrs.	Plate Fixation	Non-Operative Treatment	RD	-0.18(-0.29,-0.08)	Plate Fixation

Reference Title	Quality	Outcome Details	Duration	Treatment 1 (Details)	Treatment 2 (Details)	Effect Measure	Result (95% CI)	Favored Treatment
COTS, 2007	Moderate	Time to Union (wks.)	Postop .	Plate Fixation	Non-Operative Treatment	Author Reported - Kolmogorov-Smirnov Test; ANOVA, Tukey's Test; Student's T-Test; Chi-Square Test; Fisher's Exact Test; Pearson Correlation Coefficient;	N/A	Plate Fixation
Qvist, 2018	High	Nonunion	Postop .	Pre-Contoured Plate: Locking Screws	Sling: Collar 'n' Cuff, Molnlycke Health Care, Sweden for 3 weeks	RR	0.17(0.04,0.74)	Pre-Contoured Plate
Riiser, 2021	Low	Nonunion (mean follow-up 69 (49-97) mos.)	69 mos.	Intramedullary Nailing or Anatomic Plate and Screws: 26 pts Nail, 22 pts Plate	Non-Operative Treatment	RD	-0.02(-0.06,0.02)	NS
Napora, 2018	Low	Nonunion (F/U Range 7-48 wks., mean 25.9 wks.)	25.9 wks.	ORIF	Non-Operative Treatment: Optional Sling	RR	0.20(0.05,0.88)	ORIF
Napora, 2018	Low	Malunion (F/U Range 7-48 wks., mean 25.9 wks.)	25.9 wks.	Operative Treatment: ORIF with Plating	Non-Operative Treatment: Optional Sling	RR	1.00(0.06,15.67)	NS
Ban, 2021	High	Nonunion	6 mos.	Fixation w/ Anatomical Locking Plate	Simple Sling: Two Weeks or Less	RR	0.11(0.01,0.81)	Fixation w/ Anatomical Locking Plate
Napora, 2016	Low	Nonunion	56 mos.	Operative Treatment	Non-Operative Treatment	RD	-0.14(-0.20,-0.08)	Operative Treatment
Napora, 2016	Low	Symptomatic Malunion	56 mos.	Operative Treatment	Non-Operative Treatment	RD	-0.03(-0.06,-0.00)	Operative Treatment
Ma, 2020	Low	Time to Union (wks.)	32 mos.	Plate Fixation	Non-Operative Treatment: Sling	Mean Difference	-3.6 (-4.79, -2.41)	Plate Fixation
Ma, 2020	Low	Nonunion	32 mos.	Plate Fixation	Non-Operative Treatment: Sling	RR	0.33(0.04,3.03)	NS
Ma, 2020	Low	Malunion	32 mos.	Plate Fixation	Non-Operative Treatment: Sling	RR	0.50(0.05,5.22)	NS
Swarup, 2021	Low	Nonunion (median follow-up)	3.8 yrs.	Plate Fixation	Non-Operative Treatment: Sling	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
Chu, 2018	Low	Delayed Union	6 mos.	Operative Treatment: ORIF	Non-Operative Treatment: Figure-of-Eight Bandage	RR	0.15(0.05,0.48)	Operative Treatment
Chu, 2018	Low	Union	2 yrs.	Operative Treatment: ORIF	Non-Operative Treatment: Figure-of-Eight Bandage	RR	0.00(0.00,0.00)	NS
KC, 2021	Low	Malunion (>10 degree angulation)	12 mos.	ORIF: Precontoured Locking Compression Plate	Non-Operative Treatment: Figure of Eight Brace and Arm Sling	RR	0.07(0.01,0.52)	ORIF
KC, 2021	Low	Nonunion	12 mos.	ORIF: Precontoured Locking Compression Plate	Non-Operative Treatment: Figure of Eight Brace and Arm Sling	RD	-0.05(-0.12,0.02)	NS
KC, 2021	Low	Time to Union (wks.)	12 mos.	ORIF: Precontoured Locking Compression Plate	Non-Operative Treatment: Figure of Eight Brace and Arm Sling	Mean Difference	-0.32 (-1.03, 0.39)	NS
Chinkam-Akrapat, 2018	Low	Nonunion (Mean F/U 5.26/3.34, respectively)	5 yrs.	Nail Fixation	Clavicle Support	RD	-0.21(-0.34,-0.07)	Nail Fixation
Chen, 2011	Moderate	Time to Union (wks.) (10-20 mos. follow-up)	15 mos.	ESIN	Simple Sling: Start pain-dependent mobilization after three weeks and discard sling when pain subsides.	Mean Difference	-2.7 (-4.00, -1.40)	ESIN
Chen, 2011	Moderate	Delayed Union (10-20 mos. follow-up)	15 mos.	ESIN	Simple Sling: Start pain-dependent mobilization after three weeks and discard sling when pain subsides.	RR	0.11(0.01,0.82)	ESIN
Chen, 2011	Moderate	Malunion (10-20 mos. follow-up)	15 mos.	ESIN	Simple Sling: Start pain-dependent mobilization after three weeks and discard sling when pain subsides.	RD	-0.07(-0.16,0.02)	NS

Reference Title	Quality	Outcome Details	Duration	Treatment 1 (Details)	Treatment 2 (Details)	Effect Measure	Result (95% CI)	Favored Treatment
Rafique, 2020	Moderate	Nonunion	12 wks.	Internal Fixation: Precontoured Plate	Conservative Treatment: Poly-Sling of 100-125 degrees of internal rotation of arm	RR	0.23(0.07,0.79)	Internal Fixation
Woltz, 2017	Moderate	Malunion	1 yrs.	Plate Fixation	Non-Operative Treatment	RD	-0.01(-0.04,0.01)	NS
Woltz, 2017	Moderate	Nonunion	1 yrs.	Plate Fixation	Non-Operative Treatment	RR	0.09(0.01,0.71)	Plate Fixation
Bhardwaj, 2018	Moderate	Union	Postop .	ORIF: LCP Superior Clavicle Plate (DePuy Synthes, Switzerland)	Non-Operative Treatment: Arm Pouch	Mean Difference	-7.2 (-7.49, -6.91)	Non-Operative Treatment
Bhardwaj, 2018	Moderate	Nonunion	Postop .	ORIF: LCP Superior Clavicle Plate (DePuy Synthes, Switzerland)	Non-Operative Treatment: Arm Pouch	RD	-0.06(-0.14,0.02)	NS
Bhardwaj, 2018	Moderate	Malunion	Postop .	ORIF: LCP Superior Clavicle Plate (DePuy Synthes, Switzerland)	Non-Operative Treatment: Arm Pouch	RR	0.61(0.11,3.43)	NS
Eden, 2015	Low	Union	52 wks.	Plate Osteosynthesis: Plate Fixation	Non-Operative Treatment: Rucksack Bandage	RR	0.95(0.87,1.02)	Plate Osteosynthesis
Melean, 2015	Moderate	Nonunion	12 mos.	ORIF	Non-Operative Treatment: Sling	RD	-0.10(-0.18,-0.01)	ORIF
Melean, 2015	Moderate	Union	6 wks.	ORIF	Non-Operative Treatment: Sling	RR	3.71(1.09,12.63)	ORIF
Melean, 2015	Moderate	Union	12 wks.	ORIF	Non-Operative Treatment: Sling	RR	4.94(2.47,9.89)	ORIF

Table 28: PICO 11- Dual Plating - Adverse Events

Reference Title	Quality	Outcome Details	Duration	Treatment 1 (Details)	Treatment 2 (Details)	Effect Measure	Result (95% CI)	Favored Treatment
Lee, 2020	Low	Hardware Removal	2 yrs.	Mini-Fragment Plating	Small-Fragment Plating	RD	-0.09(-0.15,-0.03)	Mini-Fragment Plating
Chen, 2017	Low	Deep Infection	1 yrs.	Dual Plate Fixation	Single Plate	RD	-0.02(-0.04,0.01)	NS
Chen, 2017	Low	Hardware Removal	1 yrs.	Dual Plate Fixation	Single Plate	RD	-0.08(-0.13,-0.03)	Dual Plate Fixation
Chen, 2017	Low	Reoperation (due to implant failure)	1 yrs.	Dual Plate Fixation	Single Plate	RD	-0.06(-0.10,-0.02)	Dual Plate Fixation
DeBaun, 2020	Low	Removal of Symptomatic Implants	1 yrs.	Dual Mini-Fragment Plating: mini-fragment constructs consisting of combinations of dual anterior and superior 2.7-, 2.4-, or 2.0-mm straight plates with combination holes for locking and nonlocking screw fixation contoured manually intraoperatively	Single Precontoured Small Fragment Plating: Pc anterior or superior 3.5-mm clavicle-specific plate	RR	0.41(0.16,1.07)	NS

Table 29: PICO 11- Dual Plating - Union

Reference Title	Quality	Outcome Details	Duration	Treatment 1 (Details)	Treatment 2 (Details)	Effect Measure	Result (95% CI)	Favored Treatment
Lee, 2020	Low	Nonunion	2 yrs.	Mini-Fragment Plating	Small-Fragment Plating	RD	-0.02(-0.05,0.01)	NS
Lee, 2020	Low	Delayed Union	2 yrs.	Mini-Fragment Plating	Small-Fragment Plating	RD	-0.03(-0.07,0.00)	NS
Chen, 2017	Low	Union	6 mos.	Dual Plate Fixation	Single Plate	RR	0.09(0.04,0.14)	Dual Plate Fixation
Chen, 2017	Low	Delayed Union	1 yrs.	Dual Plate Fixation	Single Plate	RD	-0.04(-0.07,-0.01)	Dual Plate Fixation
Chen, 2017	Low	Malunion	1 yrs.	Dual Plate Fixation	Single Plate	RD	0.00(0.00,0.00)	NS
Chen, 2017	Low	Nonunion	1 yrs.	Dual Plate Fixation	Single Plate	RD	-0.05(-0.09,-0.01)	Dual Plate Fixation
Chen, 2017	Low	Time to Union, 0-3 mos.	3 mos.	Dual Plate Fixation	Single Plate	RR	0.67(0.41,1.08)	NS
Chen, 2017	Low	Time to Union, 0-6 mos.	6 mos.	Dual Plate Fixation	Single Plate	RR	0.09(0.04,0.14)	Single Plate
DeBaun, 2020	Low	Union w/o Loss of Reduction	1 yrs.	Dual Mini-Fragment Plating: mini-fragment constructs consisting of combinations of dual anterior and superior 2.7-, 2.4-, or 2.0-mm straight plates with combination holes for locking and nonlocking screw fixation contoured manually intraoperatively	Single Precontoured Small Fragment Plating: Pc anterior or superior 3.5-mm clavicle-specific plate	RR	-0.03(-0.08,0.01)	NS
DeBaun, 2020	Low	Nonunion	1 yrs.	Dual Mini-Fragment Plating: mini-fragment constructs consisting of combinations of dual anterior and superior 2.7-, 2.4-, or 2.0-mm straight plates with combination holes for locking and nonlocking screw fixation contoured manually intraoperatively	Single Precontoured Small Fragment Plating: Pc anterior or superior 3.5-mm clavicle-specific plate	RD	0.02(-0.02,0.05)	NS

Table 30: PICO 12- Anterior vs. Superior Plating - Adverse Events

Reference Title	Quality	Outcome Details	Duration	Treatment 1 (Details)	Treatment 2 (Details)	Effect Measure	Result (95% CI)	Favored Treatment
Serrano, 2017	Low	Implant Removal (Follow-up averaged 30.1 (24–149) months in the AI group and 32.6 (24–99) months in the S group (P = 0.11).)	24 mos.	Anterior Inferior Plate	Superior Plate	RR	0.26(0.12,0.58)	Anterior Inferior Plate

Table 31: PICO 12- Anterior vs. Superior Plating - Union

Reference Title	Quality	Outcome Details	Duration	Treatment 1 (Details)	Treatment 2 (Details)	Effect Measure	Result (95% CI)	Favored Treatment
Serrano, 2017	Low	Union (Follow-up averaged 30.1 (24–149) months in the AI group and 32.6 (24–99) months in the S group (P = 0.11).)	24 mos.	Anterior Inferior Plate	Superior Plate	RR	1.01(0.98,1.05)	NS
Serrano, 2017	Low	Infected Nonunion (Follow-up averaged 30.1 (24–149) months in the AI group and 32.6 (24–99) months in the S group (P = 0.11).)	24 mos.	Anterior Inferior Plate	Superior Plate	RD	0.01(-0.01,0.03)	NS
Serrano, 2017	Low	Days to Union (Follow-up averaged 30.1 (24–149) months in the AI group and 32.6 (24–99) months in the S group (P = 0.11).)	24 mos.	Anterior Inferior Plate	Superior Plate	Mean Difference	-16 (-378.04, 346.04)	NS

Table 32: PICO 14- Nailing vs. Single Plate - Adverse Events

Reference Title	Quality	Outcome Details	Duration	Treatment 1 (Details)	Treatment 2 (Details)	Effect Measure	Result (95% CI)	Favored Treatment
Saha, 2014	Moderate	Infection	2 yrs.	Intramedullary Nailing: TEN	Plate Fixation	RD	-0.11(-0.21,-0.01)	Intramedullary Nailing
Anand, 2021	Moderate	Hardware Removal	12 mos.	ESIN: 2.0-3.5mm titanium elastic nail	Plate Fixation: 3.5mm superior clavicular plate	RR	8.00(3.05,20.95)	Plate Fixation
Anand, 2021	Moderate	Superficial Infection	12 mos.	ESIN: 2.0-3.5mm titanium elastic nail	Plate Fixation: 3.5mm superior clavicular plate	RD	-0.12(-0.21,-0.03)	ESIN
Fuglesang, 2018	High	Hardware Removal (F/U Range 49-89 mos. median 66 mos.)	89 mos.	ESIN	Locking Compression Plate	RR	2.31(1.46,3.65)	Locking Compression Plate
Fuglesang, 2018	High	Infection (F/U Range 49-89 mos. median 66 mos.)	89 mos.	ESIN	Locking Compression Plate	RR	1.00(0.06,15.60)	NS
Fuglesang, 2017	Moderate	Hardware Removal	1 yrs.	ESIN	Locking Compression Plate	RR	7.20(3.06,16.93)	Locking Compression Plate
Fuglesang, 2017	Moderate	Superficial Infection	1 yrs.	ESIN	Locking Compression Plate	RD	-0.09(-0.17,-0.02)	ESIN
King, 2019	Moderate	Hardware Removal	12 mos.	Intramedullary Locking Nail	Contoured Locking Plate	RD	-0.03(-0.08,0.03)	NS
King, 2019	Moderate	Superficial Infection	12 mos.	Intramedullary Locking Nail	Contoured Locking Plate	RR	0.95(0.06,14.55)	NS
Narsaria, 2014	Moderate	Deep Infection	2 yrs.	EIN: Single Titanium Elastic Intramedullary Elastic Nail Fixation	Precontoured Compression Plate: 3.5-mm precontoured dynamic compression plate	RD	0.00(0.00,0.00)	NS
Narsaria, 2014	Moderate	Hardware Removal	2 yrs.	EIN: Single Titanium Elastic Intramedullary Elastic Nail Fixation	Precontoured Compression Plate: 3.5-mm precontoured dynamic compression plate	Mean Difference	-9.2 (-10.14, -8.26)	EIN
Narsaria, 2014	Moderate	Hardware Removal, months	2 yrs.	EIN: Single Titanium Elastic Intramedullary Elastic Nail Fixation	Precontoured Compression Plate: 3.5-mm precontoured dynamic compression plate	Mean Difference	-9.2 (-10.14, -8.26)	Precontoured Compression Plate

Reference Title	Quality	Outcome Details	Duration	Treatment 1 (Details)	Treatment 2 (Details)	Effect Measure	Result (95% CI)	Favored Treatment
Narsaria, 2014	Moderate	Superficial Infection	2 yrs.	EIN: Single Titanium Elastic Intramedullary Elastic Nail Fixation	Precontoured Compression Plate: 3.5-mm precontoured dynamic compression plate	RR	0.48(0.05,5.09)	NS
Chen, 2012	Low	Hardware Failure	2 yrs.	TEN	Plate Fixation	RR	0.74(0.19,2.83)	NS
Chen, 2012	Low	Infection	2 yrs.	TEN	Plate Fixation	RR	0.49(0.05,4.61)	NS
Van Der Meijden, 2016	Moderate	Hardware Removal	1 yrs.	Intramedullary Fixation: TEN	Plate Fixation	RR	2.35(1.54,3.59)	Plate Fixation
Van Der Meijden, 2016	Moderate	Infection	1 yrs.	Intramedullary Fixation: TEN	Plate Fixation	RD	-0.05(-0.11,0.01)	NS
Hulsmans, 2017	Moderate	Hardware Removal	39 mos.	Intramedullary Nail Fixation	Plate Fixation	RR	1.65(1.24,2.19)	Plate Fixation
Hulsmans, 2017	Moderate	Infection	39 mos.	Intramedullary Nail Fixation	Plate Fixation	RD	0.00(0.00,0.00)	NS
Wijdicks, 2012	Low	Hardware Removal (F/U Range 4-11 months, median 5 mos. ESIN and 11 mos. plates)	11 mos.	ESIN: 2.0-3.5 mm TEN	Plate Fixation	RR	1.52(1.20,1.93)	Plate Fixation
Park, 2020	Low	Deep Infection	12 mos.	TEN: 2-3mm, DePuy Synthes, PA, USA	Locking Compression Plate: 3.5 mm, DePuy Synthes, IN, USA	RD	0.00(0.00,0.00)	NS
Park, 2020	Low	Superficial Infection	12 mos.	TEN: 2-3mm, DePuy Synthes, PA, USA	Locking Compression Plate: 3.5 mm, DePuy Synthes, IN, USA	RR	0.49(0.05,5.23)	NS
Zehir, 2016	Low	Hardware Removal	3 mos.	Expandable Flexible Locked Intramedullary Nailing	Anatomic Locking Plate	RR	0.08(0.01,0.55)	Expandable Flexible Locked Intramedullary Nailing
Zehir, 2016	Low	Infection	30 mos.	Expandable Flexible Locked Intramedullary Nailing	Anatomic Locking Plate	RD	-0.05(-0.12,0.02)	NS
Liu, 2010	Low	Wound Infection/Dehiscence	27 mos.	ESIN: TEN	ORIF: Locking Compression Plate	RR	0.58(0.15,2.20)	NS
Calbiyik, 2017	Moderate	Hardware Removal	12 mos.	Intramedullary Fixation	3.5 mm Locking Compression Plate	RD	0.03(-0.03,0.08)	NS

Reference Title	Quality	Outcome Details	Duration	Treatment 1 (Details)	Treatment 2 (Details)	Effect Measure	Result (95% CI)	Favored Treatment
Calbiyik, 2017	Moderate	Infection	12 mos.	Intramedullary Fixation	3.5 mm Locking Compression Plate	RD	.(.,.)	NS
Zhang, 2019	Moderate	Complications	3 mos.	Closed Reduction and Intramedullary Nailing	Open Reduction and Plate Fixation	RR	0.22(0.05,0.96)	Closed Reduction and Intramedullary Nailing
Zhang, 2019	Moderate	Infection	3 mos.	Closed Reduction and Intramedullary Nailing	Open Reduction and Plate Fixation	RR	0.33(0.04,3.06)	NS
van der Meijden, 2015	Moderate	Deep Infection	12 mos.	Intramedullary Nailing	Plate Fixation	RD	0.00(0.00,0.00)	NS
van der Meijden, 2015	Moderate	Superficial Infection	12 mos.	Intramedullary Nailing	Plate Fixation	RD	-0.05(-0.11,0.01)	NS
van der Meijden, 2015	Moderate	Hardware Removal	Postop .	Intramedullary Nailing	Plate Fixation	RR	2.25(0.84,5.98)	NS

Table 33: PICO 14- Nailing vs. Single Plate - Composite

Reference Title	Quality	Outcome Details	Duration	Treatment 1 (Details)	Treatment 2 (Details)	Effect Measure	Result (95% CI)	Favored Treatment
Saha, 2014	Moderate	Constant Murley	6 wks.	Intramedullary Nailing: TEN	Plate Fixation	Mean Difference	-1.92 (-4.40, 0.56)	NS
Saha, 2014	Moderate	Constant Murley	3 mos.	Intramedullary Nailing: TEN	Plate Fixation	Mean Difference	1.05 (-1.74, 3.84)	NS
Saha, 2014	Moderate	Constant Murley	6 mos.	Intramedullary Nailing: TEN	Plate Fixation	Mean Difference	1.36 (-0.55, 3.27)	NS
Saha, 2014	Moderate	Constant Murley	12 mos.	Intramedullary Nailing: TEN	Plate Fixation	Mean Difference	1.55 (-0.65, 3.75)	NS
Saha, 2014	Moderate	Constant Murley	18 mos.	Intramedullary Nailing: TEN	Plate Fixation	Mean Difference	1.63 (-0.33, 3.59)	NS
Saha, 2014	Moderate	Constant Murley	24 mos.	Intramedullary Nailing: TEN	Plate Fixation	Mean Difference	1.54 (-0.38, 3.46)	NS
Anand, 2021	Moderate	Constant Murley	6 wks.	ESIN: 2.0-3.5mm titanium elastic nail	Plate Fixation: 3.5mm superior clavicular plate	Author Reported - Independent T-Test; Chi-Square Test;	N/A	Plate Fixation
Anand, 2021	Moderate	Constant Murley	3 mos.	ESIN: 2.0-3.5mm titanium elastic nail	Plate Fixation: 3.5mm superior clavicular plate	Author Reported - Independent T-Test; Chi-Square Test;	N/A	Plate Fixation
Anand, 2021	Moderate	Constant Murley	6 mos.	ESIN: 2.0-3.5mm titanium elastic nail	Plate Fixation: 3.5mm superior clavicular plate	Author Reported - Independent T-Test; Chi-Square Test;	N/A	Plate Fixation
Anand, 2021	Moderate	DASH	12 mos.	ESIN: 2.0-3.5mm titanium elastic nail	Plate Fixation: 3.5mm superior clavicular plate	Mean Difference	0.6 (-27.79, 28.99)	NS
Anand, 2021	Moderate	DASH	6 wks.	ESIN: 2.0-3.5mm titanium elastic nail	Plate Fixation: 3.5mm superior clavicular plate	Author Reported - Independent T-Test; Chi-Square Test;	N/A	Plate Fixation
Anand, 2021	Moderate	DASH	3 mos.	ESIN: 2.0-3.5mm titanium elastic nail	Plate Fixation: 3.5mm superior clavicular plate	Author Reported - Independent T-Test; Chi-Square Test;	N/A	Plate Fixation

Reference Title	Quality	Outcome Details	Duration	Treatment 1 (Details)	Treatment 2 (Details)	Effect Measure	Result (95% CI)	Favored Treatment
Anand, 2021	Moderate	DASH	6 mos.	ESIN: 2.0-3.5mm titanium elastic nail	Plate Fixation: 3.5mm superior clavicular plate	Author Reported - Independent T-Test; Chi-Square Test;	N/A	Plate Fixation
Anand, 2021	Moderate	QuickDASH (no scale)	5 wks.	ESIN: 2.0-3.5mm titanium elastic nail	Plate Fixation: 3.5mm superior clavicular plate	Author Reported - Independent T-Test; Chi-Square Test;	N/A	Plate Fixation
Fuglesang, 2018	High	DASH (F/U Range 49-89 mos., median 66 mos.)	89 mos.	ESIN	Locking Compression Plate	Mean Difference	-0.6 (-3.26, 2.06)	NS
Fuglesang, 2017	Moderate	Constant Murley	6 wks.	ESIN	Locking Compression Plate	Author Reported - Independent T-Test; Chi-Square Test;	N/A	Plate Fixation
Fuglesang, 2017	Moderate	Constant Murley	3 mos.	ESIN	Locking Compression Plate	Author Reported - Independent T-Test; Chi-Square Test;	N/A	Plate Fixation
Fuglesang, 2017	Moderate	Constant Murley	6 mos.	ESIN	Locking Compression Plate	Author Reported - Independent T-Test; Chi-Square Test;	N/A	Plate Fixation
Fuglesang, 2017	Moderate	Constant Murley	1 yrs.	ESIN	Locking Compression Plate	Author Reported - Independent T-Test; Chi-Square Test;	N/A	NS
Fuglesang, 2017	Moderate	DASH	3 mos.	ESIN	Locking Compression Plate	Author Reported - Independent T-Test; Chi-Square Test;	N/A	Plate Fixation
Fuglesang, 2017	Moderate	DASH	6 mos.	ESIN	Locking Compression Plate	Author Reported - Independent T-Test; Chi-Square Test;	N/A	Plate Fixation
Fuglesang, 2017	Moderate	DASH	1 yrs.	ESIN	Locking Compression Plate	Mean Difference	0.6 (-27.79, 28.99)	NS
Fuglesang, 2017	Moderate	QuickDASH	6 wks.	ESIN	Locking Compression Plate	Author Reported - Independent T-Test; Chi-Square Test;	N/A	Plate Fixation

Reference Title	Quality	Outcome Details	Duration	Treatment 1 (Details)	Treatment 2 (Details)	Effect Measure	Result (95% CI)	Favored Treatment
King, 2019	Moderate	Constant Murley	1.5 mos.	Intramedullary Locking Nail	Contoured Locking Plate	Mean Difference	11 (2.71, 19.29)	Intramedullary Locking Nail
King, 2019	Moderate	Constant Murley	3 mos.	Intramedullary Locking Nail	Contoured Locking Plate	Mean Difference	10 (3.31, 16.69)	Intramedullary Locking Nail
King, 2019	Moderate	Constant Murley	6 mos.	Intramedullary Locking Nail	Contoured Locking Plate	Mean Difference	10 (4.36, 15.64)	Intramedullary Locking Nail
King, 2019	Moderate	Constant Murley	12 mos.	Intramedullary Locking Nail	Contoured Locking Plate	Mean Difference	6 (1.71, 10.29)	Intramedullary Locking Nail
King, 2019	Moderate	DASH	1.5 mos.	Intramedullary Locking Nail	Contoured Locking Plate	Mean Difference	-7 (-16.30, 2.30)	NS
King, 2019	Moderate	DASH	3 mos.	Intramedullary Locking Nail	Contoured Locking Plate	Mean Difference	-6 (-12.83, 0.83)	NS
King, 2019	Moderate	DASH	6 mos.	Intramedullary Locking Nail	Contoured Locking Plate	Mean Difference	-8 (-13.64, -2.36)	Intramedullary Locking Nail
King, 2019	Moderate	DASH	12 mos.	Intramedullary Locking Nail	Contoured Locking Plate	Mean Difference	-12 (-18.58, -5.42)	Intramedullary Locking Nail
Narsaria, 2014	Moderate	ASES	2 yrs.	EIN: Single Titanium Elastic Intramedullary Elastic Nail Fixation	Precontoured Compression Plate: 3.5-mm precontoured dynamic compression plate	Mean Difference	-2.6 (-3.64, -1.56)	Precontoured Compression Plate
Narsaria, 2014	Moderate	Constant Murley	2 yrs.	EIN: Single Titanium Elastic Intramedullary Elastic Nail Fixation	Precontoured Compression Plate: 3.5-mm precontoured dynamic compression plate	Mean Difference	-1.6 (-3.02, -0.18)	Precontoured Compression Plate
Narsaria, 2014	Moderate	Constant Murley	2 mos.	EIN: Single Titanium Elastic Intramedullary Elastic Nail Fixation	Precontoured Compression Plate: 3.5-mm precontoured dynamic compression plate	Mean Difference	-14 (-18.49, -9.51)	Precontoured Compression Plate
Narsaria, 2014	Moderate	Constant Murley - Subjective	2 yrs.	EIN: Single Titanium Elastic Intramedullary Elastic Nail Fixation	Precontoured Compression Plate: 3.5-mm precontoured dynamic compression plate	Mean Difference	-3.9 (-4.64, -3.16)	Precontoured Compression Plate
Chen, 2012	Low	Constant Murley	6 mos.	TEN	Plate Fixation	Mean Difference	4.3 (2.92, 5.68)	TEN
Chen, 2012	Low	Constant Murley	2 yrs.	TEN	Plate Fixation	Mean Difference	0.2 (-0.79, 1.19)	NS
Chen, 2012	Low	DASH	6 mos.	TEN	Plate Fixation	Mean Difference	-8.38 (-11.30, -5.46)	TEN

Reference Title	Quality	Outcome Details	Duration	Treatment 1 (Details)	Treatment 2 (Details)	Effect Measure	Result (95% CI)	Favored Treatment
Chen, 2012	Low	DASH	2 yrs.	TEN	Plate Fixation	Mean Difference	-0.54 (-2.07, 0.99)	NS
Van Der Meijden, 2016	Moderate	DASH <8 (cured)	6 wks.	Intramedullary Fixation: TEN	Plate Fixation	RR	0.69(0.48,1.01)	NS
Van Der Meijden, 2016	Moderate	DASH <8 (cured)	3 mos.	Intramedullary Fixation: TEN	Plate Fixation	RR	0.83(0.68,1.01)	NS
Van Der Meijden, 2016	Moderate	DASH <8 (cured)	6 mos.	Intramedullary Fixation: TEN	Plate Fixation	RR	0.89(0.77,1.03)	NS
Van Der Meijden, 2016	Moderate	DASH <8 (cured)	1 yrs.	Intramedullary Fixation: TEN	Plate Fixation	RR	0.98(0.86,1.10)	NS
Hulsmans, 2017	Moderate	DASH	1.5 mos.	Intramedullary Nail Fixation	Plate Fixation	Mean Difference	4.3 (-0.41, 9.01)	NS
Hulsmans, 2017	Moderate	DASH	3 mos.	Intramedullary Nail Fixation	Plate Fixation	Mean Difference	4.3 (1.29, 7.31)	Plate Fixation
Hulsmans, 2017	Moderate	DASH	6 mos.	Intramedullary Nail Fixation	Plate Fixation	Mean Difference	2.7 (0.77, 4.63)	Plate Fixation
Hulsmans, 2017	Moderate	DASH	12 mos.	Intramedullary Nail Fixation	Plate Fixation	Mean Difference	1.4 (-0.29, 3.09)	NS
Hulsmans, 2017	Moderate	DASH	39 mos.	Intramedullary Nail Fixation	Plate Fixation	Mean Difference	0 (-1.04, 1.04)	NS
Park, 2020	Low	DASH	2 wks.	TEN: 2-3mm, DePuy Synthes, PA, USA	Locking Compression Plate: 3.5 mm, DePuy Synthes, IN, USA	Mean Difference	-1 (-4.69, 2.69)	NS
Park, 2020	Low	DASH	6 wks.	TEN: 2-3mm, DePuy Synthes, PA, USA	Locking Compression Plate: 3.5 mm, DePuy Synthes, IN, USA	Mean Difference	1.8 (-0.93, 4.53)	NS
Park, 2020	Low	DASH	12 wks.	TEN: 2-3mm, DePuy Synthes, PA, USA	Locking Compression Plate: 3.5 mm, DePuy Synthes, IN, USA	Mean Difference	-0.3 (-2.79, 2.19)	NS
Park, 2020	Low	DASH	6 mos.	TEN: 2-3mm, DePuy Synthes, PA, USA	Locking Compression Plate: 3.5 mm, DePuy Synthes, IN, USA	Mean Difference	-1.3 (-3.91, 1.31)	NS

Reference Title	Quality	Outcome Details	Duration	Treatment 1 (Details)	Treatment 2 (Details)	Effect Measure	Result (95% CI)	Favored Treatment
Park, 2020	Low	DASH	12 mos.	TEN: 2-3mm, DePuy Synthes, PA, USA	Locking Compression Plate: 3.5 mm, DePuy Synthes, IN, USA	Mean Difference	-0.4 (-2.17, 1.37)	NS
Zehir, 2016	Low	Constant Murley	6 wks.	Expandable Flexible Locked Intramedullary Nailing	Anatomic Locking Plate	Mean Difference	7.1 (2.49, 11.71)	Expandable Flexible Locked Intramedullary Nailing
Zehir, 2016	Low	Constant Murley	6 mos.	Expandable Flexible Locked Intramedullary Nailing	Anatomic Locking Plate	Mean Difference	-4.1 (-7.11, -1.09)	Anatomic Locking Plate
Zehir, 2016	Low	Constant Murley	30 mos.	Expandable Flexible Locked Intramedullary Nailing	Anatomic Locking Plate	Author Reported - Mann-Whitney U-Test; Chi-Square Test;	N/A	NS
Liu, 2010	Low	Constant Murley	27 mos.	ESIN: TEN	ORIF: Locking Compression Plate	Mean Difference	-1.3 (-3.20, 0.60)	NS
Liu, 2010	Low	DASH	27 mos.	ESIN: TEN	ORIF: Locking Compression Plate	Mean Difference	0.6 (-0.90, 2.10)	NS
Calbiyik, 2017	Moderate	Constant Murley	12 mos.	Intramedullary Fixation	3.5 mm Locking Compression Plate	Mean Difference	2.75 (0.30, 5.20)	Intramedullary Fixation
Calbiyik, 2017	Moderate	DASH	12 mos.	Intramedullary Fixation	3.5 mm Locking Compression Plate	Mean Difference	-4.37 (-5.25, -3.49)	Intramedullary Fixation
Zhang, 2019	Moderate	Constant Murley	3 mos.	Closed Reduction and Intramedullary Nailing	Open Reduction and Plate Fixation	Mean Difference	0.59 (-5.33, 6.51)	NS
van der Meijden, 2015	Moderate	Constant Murley	6 wks.	Intramedullary Nailing	Plate Fixation	Mean Difference	-7.8 (-12.58, -3.02)	Plate Fixation
van der Meijden, 2015	Moderate	Constant Murley	12 wks.	Intramedullary Nailing	Plate Fixation	Mean Difference	-5.2 (-9.24, -1.16)	Plate Fixation
van der Meijden, 2015	Moderate	Constant Murley	24 wks.	Intramedullary Nailing	Plate Fixation	Mean Difference	-0.5 (-3.83, 2.83)	NS
van der Meijden, 2015	Moderate	Constant Murley	52 wks.	Intramedullary Nailing	Plate Fixation	Mean Difference	-7.9 (-10.94, -4.86)	Plate Fixation

Reference Title	Quality	Outcome Details	Duration	Treatment 1 (Details)	Treatment 2 (Details)	Effect Measure	Result (95% CI)	Favored Treatment
van der Meijden, 2015	Moderate	DASH	6 wks.	Intramedullary Nailing	Plate Fixation	Mean Difference	4.3 (-0.02, 8.62)	NS
van der Meijden, 2015	Moderate	DASH	12 wks.	Intramedullary Nailing	Plate Fixation	Mean Difference	3.87 (0.50, 7.24)	Plate Fixation
van der Meijden, 2015	Moderate	DASH	24 wks.	Intramedullary Nailing	Plate Fixation	Mean Difference	2.6 (-0.39, 5.59)	NS
van der Meijden, 2015	Moderate	DASH	52 wks.	Intramedullary Nailing	Plate Fixation	Mean Difference	1.5 (-0.96, 3.96)	NS

Table 34: PICO 14- Nailing vs. Single Plate - Displacement

Reference Title	Quality	Outcome Details	Duration	Treatment 1 (Details)	Treatment 2 (Details)	Effect Measure	Result (95% CI)	Favored Treatment
Chen, 2012	Low	Shortening (%)	2 yrs.	TEN	Plate Fixation	RD	0.04(-0.01,0.08)	NS
Chen, 2012	Low	Shortening (%) >2cm	2 yrs.	TEN	Plate Fixation	RR	0.46(0.29,0.72)	TEN
Zehir, 2016	Low	Shortening (mm)	30 mos.	Expandable Flexible Locked Intramedullary Nailing	Anatomic Locking Plate	Mean Difference	-0.4 (-6.07, 5.27)	NS

Table 35: PICO 14- Nailing vs. Single Plate - Function

Reference Title	Quality	Outcome Details	Duration	Treatment 1 (Details)	Treatment 2 (Details)	Effect Measure	Result (95% CI)	Favored Treatment
Narsaria, 2014	Moderate	ASES Activity	2 yrs.	EIN: Single Titanium Elastic Intramedullary Elastic Nail Fixation	Precontoured Compression Plate: 3.5-mm precontoured dynamic compression plate	Mean Difference	1.9 (1.56, 2.24)	EIN
Narsaria, 2014	Moderate	ASES ROM	2 yrs.	EIN: Single Titanium Elastic Intramedullary Elastic Nail Fixation	Precontoured Compression Plate: 3.5-mm precontoured dynamic compression plate	Mean Difference	-3.2 (-3.57, -2.83)	Precontoured Compression Plate
Narsaria, 2014	Moderate	ASES Strength	2 yrs.	EIN: Single Titanium Elastic Intramedullary Elastic Nail Fixation	Precontoured Compression Plate: 3.5-mm precontoured dynamic compression plate	Mean Difference	1.3 (1.15, 1.45)	EIN
Narsaria, 2014	Moderate	Constant Murley - Objective	2 yrs.	EIN: Single Titanium Elastic Intramedullary Elastic Nail Fixation	Precontoured Compression Plate: 3.5-mm precontoured dynamic compression plate	Mean Difference	-2.1 (-3.39, -0.81)	Precontoured Compression Plate
Park, 2020	Low	Forward Flexion (deg.)	12 mos.	TEN: 2-3mm, DePuy Synthes, PA, USA	Locking Compression Plate: 3.5 mm, DePuy Synthes, IN, USA	Mean Difference	2 (-3.12, 7.12)	NS
Park, 2020	Low	Abduction (deg.)	12 mos.	TEN: 2-3mm, DePuy Synthes, PA, USA	Locking Compression Plate: 3.5 mm, DePuy Synthes, IN, USA	Mean Difference	1.4 (-6.18, 8.98)	NS
Park, 2020	Low	External Rotation (deg.)	12 mos.	TEN: 2-3mm, DePuy Synthes, PA, USA	Locking Compression Plate: 3.5 mm, DePuy Synthes, IN, USA	Mean Difference	-1.5 (-6.00, 3.00)	NS
Park, 2020	Low	Internal Rotation (deg.)	12 mos.	TEN: 2-3mm, DePuy Synthes, PA, USA	Locking Compression Plate: 3.5 mm, DePuy Synthes, IN, USA	Mean Difference	1.4 (-3.99, 6.79)	NS
Liu, 2010	Low	Return to Work (wks.)	27 mos.	ESIN: TEN	ORIF: Locking Compression Plate	Mean Difference	-0.5 (-2.16, 1.16)	NS
Liu, 2010	Low	Forward Flexion (deg.)	27 mos.	ESIN: TEN	ORIF: Locking Compression Plate	Mean Difference	-0.2 (-2.60, 2.20)	NS
Liu, 2010	Low	Abduction (deg.)	27 mos.	ESIN: TEN	ORIF: Locking Compression Plate	Mean Difference	-1.4 (-3.44, 0.64)	NS
Liu, 2010	Low	External Rotation (deg.)	27 mos.	ESIN: TEN	ORIF: Locking Compression Plate	Mean Difference	-1.2 (-3.28, 0.88)	NS
Liu, 2010	Low	Internal Rotation (deg.)	27 mos.	ESIN: TEN	ORIF: Locking Compression Plate	Mean Difference	-2.2 (-4.44, 0.04)	NS
Calbiyik, 2017	Moderate	ROM	12 mos.	Intramedullary Fixation	3.5 mm Locking Compression Plate	Mean Difference	2.68 (1.01, 4.35)	Intramedullary Fixation

Reference Title	Quality	Outcome Details	Duration	Treatment 1 (Details)	Treatment 2 (Details)	Effect Measure	Result (95% CI)	Favored Treatment
Zhang, 2019	Moderate	NEER Score (Affected Side)	3 mos.	Closed Reduction and Intramedullary Nailing	Open Reduction and Plate Fixation	Mean Difference	0.6 (-0.40, 1.60)	NS
Zhang, 2019	Moderate	NEER Score (Healthy Side)	3 mos.	Closed Reduction and Intramedullary Nailing	Open Reduction and Plate Fixation	Mean Difference	0.64 (-0.41, 1.69)	NS
van der Meijden, 2015	Moderate	SF-36 Physical Functioning	6 mos.	Intramedullary Nailing	Plate Fixation	Mean Difference	-9.1 (-18.60, 0.40)	NS
van der Meijden, 2015	Moderate	SF-36 Physical Role Functioning	6 mos.	Intramedullary Nailing	Plate Fixation	Mean Difference	-8.5 (-25.83, 8.83)	NS
van der Meijden, 2015	Moderate	SF-36 Physical Functioning	12 mos.	Intramedullary Nailing	Plate Fixation	Mean Difference	-3.5 (-11.96, 4.96)	NS
van der Meijden, 2015	Moderate	SF-36 Physical Role Functioning	12 mos.	Intramedullary Nailing	Plate Fixation	Mean Difference	-8.7 (-24.54, 7.14)	NS

Table 36: PICO 14- Nailing vs. Single Plate - Pain

Reference Title	Quality	Outcome Details	Duration	Treatment 1 (Details)	Treatment 2 (Details)	Effect Measure	Result (95% CI)	Favored Treatment
Anand, 2021	Moderate	Pain over entry point	12 mos.	ESIN: 2.0-3.5mm titanium elastic nail	Plate Fixation: 3.5mm superior clavicular plate	RR	0.71(0.44,1.15)	NS
Fuglesang, 2018	High	Pain when Sleeping (F/U Range 49-89 mos., median 66 mos.)	89 mos.	ESIN	Locking Compression Plate	RR	0.63(0.35,1.11)	NS
Fuglesang, 2018	High	Pain with a Direct Blow (F/U Range 49-89 mos., median 66 mos.)	89 mos.	ESIN	Locking Compression Plate	RR	0.45(0.23,0.90)	ESIN
Fuglesang, 2018	High	Pain at Rest (F/U Range 49-89 mos., median 66 mos.)	89 mos.	ESIN	Locking Compression Plate	RR	0.40(0.14,1.19)	NS
Fuglesang, 2018	High	Painful Clavicle (F/U Range 49-89 mos., median 66 mos.)	89 mos.	ESIN	Locking Compression Plate	RR	0.56(0.18,1.74)	NS
Fuglesang, 2018	High	Pain with Movement (F/U Range 49-89 mos., median 66 mos.)	89 mos.	ESIN	Locking Compression Plate	RR	0.63(0.35,1.16)	NS
Narsaria, 2014	Moderate	VAS Pain	2 yrs.	EIN: Single Titanium Elastic Intramedullary Elastic Nail Fixation	Precontoured Compression Plate: 3.5-mm precontoured dynamic compression plate	RR	0.73(0.18,3.00)	NS
Narsaria, 2014	Moderate	ASES Pain	2 yrs.	EIN: Single Titanium Elastic Intramedullary Elastic Nail Fixation	Precontoured Compression Plate: 3.5-mm precontoured dynamic compression plate	Mean Difference	0.2 (0.08, 0.32)	EIN
Chen, 2012	Low	VAS Pain	3 days	TEN	Plate Fixation	Mean Difference	-1.56 (-1.96, -1.16)	TEN
Wijdicks, 2012	Low	Pain after 6 mos. (F/U Range 4-13 months, median 7 months)	7 mos.	ESIN: 2.0-3.5 mm TEN	Plate Fixation	RR	0.46(0.09,2.37)	NS
Park, 2020	Low	VAS Pain	2 wks.	TEN: 2-3mm, DePuy Synthes, PA, USA	Locking Compression Plate: 3.5 mm, DePuy Synthes, IN, USA	Mean Difference	-0.2 (-0.63, 0.23)	NS

Reference Title	Quality	Outcome Details	Duration	Treatment 1 (Details)	Treatment 2 (Details)	Effect Measure	Result (95% CI)	Favored Treatment
Park, 2020	Low	VAS Pain	6 wks.	TEN: 2-3mm, DePuy Synthes, PA, USA	Locking Compression Plate: 3.5 mm, DePuy Synthes, IN, USA	Mean Difference	0.3 (-0.23, 0.83)	NS
Park, 2020	Low	VAS Pain	12 wks.	TEN: 2-3mm, DePuy Synthes, PA, USA	Locking Compression Plate: 3.5 mm, DePuy Synthes, IN, USA	Mean Difference	0.1 (-0.25, 0.45)	NS
Park, 2020	Low	VAS Pain	6 mos.	TEN: 2-3mm, DePuy Synthes, PA, USA	Locking Compression Plate: 3.5 mm, DePuy Synthes, IN, USA	Mean Difference	0 (-0.42, 0.42)	NS
Park, 2020	Low	VAS Pain	12 mos.	TEN: 2-3mm, DePuy Synthes, PA, USA	Locking Compression Plate: 3.5 mm, DePuy Synthes, IN, USA	Mean Difference	0.3 (-0.10, 0.70)	NS
Zehir, 2016	Low	Shoulder Pain	30 mos.	Expandable Flexible Locked Intramedullary Nailing	Anatomic Locking Plate	RR	0.06(0.01,0.43)	Expandable Flexible Locked Intramedullary Nailing
Calbiyik, 2017	Moderate	Painful Shoulder	12 mos.	Intramedullary Fixation	3.5 mm Locking Compression Plate	RD	-0.05(-0.12,0.02)	NS
Calbiyik, 2017	Moderate	Dysesthesia	12 mos.	Intramedullary Fixation	3.5 mm Locking Compression Plate	RD	-0.08(-0.16,0.01)	NS
van der Meijden, 2015	Moderate	SF-36 Bodily Pain	6 mos.	Intramedullary Nailing	Plate Fixation	Author Reported - T-Test, Mann-Whitney U Test;	N/A	Plate Fixation
van der Meijden, 2015	Moderate	SF-36 Bodily Pain	6 mos.	Intramedullary Nailing	Plate Fixation	Mean Difference	-13.4 (-24.40, -2.40)	Plate Fixation
van der Meijden, 2015	Moderate	SF-36 Bodily Pain	12 mos.	Intramedullary Nailing	Plate Fixation	Mean Difference	-10.5 (-19.42, -1.58)	Plate Fixation

Table 37: PICO 14- Nailing vs. Single Plate - QOL

Reference Title	Quality	Outcome Details	Duration	Treatment 1 (Details)	Treatment 2 (Details)	Effect Measure	Result (95% CI)	Favored Treatment
Saha, 2014	Moderate	Unsatisfied results	2 yrs.	Intramedullary Nailing: TEN	Plate Fixation	RD	0.00(0.00,0.00)	NS
Saha, 2014	Moderate	Good to Excellent results	2 yrs.	Intramedullary Nailing: TEN	Plate Fixation	RR	0.05(-0.02,0.13)	NS
Anand, 2021	Moderate	VAS Satisfaction	12 mos.	ESIN: 2.0-3.5mm titanium elastic nail	Plate Fixation: 3.5mm superior clavicular plate	Mean Difference	0 (-1.41, 1.41)	NS
Anand, 2021	Moderate	VAS Cosmetic Satisfaction	12 mos.	ESIN: 2.0-3.5mm titanium elastic nail	Plate Fixation: 3.5mm superior clavicular plate	Mean Difference	0.9 (-1.66, 3.46)	NS
Fuglesang, 2017	Moderate	VAS Satisfaction	1 yrs.	ESIN	Locking Compression Plate	Mean Difference	0 (-1.41, 1.41)	NS
Fuglesang, 2017	Moderate	Cosmetic Satisfaction	1 yrs.	ESIN	Locking Compression Plate	Mean Difference	0.9 (-1.79, 3.59)	NS
Chen, 2012	Low	Satisfaction	2 yrs.	TEN	Plate Fixation	RR	1.50(1.22,1.86)	TEN
Park, 2020	Low	VAS Satisfaction	12 mos.	TEN: 2-3mm, DePuy Synthes, PA, USA	Locking Compression Plate: 3.5 mm, DePuy Synthes, IN, USA	Mean Difference	0.9 (0.35, 1.45)	TEN
Zehir, 2016	Low	Cosmetic Dissatisfaction	30 mos.	Expandable Flexible Locked Intramedullary Nailing	Anatomic Locking Plate	RR	0.08(0.01,0.59)	Expandable Flexible Locked Intramedullary Nailing
Calbiyik, 2017	Moderate	Cosmetic Dissatisfaction	12 mos.	Intramedullary Fixation	3.5 mm Locking Compression Plate	RR	0.08(0.01,0.59)	Intramedullary Fixation
Zhang, 2019	Moderate	Excellent Therapeutic Effect	3 mos.	Closed Reduction and Intramedullary Nailing	Open Reduction and Plate Fixation	RR	1.05(0.70,1.58)	NS
Zhang, 2019	Moderate	Good Therapeutic Effect	3 mos.	Closed Reduction and Intramedullary Nailing	Open Reduction and Plate Fixation	RR	1.00(0.58,1.74)	NS
Zhang, 2019	Moderate	Poor Therapeutic Effect	3 mos.	Closed Reduction and Intramedullary Nailing	Open Reduction and Plate Fixation	RR	0.50(0.05,5.28)	NS

Reference Title	Quality	Outcome Details	Duration	Treatment 1 (Details)	Treatment 2 (Details)	Effect Measure	Result (95% CI)	Favored Treatment
Zhang, 2019	Moderate	Excellent and Good Therapeutic Effect	3 mos.	Closed Reduction and Intramedullary Nailing	Open Reduction and Plate Fixation	RR	1.03(0.94,1.13)	NS
van der Meijden, 2015	Moderate	SF-36 Vitality	6 mos.	Intramedullary Nailing	Plate Fixation	Author Reported - T-Test, Mann-Whitney U Test;	N/A	Plate Fixation
van der Meijden, 2015	Moderate	SF-36 Vitality	12 mos.	Intramedullary Nailing	Plate Fixation	Author Reported - T-Test, Mann-Whitney U Test;	N/A	Plate Fixation
van der Meijden, 2015	Moderate	SF-36 General Health Perceptions	6 mos.	Intramedullary Nailing	Plate Fixation	Mean Difference	-0.1 (-7.75, 7.55)	NS
van der Meijden, 2015	Moderate	SF-36 Vitality	6 mos.	Intramedullary Nailing	Plate Fixation	Mean Difference	-10.9 (-23.08, 1.28)	NS
van der Meijden, 2015	Moderate	SF-36 Social Role Functioning	6 mos.	Intramedullary Nailing	Plate Fixation	Mean Difference	-10 (-21.25, 1.25)	NS
van der Meijden, 2015	Moderate	SF-36 Emotional Role Functioning	6 mos.	Intramedullary Nailing	Plate Fixation	Mean Difference	-10 (-27.09, 7.09)	NS
van der Meijden, 2015	Moderate	SF-36 Mental Health	6 mos.	Intramedullary Nailing	Plate Fixation	Mean Difference	-0.9 (-8.87, 7.07)	NS
van der Meijden, 2015	Moderate	SF-36 General Health Perceptions	12 mos.	Intramedullary Nailing	Plate Fixation	Mean Difference	-4.4 (-12.92, 4.12)	NS
van der Meijden, 2015	Moderate	SF-36 Vitality	12 mos.	Intramedullary Nailing	Plate Fixation	Mean Difference	-11.1 (-20.16, -2.04)	Plate Fixation
van der Meijden, 2015	Moderate	SF-36 Social Role Functioning	12 mos.	Intramedullary Nailing	Plate Fixation	Mean Difference	-7.2 (-18.67, 4.27)	NS
van der Meijden, 2015	Moderate	SF-36 Emotional Role Functioning	12 mos.	Intramedullary Nailing	Plate Fixation	Mean Difference	-3.7 (-20.17, 12.77)	NS
van der Meijden, 2015	Moderate	SF-36 Mental Health	12 mos.	Intramedullary Nailing	Plate Fixation	Mean Difference	0.7 (-6.65, 8.05)	NS

Table 38: PICO 14- Nailing vs. Single Plate - Union

Reference Title	Quality	Outcome Details	Duration	Treatment 1 (Details)	Treatment 2 (Details)	Effect Measure	Result (95% CI)	Favored Treatment
Saha, 2014	Moderate	Nonunion	2 yrs.	Intramedullary Nailing: TEN	Plate Fixation	RD	-0.03(-0.08,0.03)	NS
Saha, 2014	Moderate	Time to Union (wks.)	Postop .	Intramedullary Nailing: TEN	Plate Fixation	Mean Difference	-3.89 (-6.67, -1.11)	Intramedullary Nailing
Anand, 2021	Moderate	Nonunion	12 mos.	ESIN: 2.0-3.5mm titanium elastic nail	Plate Fixation: 3.5mm superior clavicular plate	RD	0.04(-0.01,0.09)	NS
Fuglesang, 2017	Moderate	Union	1 yrs.	ESIN	Locking Compression Plate	RD	0.02(-0.02,0.05)	NS
King, 2019	Moderate	Union	12 mos.	Intramedullary Locking Nail	Contoured Locking Plate	RD	0.00(0.00,0.00)	NS
Narsaria, 2014	Moderate	Nonunion	6 mos.	EIN: Single Titanium Elastic Intramedullary Elastic Nail Fixation	Precontoured Compression Plate: 3.5-mm precontoured dynamic compression plate	RD	0.03(-0.03,0.09)	NS
Narsaria, 2014	Moderate	Union	2 yrs.	EIN: Single Titanium Elastic Intramedullary Elastic Nail Fixation	Precontoured Compression Plate: 3.5-mm precontoured dynamic compression plate	RR	-0.03(-0.09,0.03)	NS
Narsaria, 2014	Moderate	Union Time (mos.)	2 yrs.	EIN: Single Titanium Elastic Intramedullary Elastic Nail Fixation	Precontoured Compression Plate: 3.5-mm precontoured dynamic compression plate	Mean Difference	-1.3 (-2.42, -0.18)	EIN
Chen, 2012	Low	Nonunion	2 yrs.	TEN	Plate Fixation	RR	0.49(0.05,4.61)	NS
Chen, 2012	Low	Malunion	2 yrs.	TEN	Plate Fixation	RR	1.96(0.46,8.45)	NS
Chen, 2012	Low	Union Time (wks.)	2 yrs.	TEN	Plate Fixation	Author Reported - T-Test; Paired T-Test; Wilcoxon Rank Sum Test; Chi-Square Test; Mann-Whitney U Test;	N/A	TEN
Van Der Meijden, 2016	Moderate	Nonunion	1 yrs.	Intramedullary Fixation: TEN	Plate Fixation	RD	-0.02(-0.05,0.02)	NS

Reference Title	Quality	Outcome Details	Duration	Treatment 1 (Details)	Treatment 2 (Details)	Effect Measure	Result (95% CI)	Favored Treatment
Van Der Meijden, 2016	Moderate	Malunion	1 yrs.	Intramedullary Fixation: TEN	Plate Fixation	RD	0.00(0.00,0.00)	NS
Park, 2020	Low	Union	12 mos.	TEN: 2-3mm, DePuy Synthes, PA, USA	Locking Compression Plate: 3.5 mm, DePuy Synthes, IN, USA	RR	0.02(-0.02,0.06)	NS
Park, 2020	Low	Nonunion	12 mos.	TEN: 2-3mm, DePuy Synthes, PA, USA	Locking Compression Plate: 3.5 mm, DePuy Synthes, IN, USA	RD	-0.02(-0.06,0.02)	NS
Park, 2020	Low	Delayed Union	12 mos.	TEN: 2-3mm, DePuy Synthes, PA, USA	Locking Compression Plate: 3.5 mm, DePuy Synthes, IN, USA	RD	0.02(-0.02,0.06)	NS
Zehir, 2016	Low	Union Time (wks.)	33 wks.	Expandable Flexible Locked Intramedullary Nailing	Anatomic Locking Plate	Author Reported - Mann-Whitney U-Test; Chi-Square Test;	N/A	Intramedullary Nailing
Zehir, 2016	Low	Nonunion	30 mos.	Expandable Flexible Locked Intramedullary Nailing	Anatomic Locking Plate	Author Reported - Mann-Whitney U-Test; Chi-Square Test;	N/A	NS
Zehir, 2016	Low	Delayed Union	30 mos.	Expandable Flexible Locked Intramedullary Nailing	Anatomic Locking Plate	Author Reported - Mann-Whitney U-Test; Chi-Square Test;	N/A	NS
Liu, 2010	Low	Time to Union (wks.) (F/U 12-27 months, mean 17.7 months)	27 mos.	ESIN: TEN	ORIF: Locking Compression Plate	Mean Difference	0.6 (-1.63, 2.83)	NS
Liu, 2010	Low	Nonunion	27 mos.	ESIN: TEN	ORIF: Locking Compression Plate	RR	0.96(0.31,2.97)	NS
Liu, 2010	Low	Malunion requiring further treatment	27 mos.	ESIN: TEN	ORIF: Locking Compression Plate	RR	2.31(0.44,12.11)	NS
Calbiyik, 2017	Moderate	Time to Union (wks.)	12 mos.	Intramedullary Fixation	3.5 mm Locking Compression Plate	Mean Difference	-8.72 (-10.51, -6.93)	Intramedullary Fixation
Calbiyik, 2017	Moderate	Delayed Union	12 mos.	Intramedullary Fixation	3.5 mm Locking Compression Plate	RR	1.14(0.07,17.60)	NS

Reference Title	Quality	Outcome Details	Duration	Treatment 1 (Details)	Treatment 2 (Details)	Effect Measure	Result (95% CI)	Favored Treatment
Zhang, 2019	Moderate	Malunion	3 mos.	Closed Reduction and Intramedullary Nailing	Open Reduction and Plate Fixation	RD	-0.08(-0.17,0.01)	NS
Zhang, 2019	Moderate	Union	3 mos.	Closed Reduction and Intramedullary Nailing	Open Reduction and Plate Fixation	Mean Difference	2.58 (1.58, 3.58)	Closed Reduction and Intramedullary Nailing
van der Meijden, 2015	Moderate	Malunion	12 mos.	Intramedullary Nailing	Plate Fixation	RD	0.00(0.00,0.00)	NS
van der Meijden, 2015	Moderate	Nonunion	12 mos.	Intramedullary Nailing	Plate Fixation	RD	-0.02(-0.05,0.02)	NS

Table 39: PICO 15- Precontoured Plate vs. Non-Precontoured Plate - Adverse Events

Reference Title	Quality	Outcome Details	Duration	Treatment 1 (Details)	Treatment 2 (Details)	Effect Measure	Result (95% CI)	Favored Treatment
Fang, 2020	Low	Complications	6 mos.	Anatomically Precontoured Locking Compression Plates: Stainless Steel 3.5mm Superior and Superior-Anterior Clavicle Plates, DePuy Synthes, West Chester, PA, USA	Reconstruction Locking Construction Plates: Stainless Steel 3.5mm LCP Reconstruction Plates, DePuy Synthes, West Chester, PA, USA	RR	0.78(0.58,1.06)	NS
Fang, 2020	Low	Infection	6 mos.	Anatomically Precontoured Locking Compression Plates: Stainless Steel 3.5mm Superior and Superior-Anterior Clavicle Plates, DePuy Synthes, West Chester, PA, USA	Reconstruction Locking Construction Plates: Stainless Steel 3.5mm LCP Reconstruction Plates, DePuy Synthes, West Chester, PA, USA	RD	0.00(0.00,0.00)	NS
Rongguang, 2016	Low	Hardware Removal	20 mos.	Precontoured Plate	Non-Precontoured Plate	RR	0.69(0.50,0.94)	Precontoured Plate
Rongguang, 2016	Low	Infection	20 mos.	Precontoured Plate	Non-Precontoured Plate	RR	0.29(0.03,2.76)	NS
Rongguang, 2016	Low	Plate Breakage	20 mos.	Precontoured Plate	Non-Precontoured Plate	RD	-0.05(-0.10,0.01)	NS

Table 40: PICO 15- Precontoured Plate vs. Non-Precontoured Plate - Composite

Reference Title	Quality	Outcome Details	Duration	Treatment 1 (Details)	Treatment 2 (Details)	Effect Measure	Result (95% CI)	Favored Treatment
Rongguang, 2016	Low	Constant Murley (F/U 18-36 months, mean 20 months)	20 mos.	Precontoured Plate	Non-Precontoured Plate	Mean Difference	1.4 (-18.52, 21.32)	NS
Rongguang, 2016	Low	DASH (F/U 18-36 months, mean 20 months)	20 mos.	Precontoured Plate	Non-Precontoured Plate	Mean Difference	-0.7 (-1.77, 0.37)	NS

Table 41: PICO 15- Precontoured Plate vs. Non-Precontoured Plate - Function

Reference Title	Quality	Outcome Details	Duration	Treatment 1 (Details)	Treatment 2 (Details)	Effect Measure	Result (95% CI)	Favored Treatment
Fang, 2020	Low	Terminal Restriction of ROM	6 mos.	Anatomically Precontoured Locking Compression Plates: Stainless Steel 3.5mm Superior and Superior-Anterior Clavicle Plates, DePuy Synthes, West Chester, PA, USA	Reconstruction Locking Construction Plates: Stainless Steel 3.5mm LCP Reconstruction Plates, DePuy Synthes, West Chester, PA, USA	RR	0.83(0.27,2.56)	NS

Table 42: PICO 15- Precontoured Plate vs. Non-Precontoured Plate - Pain

Reference Title	Quality	Outcome Details	Duration	Treatment 1 (Details)	Treatment 2 (Details)	Effect Measure	Result (95% CI)	Favored Treatment
Fang, 2020	Low	Persistent Pain at Rest	6 mos.	Anatomically Precontoured Locking Compression Plates: Stainless Steel 3.5mm Superior and Superior-Anterior Clavicle Plates, DePuy Synthes, West Chester, PA, USA	Reconstruction Locking Construction Plates: Stainless Steel 3.5mm LCP Reconstruction Plates, DePuy Synthes, West Chester, PA, USA	RR	1.40(0.47,4.13)	NS

Table 43: PICO 15- Precontoured Plate vs. Non-Precontoured Plate - Union

Reference Title	Quality	Outcome Details	Duration	Treatment 1 (Details)	Treatment 2 (Details)	Effect Measure	Result (95% CI)	Favored Treatment
Rongguang, 2016	Low	Delayed Union	20 mos.	Precontoured Plate	Non-Precontoured Plate	RD	0.03(-0.01,0.07)	NS

Table 44: PICO 17- Lateral Fracture Operative Technique: Hook Plate vs. Lateral Locking Plate - Adverse Events

Reference Title	Quality	Outcome Details	Duration	Treatment 1 (Details)	Treatment 2 (Details)	Effect Measure	Result (95% CI)	Favored Treatment
Wang, 2020	High	Complications	12 mos.	Hook Plate	Lateral Locking Plate	RR	5.64(1.37,23.19)	Lateral Locking Plate

Table 45: PICO 17- Lateral Fracture Operative Technique: Hook Plate vs. Lateral Locking Plate - Composite

Reference Title	Quality	Outcome Details	Duration	Treatment 1 (Details)	Treatment 2 (Details)	Effect Measure	Result (95% CI)	Favored Treatment
Wang, 2020	High	Constant Murley	3 mos.	Hook Plate	Lateral Locking Plate	Mean Difference	-9.55 (-11.86, -7.24)	Lateral Locking Plate
Wang, 2020	High	Constant Murley	6 mos.	Hook Plate	Lateral Locking Plate	Mean Difference	-1.09 (-3.40, 1.22)	NS
Wang, 2020	High	UCLA (no scale)	3 mos.	Hook Plate	Lateral Locking Plate	Mean Difference	-2.59 (-4.50, -0.68)	Lateral Locking Plate
Wang, 2020	High	UCLA (no scale)	6 mos.	Hook Plate	Lateral Locking Plate	Mean Difference	-0.89 (-2.25, 0.47)	NS

Table 46: PICO 17- Lateral Fracture Operative Technique: Hook Plate vs. Lateral Locking Plate - Pain

Reference Title	Quality	Outcome Details	Duration	Treatment 1 (Details)	Treatment 2 (Details)	Effect Measure	Result (95% CI)	Favored Treatment
Wang, 2020	High	VAS Pain	3 mos.	Hook Plate	Lateral Locking Plate	Mean Difference	0.63 (0.25, 1.01)	Lateral Locking Plate
Wang, 2020	High	VAS Pain	6 mos.	Hook Plate	Lateral Locking Plate	Mean Difference	0.03 (-0.15, 0.21)	NS
Wang, 2020	High	Shoulder Joint Pain	12 mos.	Hook Plate	Lateral Locking Plate	RR	4.23(0.99,18.05)	NS

Table 47: PICO 17- Lateral Fracture Operative Technique: Hook Plate vs. Lateral Locking Plate - Union

Reference Title	Quality	Outcome Details	Duration	Treatment 1 (Details)	Treatment 2 (Details)	Effect Measure	Result (95% CI)	Favored Treatment
Wang, 2020	High	Healing Time	12 wks.	Hook Plate	Lateral Locking Plate	Mean Difference	-0.11 (-0.74, 0.52)	NS
Wang, 2020	High	Nonunion	12 mos.	Hook Plate	Lateral Locking Plate	RD	0.00(0.00,0.00)	NS

Table 48: PICO 18- Upright vs. Supine Radiograph - Displacement

Reference Title	Quality	Outcome Details	Duration	Treatment 1 (Details)	Treatment 2 (Details)	Effect Measure	Result (95% CI)	Favored Treatment
Herman, 2019	Low	Maximum Displacement	Baseline .	Upright X-Ray: AP and Zanca Film	Supine X-Ray: AP and Zanca Film	Mean Difference	3.34 (1.10, 5.58)	Upright X-Ray
Malik, 2017	Low	Vertical Displacement (mm)	2 wks.	Upright X-Ray	Supine X-Ray	Mean Difference	6.3 (3.90, 8.70)	Upright X-Ray
Malik, 2017	Low	Horizontal Displacement, mm	2 wks.	Upright X-Ray	Supine X-Ray	Mean Difference	5.27 (1.44, 9.10)	Upright X-Ray

Table 49: PICO 19- Prediction of Malunion/Nonunion - Displacement

Reference Title	Quality	Outcome Details	Duration	Treatment 1 (Details)	Treatment 2 (Details)	Effect Measure	Result (95% CI)	Favored Treatment
Rugpolmuang, 2016	Low	Displacement after Union (mm)	6 mos.	>2 Fragments	2 Fragments	Mean Difference	0.95 (-1.16, 3.06)	NS

Table 50: PICO 19- Prediction of Malunion/Nonunion - Union

Reference Title	Quality	Outcome Details	Duration	Treatment 1 (Details)	Treatment 2 (Details)	Effect Measure	Result (95% CI)	Favored Treatment
Nicholson, 2020	Low	Nonunion	6 mos.	Comminution (+): Edinburgh 2B2	Comminution (-): Edinburgh 2B1	RR	0.71(0.23,2.21)	NS
Robinson, 2004	Low	Union	6 wks.	Comminution (+): Midshaft Fx	Comminution (-): Midshaft Fx	RD	-0.11(-0.14,-0.08)	Comminution (-)
Robinson, 2004	Low	Union	12 wks.	Comminution (+): Midshaft Fx	Comminution (-): Midshaft Fx	RR	0.44(0.30,0.65)	Comminution (-)
Robinson, 2004	Low	Union	24 wks.	Comminution (+): Midshaft Fx	Comminution (-): Midshaft Fx	RR	0.96(0.84,1.08)	NS
Robinson, 2013	Moderate	Nonunion	12 mos.	Comminution (+)	Comminution (-)	RR	1.98(0.59,6.60)	NS
Rugpolmuang, 2016	Low	Union	3 mos.	>2 Fragments	2 Fragments	RR	1.06(0.92,1.23)	NS
Rugpolmuang, 2016	Low	Delayed Union	6 mos.	>2 Fragments	2 Fragments	RR	0.82(0.46,1.46)	NS
Rugpolmuang, 2016	Low	Nonunion	6 mos.	>2 Fragments	2 Fragments	RR	0.64(0.11,3.75)	NS

Table 51: PICO 19- Prediction of Malunion/Nonunion - Prognostic – Union

Reference Title	Quality	Outcome Details	Prognostic Factor	Prognostic Reference	Prognostic Adjustment	Prognostic Statistic	Prognostic Result	Favored Treatment
Liu, 2015	Low	Nonunion	Fx Displacement	(per increasing unit)	Age, Sex, Smoking, Presence of Complete Displacement of Fracture, Shortening of an Off-Ended Fracture, Translation of Fracture, Angulation of Fracture, Comminution of Fracture	Odds Ratio	7.81 (2.27, 25.38)	Lesser Fx Displacement
Liu, 2015	Low	Nonunion	Comminuted Fracture	Non-Comminuted Fracture	Age, Sex, Smoking, Overall Fracture Displacement, Presence of Complete Displacement of Fracture, Shortening of an Off-Ended Fracture, Translation of Fracture, Angulation of Fracture	Odds Ratio	3.86 (1.16, 13.46)	Non-Comminuted Fracture
Murray, 2013	Low	Nonunion	Comminuted Fracture	Non-Comminuted Fracture	Smoking, Absolute Fracture Displacement	Odds Ratio	1.75 (1.11, 2.76)	Non-Comminuted Fracture
Murray, 2013	Low	Nonunion	Absolute Fracture Displacement	(per increasing mm)	Smoking, Comminuted Fracture	Odds Ratio	1.17 (1.13, 1.21)	Lesser Absolute Fracture Displacement

Tagliapietra, 2020	Low	Nonunion	Initial Shortening	N/A	N/A	sig only	p = 0.15	NS
Tagliapietra, 2020	Low	Nonunion	Residual Shortening	N/A	N/A	sig only	p = 0.014	Lesser Residual Shortening
Tagliapietra, 2020	Low	Nonunion	Initial Displacement	N/A	N/A	sig only	p < 0.0001	Lesser Initial Displacement
Tagliapietra, 2020	Low	Nonunion	Residual Displacement	N/A	N/A	Relative Risk Ratio	1.122 (1.065, 1.182)	Lesser Residual Displacement

Meta Analyses

PICO 8- Midshaft Fx - Operative vs. Non-Operative Treatment

Figure 1: Constant Murley Score 3 months (Operative vs non-operative treatment stratified by surgery type)

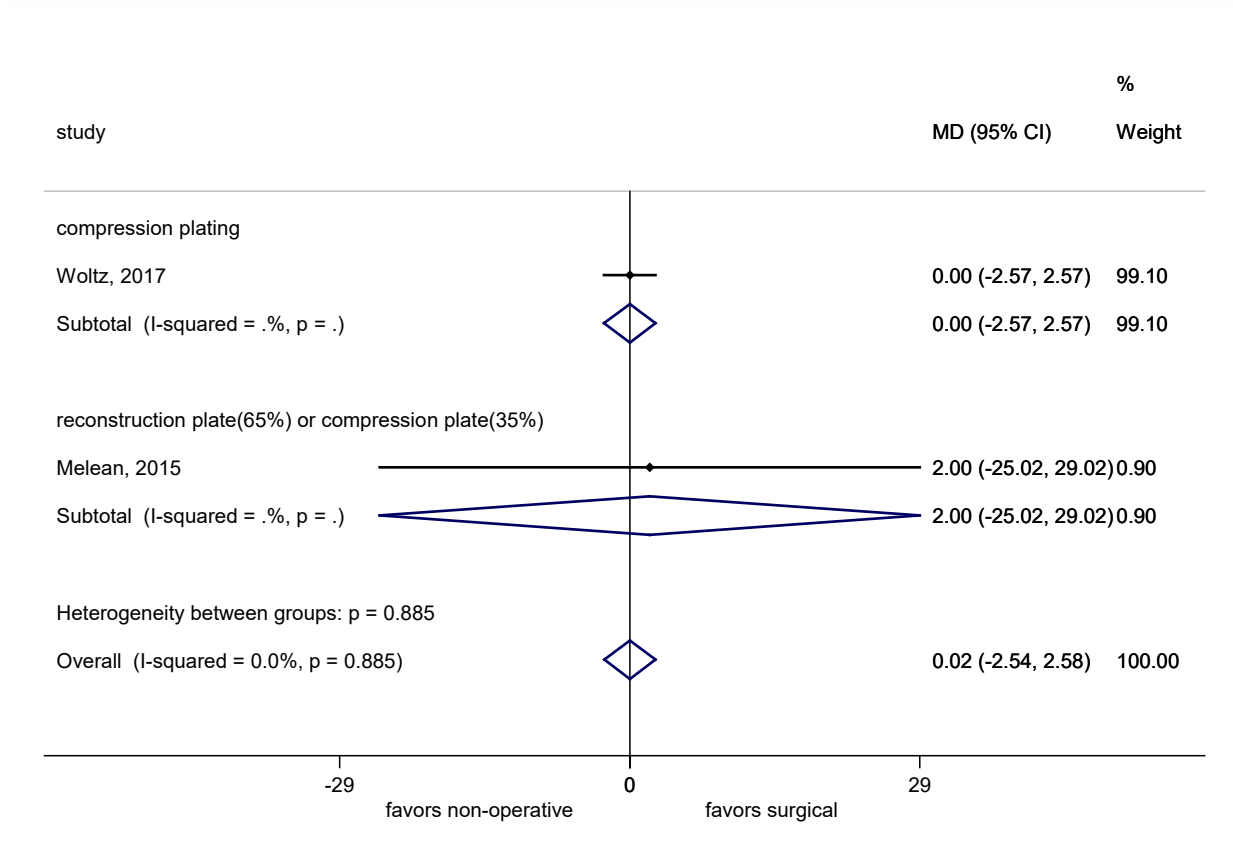


Figure 2: Constant Murley Score 6 months (Operative vs non-operative treatment stratified by surgery type)

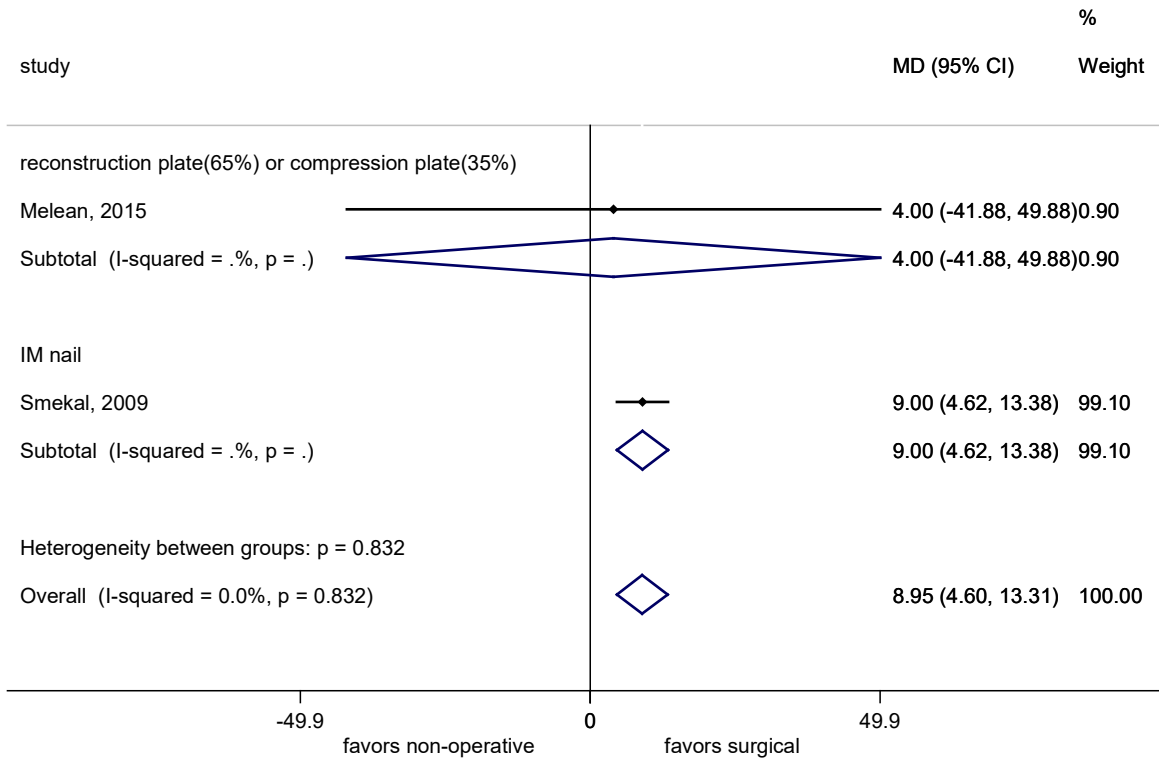


Figure 3: Constant Murley Score between 1 and 2 years (Operative vs non-operative treatment stratified by surgery type)

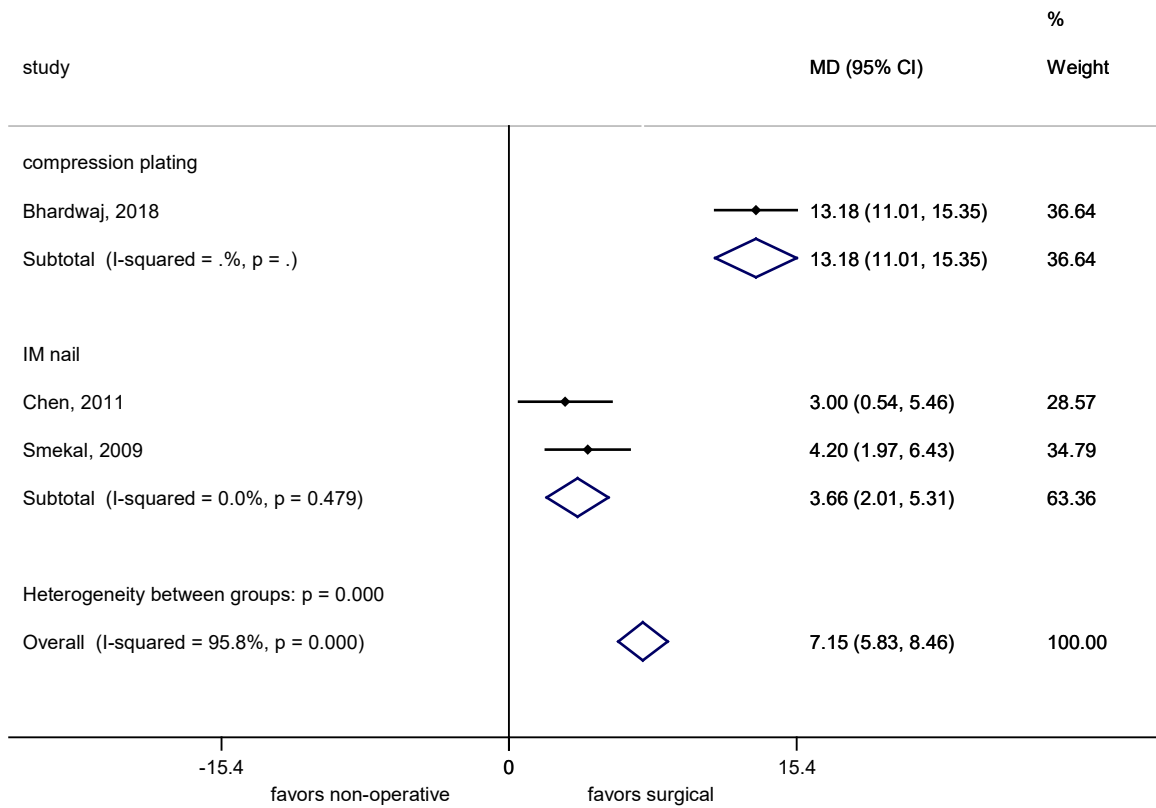


Figure 4: return to work/activities (months) (Operative vs non-operative treatment stratified by surgery type)

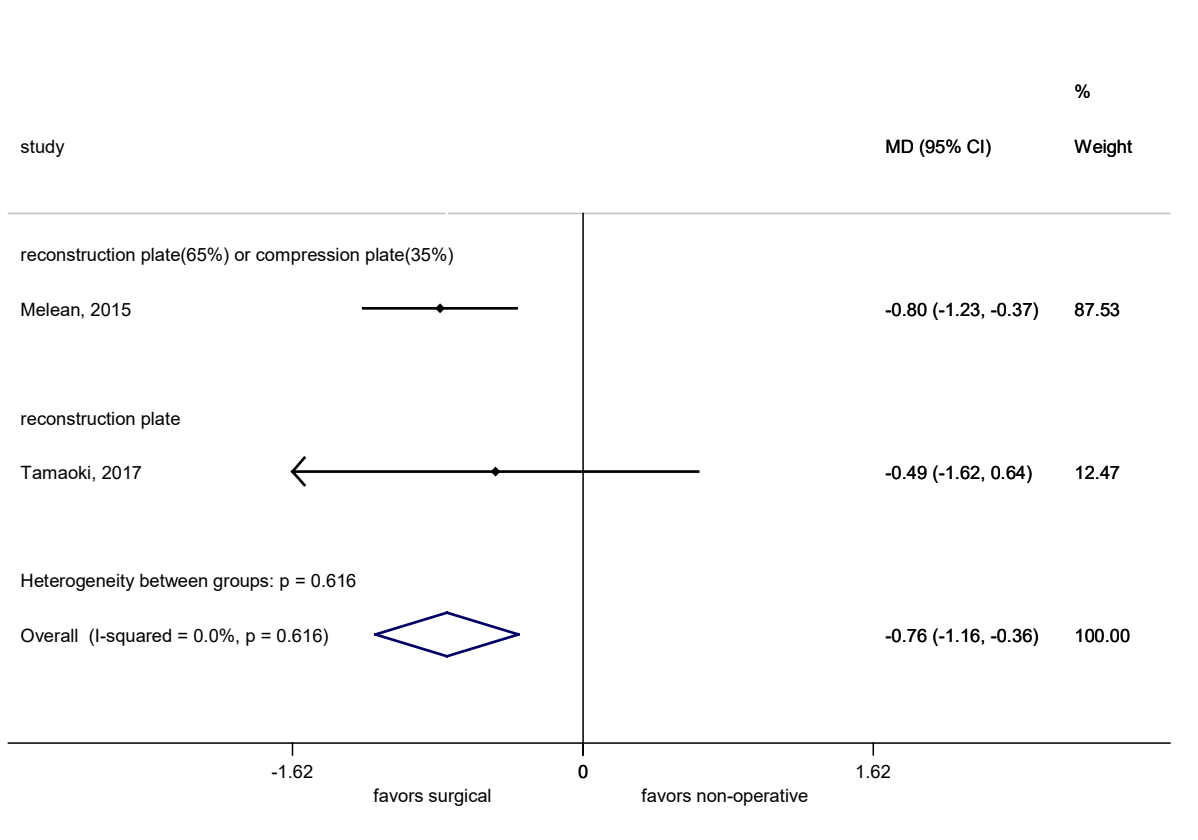
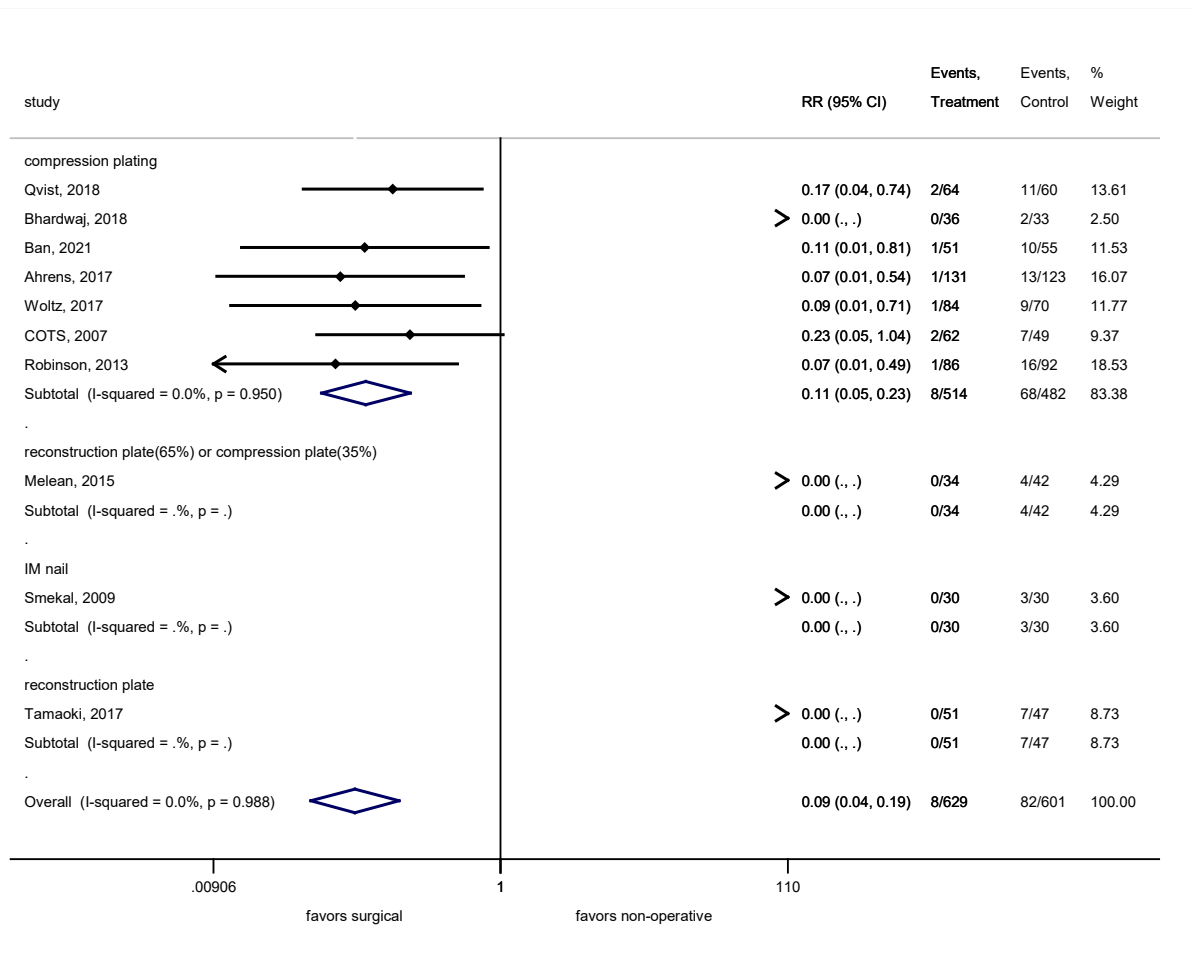
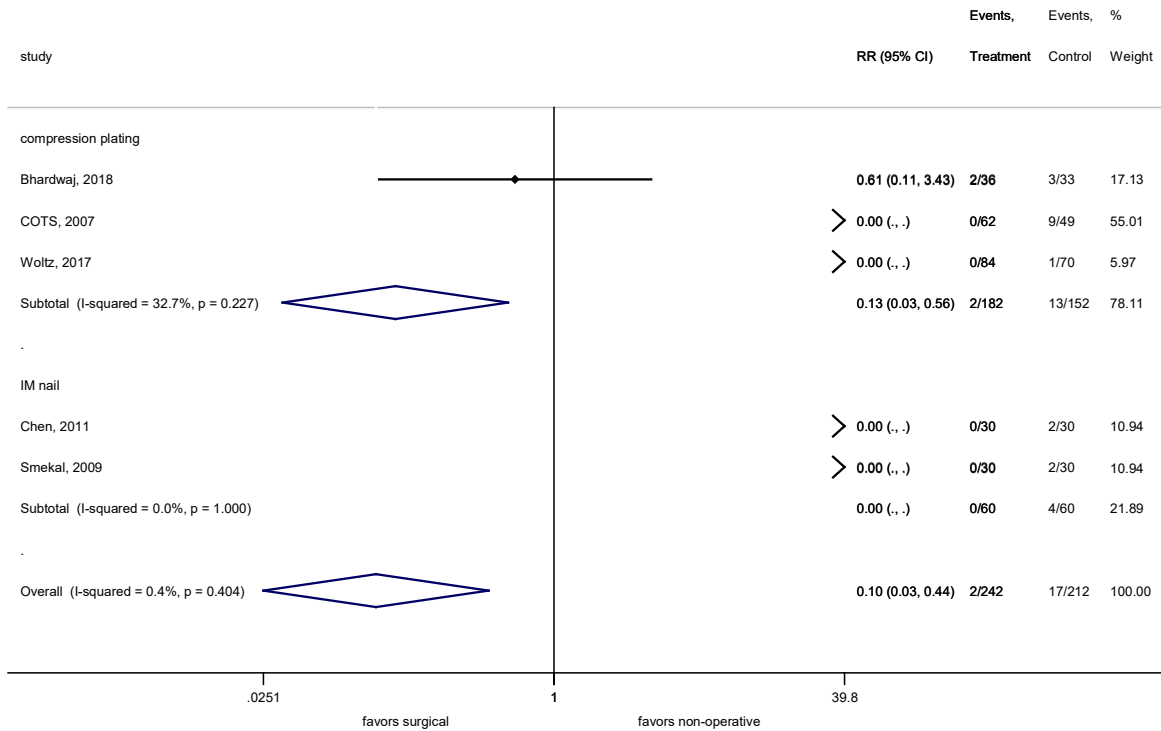


Figure 5: nonunion* (Operative vs non-operative treatment stratified by surgery type)



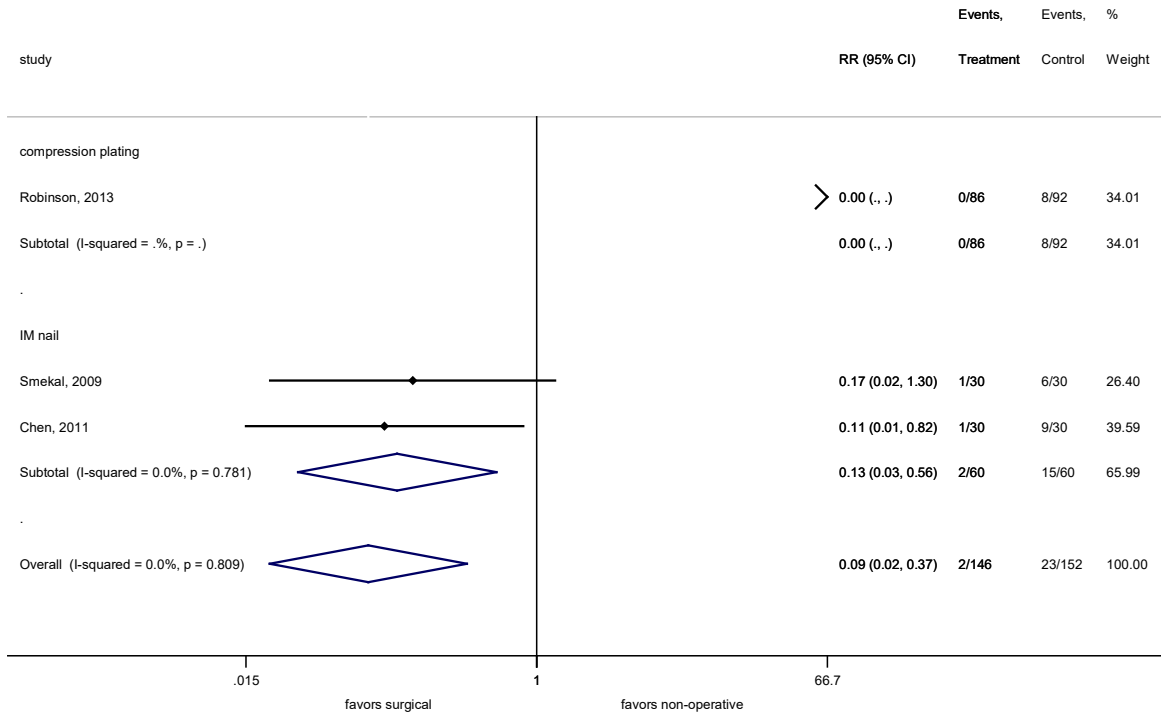
*some individual studies have missing relative risk ratios due to zero events in one of the study groups. However, these studies still contribute to the overall pooled relative risk.

Figure 6: malunion* (Operative vs non-operative treatment stratified by surgery type)



*some individual studies have missing relative risk ratios due to zero events in one of the study groups. However, these studies still contribute to the overall pooled relative risk.

Figure 7: delayed union* (Operative vs non-operative treatment stratified by surgery type)



*some individual studies have missing relative risk ratios due to zero events in one of the study groups. However, these studies still contribute to the overall pooled relative risk.

Figure 8: poor patient satisfaction (Operative vs non-operative treatment stratified by surgery type)

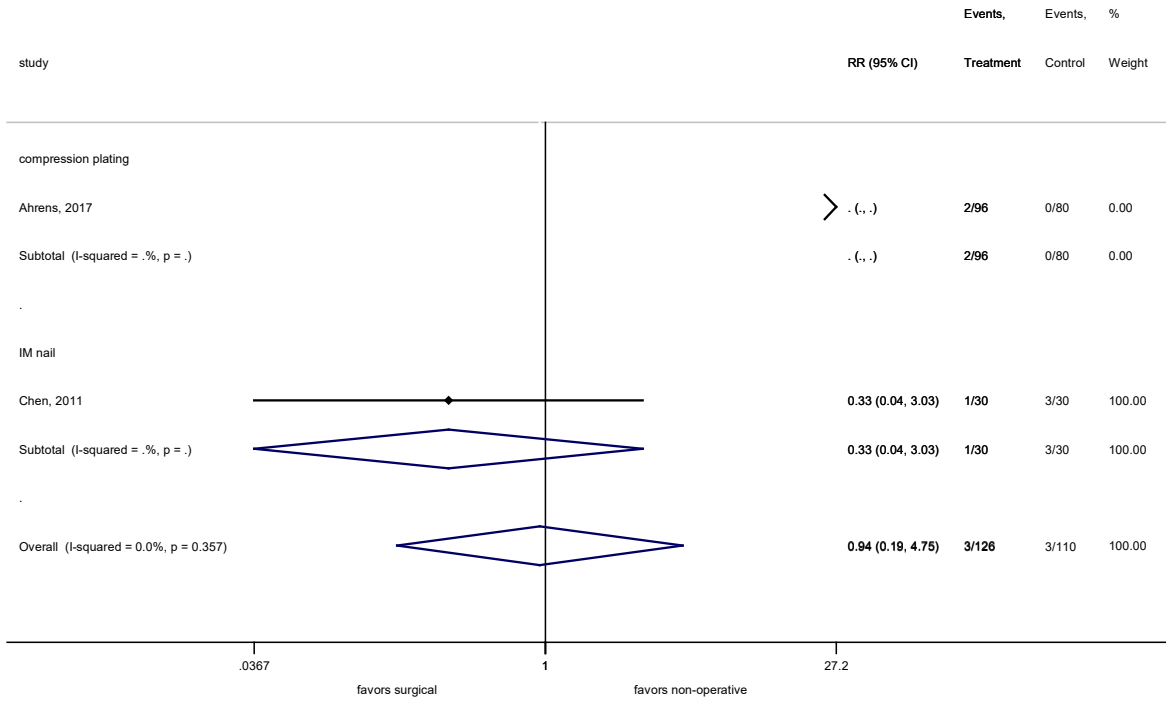
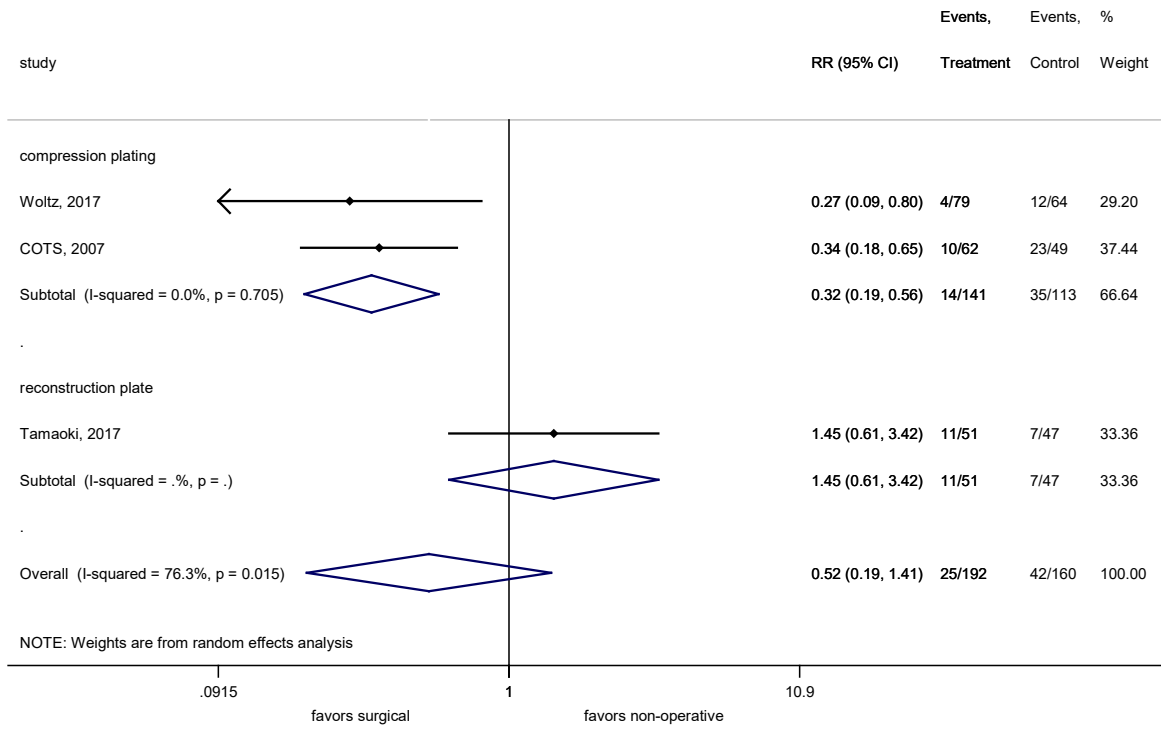
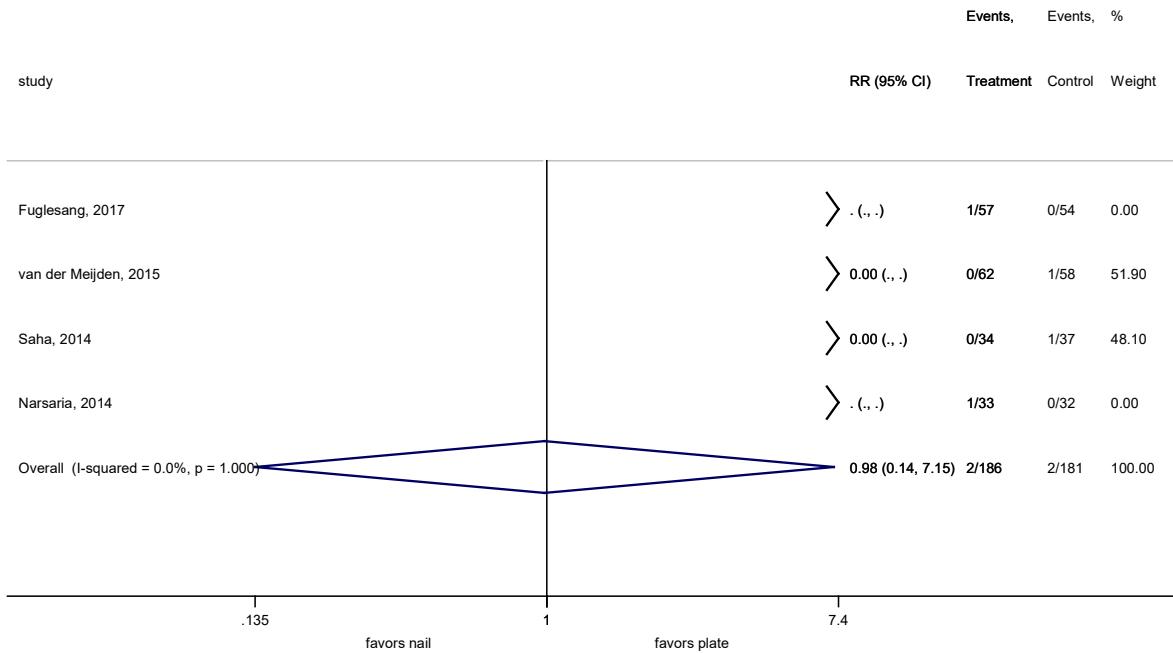


Figure 9: unsatisfied with cosmetic appearance (Operative vs non-operative treatment stratified by surgery type)



PICO 14- Nailing vs. Single Plate
 Figure 100: nonunion (nail vs. plate)



*some individual studies have missing relative risk ratios due to zero events in one of the study groups. However, these studies still contribute to the overall pooled relative risk.

Figure 11: time to union (nail vs. plate- stratified by nail type)

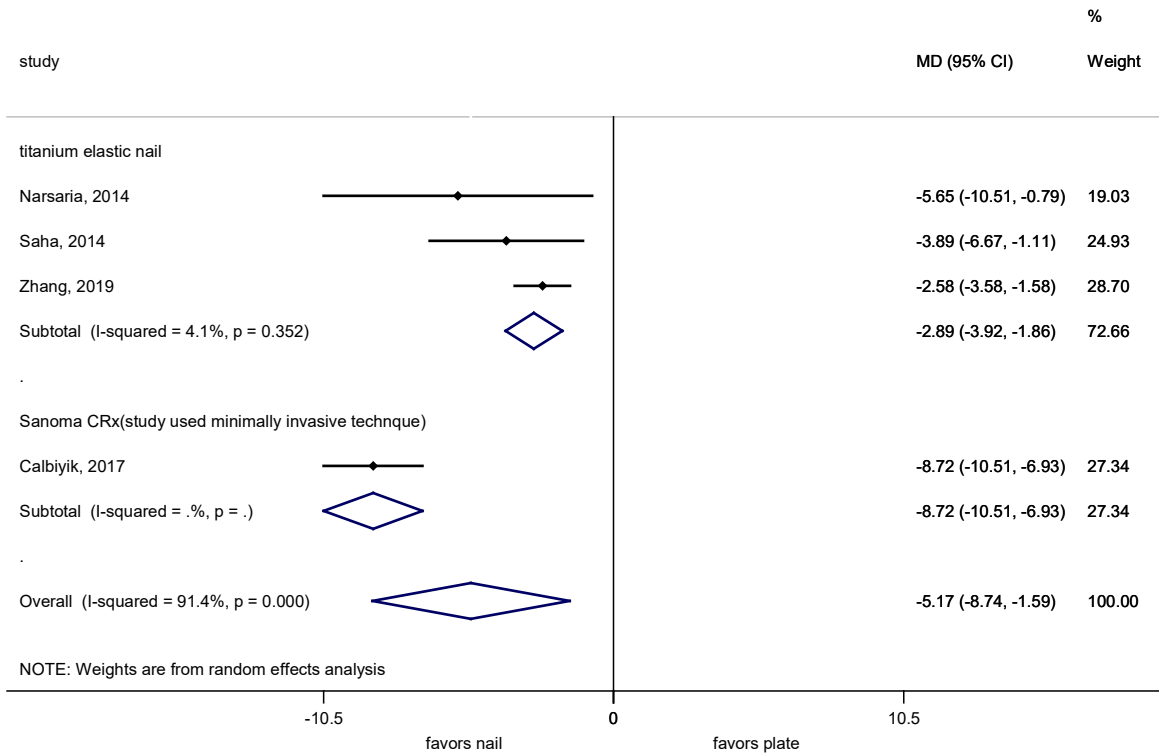
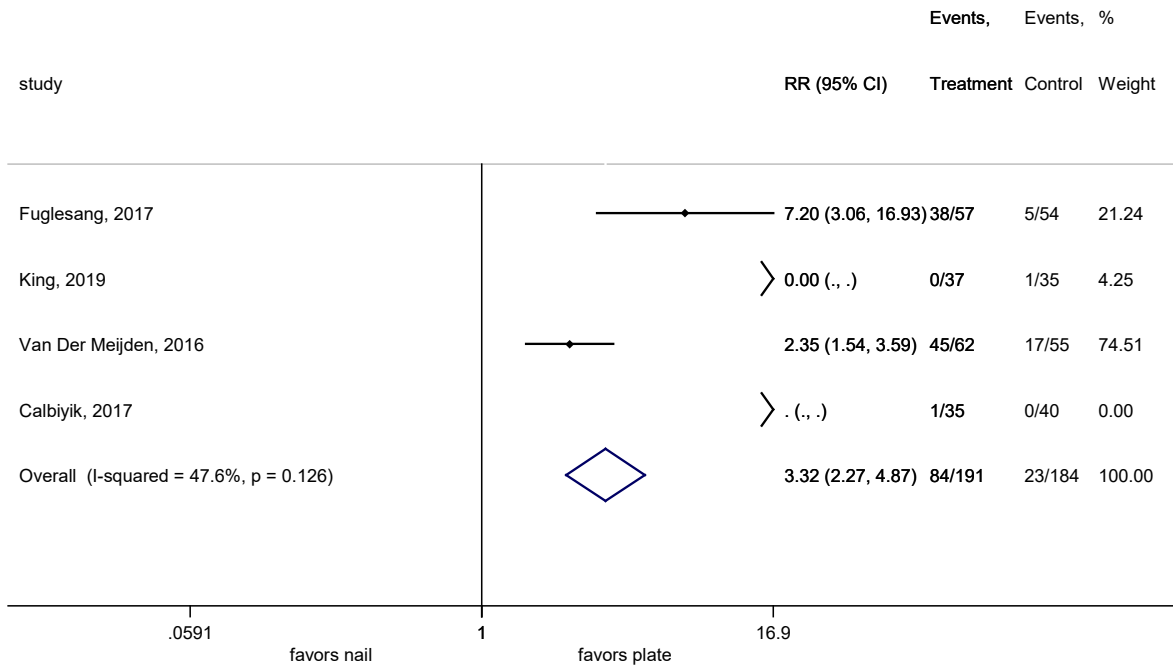
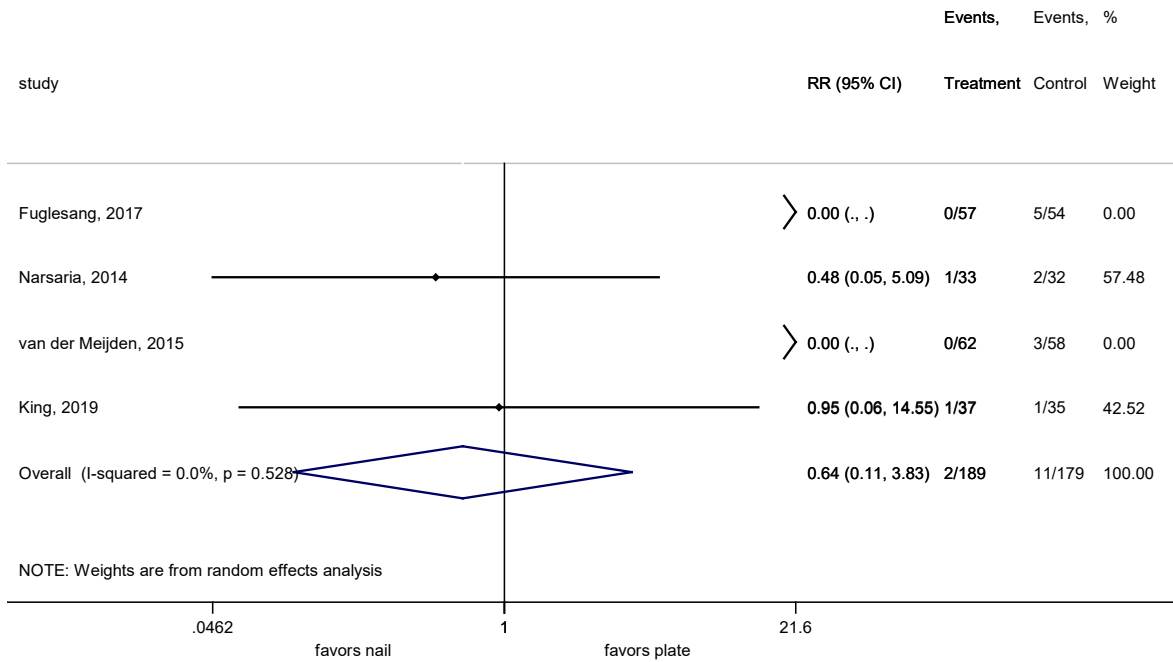


Figure 12: hardware removal (nail vs. plate)



*some individual studies have missing relative risk ratios due to zero events in one of the study groups. However, these studies still contribute to the overall pooled relative risk.

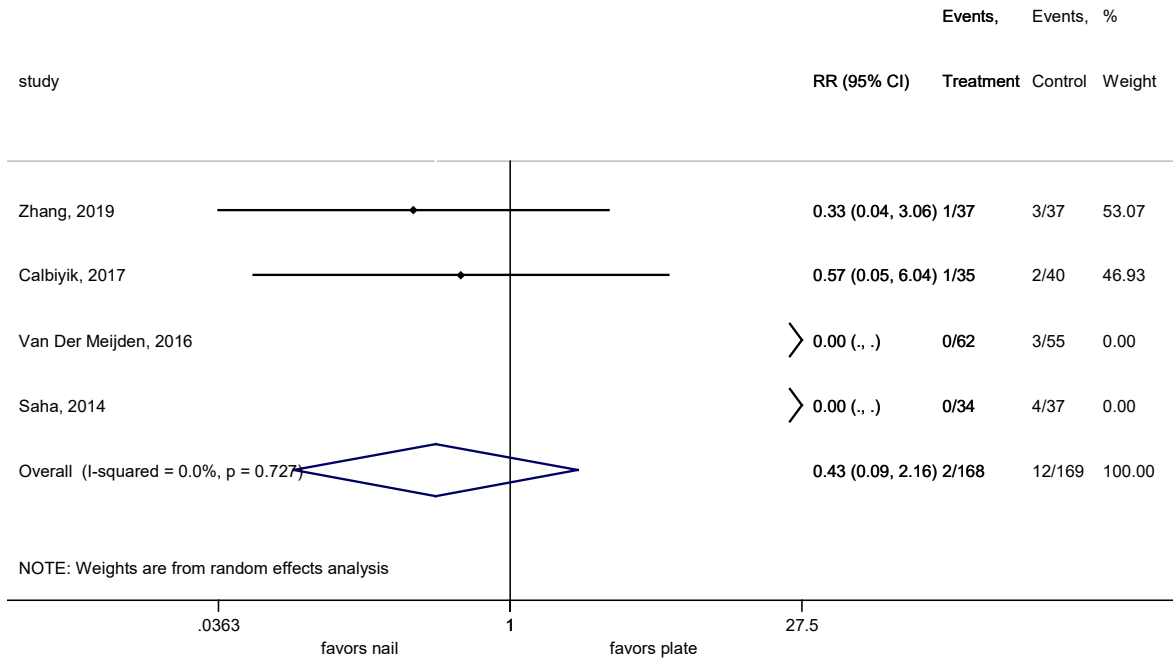
Figure 13: superficial infection (nail vs. plate)



*some individual studies have missing relative risk ratios due to zero events in one of the study groups. However, these studies still contribute to the overall pooled relative risk.

(note confidence intervals are wide/imprecise. May consider downgrading strength of evidence due to imprecision)

Figure 14: overall infections (nail vs. plate)



*some individual studies have missing relative risk ratios due to zero events in one of the study groups. However, these studies still contribute to the overall pooled relative risk.

(note confidence intervals are wide/imprecise. May consider downgrading strength of evidence due to imprecision)