

Supplement to the Management of Glenohumeral Joint Osteoarthritis Evidence-Based Clinical Practice Guideline

e-Appendix 1

- PICO Questions/Inclusion Criteria
- Search Strategy
- Excluded Literature
- AAOS Approval Bodies
- Review Organizations
- Letters of Endorsement from External Organizations

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

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PICO Questions and Inclusion Criteria

PICO Questions

1. In patients with GJO who have not undergone any arthroplasty, does any physical therapy (multiple sessions with a physical therapist) lead to different pre-surgical outcomes when compared to other non-surgical interventions (supervised care, exercise treatment, home exercise program, in person, 1-on-1, formal clinic-based PT, tele-medicine on site PT or no treatment)?
2. Does pre-op physical therapy affect post-operative outcomes.
3. Does post-op physical therapy affect post-op outcomes.
4. In GJO patients who have not received arthroplasty, do injectable interventions affect pre-operative outcomes?
5. In GJO patients who have not received arthroplasty, do alternative non-surgical, non-injectable, non-physical therapy interventions affect pre-operative outcomes?
6. In patients with GJO who have not received arthroplasty are non-narcotic medications equivalent to narcotic medications for pain management?
7. In patients with GJO, what is the utility of non-arthroplasty surgical interventions?
8. Does advanced planning affect near and long-term outcomes, survivorship?
9. Which risk factors in patients with GJO undergoing arthroplasty are associated with worse post-surgical outcomes or greater cost of treatment?
10. In patients with GJO and well-functioning rotator cuff, how do the different surgical treatments compare to each other?
11. In patients with GJO and well-functioning rotator cuff, how do the different surgical techniques compare to each other?
12. In GJO patients undergoing arthroplasty, which peri-operative interventions are effective?
13. In primary GJO patient with concomitant supraspinatus rotator cuff tear how do the different surgical techniques compare to each other?
14. In patients with GJO who underwent arthroplasty, what is the best timing for patient discharge?
(Can total shoulder be done on an ambulatory basis?)
15. In patients with GJO who have undergone arthroplasty, which postoperative management strategies affect outcomes?

Standard Inclusion Criteria

- Article must be a full article report of a clinical study (studies using registry data can be included in a guideline if it is published in a peer-reviewed journal and meets all other inclusion criteria/quality standards).
- Retrospective non-comparative case series, medical records review, meeting abstracts, historical articles, editorials, letters, and commentaries are ***excluded***.
- Confounded studies (i.e. studies that give patients the treatment of interest AND another treatment without appropriate sub-analysis or statistical adjustment) are ***excluded***.
- Case series studies that have non-consecutive enrollment of patients are ***excluded***.
- Controlled trials in which patients were not stochastically assigned to groups AND in which there was either a difference in patient characteristics or outcomes at baseline AND where the authors did not statistically adjust for these differences when analyzing the results are ***excluded***.
- All studies of “Very Low” quality of evidence (e.g. Level V) are ***excluded***.
- Study must appear in a peer-reviewed publication
- For any included study that uses “paper-and-pencil” outcome measures (e.g. Composite measures, SF-36, etc.), only those outcome measures that have been validated will be included
- For any given follow-up time point in any included study, there must be $\geq 50\%$ patient follow-up (if the follow-up is $>50\%$ but $<80\%$, the study quality will be downgraded by one Level)
- Study must be of humans
- Study must be published in English
- Study results must be quantitatively presented
- Study must not be an in vitro study
- Study must not be a biomechanical study
- Study must not have been performed on cadavers

Customized Inclusion Criteria

- Study must be of a “**patient with glenohumeral joint osteoarthritis**”
- Study must be published in or after the year **2000**
- Study should have **20 or more patients** per group
- Consider all follow-up times
- Study needs **90% OA**; (exclude $>10\%$ non-OA)

Literature Search Strategy

Literature Search Methods

The medical librarian conducted a comprehensive search of MEDLINE, Embase, and the Cochrane Central Register of Controlled Trials based on key terms and concepts from the workgroup-defined PICO questions. Bibliographies of relevant systematic reviews were hand searched for additional references. All databases were last searched on June 7, 2019 with limits for publication dates from 2000-present and English language.

For PRISMA diagram

Records identified through database searching: 5,207

Records after duplicates removed: 3,302

Additional records identified through other sources: 13

Records screened: 3,315

Appendix: Literature Search Strategies by Database

Database: MEDLINE and Epub Ahead of Print, In-Process & Other Non-Indexed Citations, Daily and Versions, 1946 to present

Interface: Ovid (<http://ovidsp.ovid.com/autologin>)

Date Searched: June 7, 2019

LINE SEARCH SYNTAX

1	((animals not humans) or cadaver).sh. or cadaver*.ti.
2	((comment or editorial or letter or historical article) not "clinical trial") or address or news or newspaper article or case reports).pt. or case report.ti.
3	1 or 2
4	exp "Shoulder Joint"/ or exp "Shoulder"/ or (glenohumeral or glenoid or ((humerus or humeral) and head) or shoulder or shoulders).ti,ab.
5	"Osteoarthritis"/ or "Arthritis"/ or (osteoarthriti* or osteo-arthriti* or osteo-arthros* or osteoarthros*).ti,ab. or ((non-inflamm* or noninflamm* or degenerat* or hypertrophic) and (arthriti* or joint* or disease*)).ti,ab.
6	4 and 5
7	(6 not 3) and English.lg.
8	limit 7 to yr="2000-Current"

Database: Embase

Interface: Elsevier (<https://embase.com>)

Date Searched: June 7, 2019

LINE SEARCH QUERY

1	cadaver'/de OR 'in vitro study'/exp OR 'abstract report'/de OR 'book'/de OR 'editorial'/de OR 'note'/de OR 'letter'/it OR 'case study'/de OR 'case report'/de OR 'conference abstract'/it OR 'chapter'/it OR 'conference paper'/it OR 'conference review'/it
2	shoulder'/exp or (glenohumeral or glenoid or ((humerus or humeral) and head) or shoulder or shoulders):ti,ab
3	osteoarthritis'/de or (osteoarthriti* or osteo-arthriti* or osteo-arthros* or osteoarthros*):ti,ab or ((non-inflamm* or noninflamm* or degenerat* or hypertrophic) and (arthriti* or joint* or disease*)):ti,ab
4	(2 and 3) or 'glenohumeral osteoarthritis'/exp
5	#4 NOT #1 AND [english]/lim AND [2000-2019]/py

Database: Cochrane Central Register of Controlled Trials (CENTRAL)

Interface: Wiley (<https://www.cochranelibrary.com/central>)

Date Searched: June 24, 2019

LINE SEARCH QUERY

1	[mh "Shoulder Joint"] or [mh "Shoulder"] or (glenohumeral or glenoid or ((humerus or humeral) and head) or shoulder or shoulders):ti,ab
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- 2** [mh ^"Osteoarthritis"] or [mh ^"Arthritis"] or (osteoarthriti* or osteo-arthriti* or osteo-arthros* or osteoarthros*):ti,ab or ((non-inflamm* or noninflamm* or degenerat* or hypertrophic) and (arthriti* or joint* or disease*)):ti,ab
- 3** (#1 and #2) not "conference abstract":pt
with publication year from 2000 to 2019

Bib/Manual Searches

1. **Date:** April 4, 2019
Results added to EndNote/PEER: 5
2. **Date:** November 5, 2019
Results added to EndNote/PEER: 8

Excluded Articles

Authors	Article Title	Year	Reason for Exclusion
Ammitzboell, M.; Baram, A.; Brorson, S.; Olsen, B. S.; Rasmussen, J. V.	Poor patient-reported outcome after shoulder replacement in young patients with cuff-tear arthropathy: a matched-pair analysis from the Danish Shoulder Arthroplasty Registry	2019	insufficient data for target condition: unclear GJO
Collins, N. J.; Hart, H. F.; Mills, K. A. G.	OARSI year in review 2018: rehabilitation and outcomes	2018	insufficient data for target condition: no GJO
Shukla, D. R.; McLaughlin, R. J.; Lee, J.; Cofield, R. H.; Sperling, J. W.; Sanchez-Sotelo, J.	Intraobserver and interobserver reliability of the modified Walch classification using radiographs and computed tomography	2018	validation
Kim, T.; Kim, M.; Lee, M.; Yoon, B.	Comparison of scapular muscle activation during shoulder elevation in older and young adults: A pilot study	2018	<20 pts per group; n=21
Williams, B. T.; Redlich, N. J.; Mickschl, D. J.; Grindel, S. I.	Influence of preoperative opioid use on postoperative outcomes and opioid use after arthroscopic rotator cuff repair	2018	insufficient data for target condition: <90% GJO
Zhang, B.; Thayaparan, A.; Horner, N.; Bedi, A.; Alolabi, B.; Khan, M.	Outcomes of hyaluronic acid injections for glenohumeral osteoarthritis: a systematic review and meta-analysis	2018	Review/ Systematic Review
Mansfield, C.; VanEtten, L.; Willy, R.; Di Stasi, S.; Magnussen, R.; Briggs, M.	The Effects of Needling Therapies on Muscle Force Production: A Systematic Review and Meta-Analysis	2018	Review/ Systematic Review
Weisman, A.; Masharawi, Y.	Does Altering Sitting Posture Have a Direct Effect on Clinical Shoulder Tests in Individuals With Shoulder Pain and Rotator Cuff Degenerative Tears?	2018	GJO status unclear
Vezeridis, P. S.; Ishmael, C. R.; Jones, K. J.; Petriglano, F. A.	Glenohumeral Dislocation Arthropathy: Etiology, Diagnosis, and Management	2018	non-systematic review
Modgil, R.; Arora, K. S.; Sharma, A.; Negi, L. S.; Mohapatra, S.; Pareek, S.	TMJ Arthritis Imaging: Conventional Radiograph Vs CT Scan - Is CT actually needed?	2018	< 40 pts; n = 30
Thompson, K. M.; Hallock, J. D.; Smith, R. A.; Brolin, T. J.; Azar, F. M.; Throckmorton, T. W.	Preoperative Narcotic Use and Inferior Outcomes After Anatomic Total Shoulder Arthroplasty: A Clinical and Radiographic Analysis	2018	excluded at final meeting by workgroup; not applicable to PICO
James-Belin, E.; Roy, A. L.; Lasbleiz, S.; Ostertag, A.; Yelnik, A.; Orcel, P.; Beaudreuil, J.	Comparative study of psychometric properties of three assessment tools for degenerative rotator cuff disease	2018	pico not answered: no surgical outcomes

Authors	Article Title	Year	Reason for Exclusion
Clavert, P.; Kling, A.; Sirveaux, F.; Favard, L.; Mole, D.; Walch, G.; Boileau, P.	Reverse shoulder arthroplasty for instability arthropathy	2018	< 40 pts; n = 25
Villafane, J. H.; Valdes, K.; Pedersini, P.; Berjano, P.	Osteoarthritis: a call for research on central pain mechanism and personalized prevention strategies	2018	non-systematic review
Jaiswal, A.; Malhotra, A.; Hay, S.; Kelly, C. P.	Revision shoulder arthroplasty for failed surface replacement hemiarthroplasty	2018	<20 pts per group; n=25 pts total
Singh, J. A.	Efficacy of Long-term Effect and Repeat Intraarticular Botulinum toxin in Patients with Painful Total Joint Arthroplasty: A Retrospective Study	2014	< 40 pts; n = 11
Zhang, W.; Mow, C. S.; Wiedel, J. D.	Unconstrained shoulder arthroplasty	2000	< 40 pts; n = 29
Bohndorf, K.	Imaging of degenerative and posttraumatic disease in the shoulder joint	2000	editorial
Varacallo, M.; Mair, S. D.	Rotator Cuff Syndrome	2018	irrelevant topic: rotator cuff
Baruffi, S.; Varacallo, M.	Arthrocentesis, Shoulder	2018	irrelevant topic: shoulder arthrocentesis (aspiration)
Kammel, K. R.; Leber, E. H.	Dislocation, Shoulder (Humerus), Posterior	2018	irrelevant topic: posterior dislocation of the humeral head
Matsumura, N.; Oki, S.; Suzuki, T.; Iwamoto, T.; Sato, K.; Nakamura, M.; Matsumoto, M.; Nagura, T.	A computed tomography analysis of three-dimensional glenoid orientation modified by glenoid torsion	2018	insufficient data for target condition: <90% GJO
Kang, Y.; Ahn, J. M.; Chee, C. G.; Lee, E.; Lee, J. W.; Kang, H. S.	The pattern of idiopathic isolated teres minor atrophy with regard to its two-bundle anatomy	2019	no target intervention; shoulder MRI to identify isolated teres minor atrophy
Gumina, S.; Castagna, A.; Candela, V.; Venditto, T.; Giannicola, G.; Borroni, M.; Villani, C.	Aetiopathogenesis of cuff-tear arthropathy: Could juvenile joint laxity be considered a predisposing factor?	2018	no target intervention; cross-sectional study w/o TSA, PT, etc.
Kristensen, M. R.; Rasmussen, J. V.; Elmengaard, B.; Jensen, S. L.; Olsen, B. S.; Brorson, S.	High risk for revision after shoulder arthroplasty for failed osteosynthesis of proximal humeral fractures	2018	no shoulder OA; proximal humeral fracture
Kohan, E. M.; Hill, J. R.; Schwabe, M.; Aleem, A. W.; Keener, J. D.; Chamberlain, A. M.	The influence of mental health on Patient-Reported Outcomes Measurement Information System (PROMIS) and traditional outcome instruments in patients with symptomatic glenohumeral arthritis	2019	no target intervention; cross-sectional study w/o TSA, PT, etc.

Authors	Article Title	Year	Reason for Exclusion
Sicard, J.; Klouche, S.; Conso, C.; Billot, N.; Auregan, J. C.; Poulain, S.; Lespagnol, F.; Solignac, N.; Bauer, T.; Ferrand, M.; Hardy, P.	Local infiltration analgesia versus interscalene nerve block for postoperative pain control after shoulder arthroplasty: a prospective, randomized, comparative noninferiority study involving 99 patients	2019	excluded at final meeting by workgroup; doesn't address PICO
Kwon, Y. W.; Zuckerman, J. D.	Subscapularis-Sparing Total Shoulder Arthroplasty: A Prospective, Double-Blinded, Randomized Clinical Trial	2019	excluded at final meeting by workgroup; not widely available intervention
Jost, P. W.; Dines, J. S.; Griffith, M. H.; Angel, M.; Altchek, D. W.; Dines, D. M.	Total shoulder arthroplasty utilizing mini-stem humeral components: technique and short-term results	2011	insufficient data for target comparison
Chaudhury, S.; Bavan, L.; Rupani, N.; Mouyis, K.; Kulkarni, R.; Rangan, A.; Rees, J.	Managing acromio-clavicular joint pain: a scoping review	2018	irrelevant topic: acromioclavicular joint
Page, M. J.; Huang, H.; Verhagen, A. P.; Gagnier, J. J.; Buchbinder, R.	Outcome Reporting in Randomized Trials for Shoulder Disorders: Literature Review to Inform the Development of a Core Outcome Set	2018	irrelevant topic: not just GJO
Epstein, S.; Sparer, E. H.; Tran, B. N.; Ruan, Q. Z.; Dennerlein, J. T.; Singhal, D.; Lee, B. T.	Prevalence of Work-Related Musculoskeletal Disorders Among Surgeons and Interventionalists: A Systematic Review and Meta-analysis	2018	irrelevant topic: disorders among surgeons
Rosenthal, A. K.	Basic calcium phosphate crystal-associated musculoskeletal syndromes: an update	2018	irrelevant topic: Basic calcium phosphate (BCP) crystals
Kim, M. J.; Park, K. S.; Seo, A. R.; Lee, S. I.; Ha, Y. C.; Yoo, J. I.	Determining functional activity profiles in patients with upper extremity disorders: is there effect modification by hand-grip strength?	2018	no shoulder OA; epicondylitis, RC tear, hand OA
Bonnevialle, N.; Clavert, P.; Arboucalot, M.; Bahlau, D.; Bauer, T.; Ehlinger, M.; Sofcot,	Contribution of arthroscopy in the treatment of anterior glenoid rim fractures: a comparison with open surgery	2019	insufficient data for target condition: <90% GJO
Meyer, D. C.; Riedo, S.; Eckers, F.; Carpegniani, G.; Jentzsch, T.; Gerber, C.	Small anteroposterior inclination of the acromion is a predictor for posterior glenohumeral erosion (B2 or C)	2019	no target intervention; preop imaging on preop outcomes
Chalmers, P. N.; Salazar, D. H.; Romeo, A. A.; Keener, J. D.; Yamaguchi, K.; Chamberlain, A. M.	Comparative Utilization of Reverse and Anatomic Total Shoulder Arthroplasty: A Comprehensive Analysis of a High-volume Center	2018	insufficient data for target condition: <90% GJO
Ho, J. C.; Amini, M. H.; Entezari, V.; Jun, B. J.; Alolabi, B.; Ricchetti, E. T.; Iannotti, J. P.	Clinical and Radiographic Outcomes of a Posteriorly Augmented Glenoid Component in Anatomic Total Shoulder Arthroplasty for Primary Osteoarthritis with Posterior Glenoid Bone Loss	2018	case series; no prog analysis

Authors	Article Title	Year	Reason for Exclusion
Allen, G. M.	The diagnosis and management of shoulder pain	2018	non-systematic review
Shim, S. B.; Jeong, J. Y.; Kim, J. S.; Yoo, J. C.	Evaluation of risk factors for irreparable rotator cuff tear in patients older than age 70 including evaluation of radiologic factors of the shoulder	2018	no target condition; RC tears w/o OA
Millett, P. J.; Fritz, E. M.; Frangiamore, S. J.; Mannava, S.	Arthroscopic Management of Glenohumeral Arthritis: A Joint Preservation Approach	2018	Review/ Systematic Review
O'Leary, S.; Cottrell, M.; Raymer, M.; Smith, D.; Khan, A.	General health factors may be a barrier to effective non-surgical multidisciplinary rehabilitation of common orthopaedic conditions in tertiary care settings	2018	no target condition; shoulder impingement syndrome, no OA
Garcia, G. H.; Liu, J. N.; Wong, A. C.; Gowd, A. K.; Romeo, A. A.; Dines, J. S.; Gulotta, L. V.	The Shoulder Self-Administered Motion Evaluation Has Excellent Patient Reliability and Reproducibility on Both Physician and Repeat Follow-up Testing	2018	<90% OA (33% OA, no breakdown)
Damjanov, N.; Barac, B.; Colic, J.; Stevanovic, V.; Zekovic, A.; Tulic, G.	The efficacy and safety of autologous conditioned serum (ACS) injections compared with betamethasone and placebo injections in the treatment of chronic shoulder joint pain due to supraspinatus tendinopathy: a prospective, randomized, double-blind, controlled study	2018	irrelevant topic: supraspinatus tendinopathy
Yallapragada, R. K.; Apostolopoulos, A.; Katsougrakis, I.; Selvan, T. P.	The use of a subacromial spacer-inspace balloon in managing patients with irreparable rotator cuff tears	2018	irrelevant topic: rotator cuff tear management
Saltzman, B. M.; Leroux, T. S.; Verma, N. N.; Romeo, A. A.	Glenohumeral Osteoarthritis in the Young Patient	2018	Review/ Systematic Review
Gallacher, S.; Williams, H. L. M.; King, A.; Kitson, J.; Smith, C. D.; Thomas, W. J.	Clinical and radiologic outcomes following total shoulder arthroplasty using Arthrex Eclipse stemless humeral component with minimum 2 years' follow-up	2018	case series, no breakdown
Beeler, S.; Hasler, A.; Gotschi, T.; Meyer, D. C.; Gerber, C.	Different acromial roof morphology in concentric and eccentric osteoarthritis of the shoulder: a multiplane reconstruction analysis of 105 shoulder computed tomography scans	2018	no target intervention; analysis of CT scans w/o intervention
Saad, M. A.; Kassam, H. F.; Suriani, R. J., Jr.; Pan, S. D.; Blaine, T. A.; Kovacevic, D.	Performance of PROMIS Global-10 compared with legacy instruments in patients with shoulder arthritis	2018	no target intervention; validation study

Authors	Article Title	Year	Reason for Exclusion
Gilbert, F.; Meffert, R. H.; Schmalzl, J.; Weng, A. M.; Kostler, H.; Eden, L.	Grade of retraction and tendon thickness correlates with MR-spectroscopically measured amount of fatty degeneration in full thickness supraspinatus tears	2018	no target condition; RC repair, no OA
Harjula, J. N. E.; Paloneva, J.; Haapakoski, J.; Kukkonen, J.; Aarimaa, V.; Finnish Shoulder Arthroplasty Registry, Group	Increasing incidence of primary shoulder arthroplasty in Finland - a nationwide registry study	2018	<90% OA (56% OA, no breakdown)
Ackerman, I. N.; Page, R. S.; Fotis, K.; Schoch, P.; Broughton, N.; Brennan-Olsen, S. L.; Bucknill, A.; Cross, E.	Exploring the personal burden of shoulder pain among younger people in Australia: protocol for a multicentre cohort study	2018	no target intervention; cross-sectional study w/o TSA, PT, etc.
Majad, A.; Errahali, Y.; Toufik, H.; H. Djossou J; Ghassem, M. A.; Kasouati, J.; Maghraoui, A. E.	Musculoskeletal Disorders in Patients with Diabetes Mellitus: A Cross-Sectional Study	2018	no target condition; DM pts, no shoulder OA
Cinone, N.; Letizia, S.; Santoro, L.; Gravina, M.; Amoruso, L.; Molteni, F.; Ranieri, M.; Santamato, A.	Intra-articular injection of botulinum toxin type A for shoulder pain in glenohumeral osteoarthritis: a case series summary and review of the literature	2018	Review/ Systematic Review
Inderhaug, E.; Kalsvik, M.; Kollevold, K. H.; Hegna, J.; Solheim, E.	Long-term results after surgical treatment of subacromial pain syndrome with or without rotator cuff tear	2018	no GJO
Moura, D. L.; Reis, A. R. E.; Ferreira, J.; Capelao, M.; Cardoso, J. B.	Modified Bristow-Latarjet procedure for treatment of recurrent traumatic anterior glenohumeral dislocation	2018	no target condition; glenohumeral dislocation, no OA
Maier, M. W.; Hetto, P.; Raiss, P.; Klotz, M.; Bulhoff, M.; Spranz, D.; Zeifang, F.	Cementless humeral head resurfacing for degenerative glenohumeral osteoarthritis fails at a high rate	2018	< 40 pts; n = 34
Baumgarten, K. M.; Chang, P. S.; Dannenbring, T. M.; Foley, E. K.	Does total shoulder arthroplasty improve patients' activity levels?	2018	insufficient data for target condition: not all GJO
Chalmers, P. N.; Beck, L.; Stertz, I.; Aleem, A.; Keener, J. D.; Henninger, H. B.; Tashjian, R. Z.	Do magnetic resonance imaging and computed tomography provide equivalent measures of rotator cuff muscle size in glenohumeral osteoarthritis?	2018	<20 pts; n=30
Page, R. S.; Pai, V.; Eng, K.; Bain, G.; Graves, S.; Lorimer, M.	Cementless versus cemented glenoid components in conventional total shoulder joint arthroplasty: analysis from the Australian Orthopaedic Association National Joint Replacement Registry	2018	excluded at final meeting by workgroup; not comparison of interest; Tx not available in US

Authors	Article Title	Year	Reason for Exclusion
Beeler, S.; Hasler, A.; Getzmann, J.; Weigelt, L.; Meyer, D. C.; Gerber, C.	Acromial roof in patients with concentric osteoarthritis and massive rotator cuff tears: multiplanar analysis of 115 computed tomography scans	2018	pico not answered: no surgical outcomes
Alentorn-Geli, E.; Wanderman, N. R.; Assenmacher, A. T.; Sperling, J. W.; Cofield, R. H.; Sanchez-Sotelo, J.	Anatomic total shoulder arthroplasty with posterior capsular plication versus reverse shoulder arthroplasty in patients with biconcave glenoids: A matched cohort study	2018	< 20 pts per group: n1= 15, n2 = 16
Matsuba, T.; Hata, Y.; Ishigaki, N.; Nakamura, K.; Kato, H.	Osteoarthritis progression of the shoulder: A long-term follow-up after mini-open rotator cuff repair	2018	no target condition or intervention; no OA, primary RC tear repair
Bock, J.; Buckup, J.; Reinig, Y.; Zimmermann, E.; Colcuic, C.; Hoffmann, R.; Welsch, F.; Stein, T.	The arthroscopic Bankart repair procedure enables complete quantitative labrum restoration in long-term assessments	2018	no shoulder OA; Bankart repair for glenohumeral joint dislocation
Friedman, R. J.; Cheung, E. V.; Flurin, P. H.; Wright, T.; Simovitch, R. W.; Bolch, C.; Roche, C. P.; Zuckerman, J. D.	Are Age and Patient Gender Associated With Different Rates and Magnitudes of Clinical Improvement After Reverse Shoulder Arthroplasty?	2018	unclear how many OA pts; cuff tear and OA + RC tear pts included
Farfaras, S.; Sernert, N.; Rostgard Christensen, L.; Hallstrom, E. K.; Kartus, J. T.	Subacromial Decompression Yields a Better Clinical Outcome Than Therapy Alone: A Prospective Randomized Study of Patients With a Minimum 10-Year Follow-up	2018	insufficient data for target condition: no GJO
Juel, N. G.; Brox, J. I.; Hellund, J. C.; Merckoll, E.; Holte, K. B.; Berg, T. J.	Radiological glenohumeral osteoarthritis in long-term type 1 diabetes. Prevalence and reliability of three classification systems. The Dialong shoulder study	2018	no target condition; OA as an outcome
Schoenfeldt, T. L.; Trenhaile, S.; Olson, R.	Glenohumeral osteoarthritis: frequency of underlying diagnoses and the role of arm dominance-a retrospective analysis in a community-based musculoskeletal practice	2018	no target intervention; retrospective case series of GJO and RC pts w/o
Pekkala, J.; Rahkonen, O.; Pietilainen, O.; Lahelma, E.; Blomgren, J.	Sickness absence due to different musculoskeletal diagnoses by occupational class: a register-based study among 1.2 million Finnish employees	2018	no shoulder OA; only shoulder disorders and other musculoskeletal conditions
Boileau, P.; Cheval, D.; Gauci, M. O.; Holzer, N.; Chaoui, J.; Walch, G.	Automated Three-Dimensional Measurement of Glenoid Version and Inclination in Arthritic Shoulders	2018	validation
Walker, K. E.; Simcock, X. C.; Jun, B. J.; Iannotti, J. P.; Ricchetti, E. T.	Progression of Glenoid Morphology in Glenohumeral Osteoarthritis	2018	pico not answered: no surgical outcomes
Porcellini, G.; Combi, A.; Merolla, G.; Bordini, B.; Stea, S.; Zanoli, G.; Paladini, P.	The experience of the RIPO, a shoulder prosthesis registry with 6-year follow-up	2018	pico not answered: no surgical outcomes

Authors	Article Title	Year	Reason for Exclusion
Vickers, A. J.; Vertosick, E. A.; Lewith, G.; MacPherson, H.; Foster, N. E.; Sherman, K. J.; Irnich, D.; Witt, C. M.; Linde, K.; Acupuncture Trialists, Collaboration	Acupuncture for Chronic Pain: Update of an Individual Patient Data Meta-Analysis	2018	Review/ Systematic Review
Kligler, B.; Nielsen, A.; Kohrherr, C.; Schmid, T.; Waltermaurer, E.; Perez, E.; Merrell, W.	Acupuncture Therapy in a Group Setting for Chronic Pain	2018	insufficient data for target condition: <90% GJO
King, J. J.; Patrick, M. R.; Struk, A. M.; Schnetzer, R. E.; Farmer, K. W.; Garvan, C.; Wright, T. W.	Perioperative Factors Affecting the Length of Hospitalization After Shoulder Arthroplasty	2017	insufficient data for target condition: <90% GJO
Hussain, Z. B.; Godin, J. A.; Sanchez, G.; Kennedy, N. I.; Cinque, M. E.; Ferrari, M. B.; Provencher, M. T.	Reverse Total Shoulder Arthroplasty With Humeral Head Autograft Fixed Onto Glenoid for Treatment of Severe Glenoid Retroversion	2017	technique review
Gregory, T. M.; Boukebous, B.; Gregory, J.; Pierrart, J.; Masemjean, E.	Short, Medium and Long Term Complications After Total Anatomical Shoulder Arthroplasty	2017	non-systematic review
Matache, B. A.; Lapner, P.	Anatomic Shoulder Arthroplasty: Technical Considerations	2017	technique review
Russo, A.; Grasso, A.; Arrighi, A.; Pistorio, A.; Molfetta, L.	Accuracy of Coracoid Bone Graft Placement: Open versus Arthroscopic Latarjet	2017	irrelevant topic: shoulder instability
Favard, L.; Berhouet, J.; Walch, G.; Chaoui, J.; Levigne, C.	Superior glenoid inclination and glenoid bone loss : Definition, assessment, biomechanical consequences, and surgical options	2017	non-systematic review
Harmsen, S.; Casagrande, D.; Norris, T.	"Shaped" humeral head autograft reverse shoulder arthroplasty : Treatment for primary glenohumeral osteoarthritis with significant posterior glenoid bone loss (B2, B3, and C type)	2017	< 40 pts; n = 29
Alepuz, E. S.; Perez-Barquero, J. A.; Jorge, N. J.; Garcia, F. L.; Baixauli, V. C.	Treatment of The Posterior Unstable Shoulder	2017	irrelevant topic: shoulder instability
Juge, P. A.; Berard, L.; Kotti, S.; Doursounian, L.; Sautet, A.; Simon, T.; Berenbaum, F.; Nourissat, G.; Sellam, J.	Cardiometabolic risk factors in primary centred and rotator cuff-related shoulder osteoarthritis: a comparative study	2017	no target intervention; cross-sectional study w/o TSA, PT, etc.
Dowdle, S. B.; Glass, N.; Anthony, C. A.; Hettrich, C. M.	Use of PROMIS for Patients Undergoing Primary Total Shoulder Arthroplasty	2017	validation study of PROMIS

Authors	Article Title	Year	Reason for Exclusion
Nyffeler, R. W.; Meyer, D. C.	Acromion and glenoid shape: Why are they important predictive factors for the future of our shoulders?	2017	non-systematic review
Lou, L.; Zou, L.; Fang, Q.; Wang, H.; Liu, Y.; Tian, Z.; Han, Y.	Effect of TaiChi Softball on Function-Related Outcomes in Older Adults: A Randomized Control Trial	2017	GJO status unclear
Karataglis, D.; Agathangelidis, F.	Long Term Outcomes of Arthroscopic Shoulder Instability Surgery	2017	irrelevant topic: shoulder instability
Skedros, J. G.; Adondakis, M. G.; Knight, A. N.; Pilkington, M. B.	Frequency of Shoulder Corticosteroid Injections for Pain and Stiffness After Shoulder Surgery and Their Potential to Enhance Outcomes with Physiotherapy: A Retrospective Study	2017	insufficient data for target condition: <90% GJO
Hedaya, R.	Five Herbs Plus Thiamine Reduce Pain and Improve Functional Mobility in Patients With Pain: A Pilot Study	2017	GJO status unclear
Malhas, A. M.; Granville-Chapman, J.; Robinson, P. M.; Brookes-Fazakerley, S.; Walton, M.; Monga, P.; Bale, S.; Trail, I.	Reconstruction of the glenoid using autologous bone-graft and the SMR Axioma TT metal-backed prosthesis	2018	insufficient data for target condition: <90% GJO
Sheth, M. M.; Sholder, D.; Abboud, J.; Lazarus, M. D.; Ramsey, M. L.; Williams, G. R.; Namdari, S.	Revision of failed hemiarthroplasty for painful glenoid arthrosis to anatomic total shoulder arthroplasty	2018	< 40 pts; n = 28
Singh, J. A.; Sperling, J.; Buchbinder, R.; McMaken, K.	Surgery for shoulder osteoarthritis	2010	Review/ Systematic Review
Tashjian, R. Z.; Chalmers, P. N.	Future Frontiers in Shoulder Arthroplasty and the Management of Shoulder Osteoarthritis	2018	non-systematic review
Brolin, T. J.; Thakar, O. V.; Abboud, J. A.	Outcomes After Shoulder Replacement Surgery in the Young Patient: How Do They Do and How Long Can We Expect Them to Last?	2018	Review/ Systematic Review
Christensen, J.; Brockmeier, S.	Total Shoulder Arthroplasty in the Athlete and Active Individual	2018	non-systematic review
Jong, B. Y.; Goel, D. P.	Biologic Options for Glenohumeral Arthritis	2018	
Takamura, K. M.; Chen, J. B.; Petrigliano, F. A.	Nonarthroplasty Options for the Athlete or Active Individual with Shoulder Osteoarthritis	2018	non-systematic review
Laidlaw, M. S.; Mahon, H. S.; Werner, B. C.	Etiology of Shoulder Arthritis in Young Patients	2018	non-systematic review
Werner, B. S.; Chaoui, J.; Walch, G.	Glenosphere design affects range of movement and risk of friction-type scapular impingement in reverse shoulder arthroplasty	2018	< 40 pts; n = 21

Authors	Article Title	Year	Reason for Exclusion
McCarthy, M. M.; McCarty, E.	Treatment of Articular Cartilage Injuries in the Glenohumeral Joint	2018	non-systematic review
Nguyen, B. J.; Burt, A.; Baldassarre, R. L.; Smitaman, E.; Morshedi, M.; Kao, S.; Chang, E. Y.; Obrzut, S.	The prognostic and diagnostic value of 18F-FDG PET/CT for assessment of symptomatic osteoarthritis	2018	insufficient data for target condition: no GJO
Mason, R.; Buckley, T.; Southgate, R.; Nicandri, G.; Miller, R.; Voloshin, I.	Radiographic Study of Humeral Stem in Shoulder Arthroplasty After Lesser Tuberosity Osteotomy or Subscapularis Tenotomy	2018	< 40 pts; n = 35
Lehtimaki, K.; Rasmussen, J. V.; Mokka, J.; Salomonsson, B.; Hole, R.; Jensen, S. L.; Aarimaa, V.	Risk and risk factors for revision after primary reverse shoulder arthroplasty for cuff tear arthropathy and osteoarthritis: a Nordic Arthroplasty Register Association study	2018	insufficient data for target condition: <90% GJO
Wright, T. W.; Bryant, T. L.; Stevens, C. G.; Bentley, B. C.; Farmer, K. W.	Midterm Follow-up of Divergent Peg Glenoid Components in Total Shoulder Arthroplasty	2018	<20 pts per group; n=34; no target intervention; TSA revision surgery for glenoid loosening
Shinagawa, K.; Hatta, T.; Yamamoto, N.; Kawakami, J.; Shiota, Y.; Mineta, M.; Itoi, E.	Critical shoulder angle in an East Asian population: correlation to the incidence of rotator cuff tear and glenohumeral osteoarthritis	2018	pico not answered: no surgical outcomes
Terrier, A.; Obrist, R.; Malfroy Camine, V.; Becce, F.; Farron, A.	Biomechanical comparison of glenoid implants with adaptable and fixed backside curvatures in anatomic total shoulder arthroplasty	2018	< 40 pts; n = 24
Willemot, L. B.; Elhassan, B. T.; Verborgt, O.	Bony Reconstruction of the Anterior Glenoid Rim	2018	pico not answered: no surgical outcomes
Gauci, M. O.; Bonneville, N.; Moineau, G.; Baba, M.; Walch, G.; Boileau, P.	Anatomical total shoulder arthroplasty in young patients with osteoarthritis	2018	excluded at final meeting by workgroup; not applicable to PICO; not intervention available in US
Jia, Z. Y.; Zhang, C.; Cui, J.; Xue, C. C.; Xu, W. D.	Translation and validation of the Simplified Chinese version of Western Ontario Osteoarthritis of the Shoulder Index (WOOS)	2018	irrelevant topic: tool validation
Inui, H.; Nobuhara, K.	Glenoid osteotomy for atraumatic posteroinferior shoulder instability associated with glenoid dysplasia	2018	irrelevant topic: shoulder instability
Fitzgerald, M.; Lawler, S. M.; Lowe, J. T.; Nelson, R.; Mantell, M. T.; Jawa, A.	Computed tomography underestimates rotator cuff pathology in patients with glenohumeral osteoarthritis	2018	diagnostic
Nelson, C. G.; Brolin, T. J.; Ford, M. C.; Smith, R. A.; Azar, F. M.; Throckmorton, T. W.	Five-year minimum clinical and radiographic outcomes of total shoulder arthroplasty using a hybrid glenoid component with a central porous titanium post	2018	insufficient data for target comparison

Authors	Article Title	Year	Reason for Exclusion
Sowa, B.; Bochenek, M.; Braun, S.; Zeifang, F.; Kretzer, J. P.; Bruckner, T.; Walch, G.; Raiss, P.	Replacement options for the B2 glenoid in osteoarthritis of the shoulder: a biomechanical study	2018	pico not answered: no surgical outcomes
Orvets, N. D.; Chamberlain, A. M.; Patterson, B. M.; Chalmers, P. N.; Gosselin, M.; Salazar, D.; Aleem, A. W.; Keener, J. D.	Total shoulder arthroplasty in patients with a B2 glenoid addressed with corrective reaming	2018	insufficient data for target comparison
Sayed-Noor, A. S.; Pollock, R.; Elhassan, B. T.; Kadum, B.	Fatty infiltration and muscle atrophy of the rotator cuff in stemless total shoulder arthroplasty: a prospective cohort study	2018	insufficient data in results; PICO not answered
Simovitch, R.; Flurin, P. H.; Wright, T.; Zuckerman, J. D.; Roche, C. P.	Quantifying success after total shoulder arthroplasty: the substantial clinical benefit	2018	unclear how many OA pts; OA, RA, RC tear are inclusion criteria but no breakdown
Cox, R. M.; Padegimas, E. M.; Abboud, J. A.; Getz, C. L.; Lazarus, M. D.; Ramsey, M. L.; Williams, G. R., Jr.; Horneff, J. G., 3rd	Outcomes of an anatomic total shoulder arthroplasty with a contralateral reverse total shoulder arthroplasty	2018	< 40 pts; n = 19
Hsu, J. E.; Hackett, D. J., Jr.; Vo, K. V.; Matsen, F. A., 3rd	What can be learned from an analysis of 215 glenoid component failures?	2018	GJO status unclear
Berendes, T.; Mathijssen, N.; Verburg, H.; Kraan, G.	The open-modified Bankart procedure: long-term follow-up 'a 16-26-year follow-up study'	2018	no shoulder OA; instability after traumatic shoulder dislocation; n=39
Raiss, P.; Godeneche, A.; Wittmann, T.; Schnetzke, M.; Bruckner, T.; Neyton, L.; Walch, G.	Short-term radiographic results of a cemented polyethylene keeled glenoid component with varying backside radiiuses of curvature	2018	case series, no breakdown
Reeves, J. M.; Johnson, J. A.; Athwal, G. S.	An analysis of proximal humerus morphology with special interest in stemless shoulder arthroplasty	2018	pico not answered: no surgical outcomes
Pandya, J.; Johnson, T.; Low, A. K.	Shoulder replacement for osteoarthritis: A review of surgical management	2018	Review/ Systematic Review
Chalmers, P. N.; Granger, E. K.; Orvets, N. D.; Patterson, B. M.; Chamberlain, A. M.; Keener, J. D.; Tashjian, R. Z.	Does prosthetic humeral articular surface positioning associate with outcome after total shoulder arthroplasty?	2018	case series; no prog analysis of interest
Aibinder, W. R.; Clark, N. J.; Schoch, B. S.; Steinmann, S. P.	Assessing glenosphere position: superior approach versus deltopectoral for reverse shoulder arthroplasty	2018	GJO status unclear
Watling, J. P.; Sanchez, J. E.; Heilbronner, S. P.; Levine, W. N.; Bigliani, L. U.; Jobin, C. M.	Glenoid component loosening associated with increased critical shoulder angle at midterm follow-up	2018	postop factor predicting postop outcome

Authors	Article Title	Year	Reason for Exclusion
Juel, N. G.; Brox, J. I.; Hellund, J. C.; Holte, K. B.; Berg, T. J.	The prevalence of radiological glenohumeral osteoarthritis in long-term type 1 diabetes: the Dialong shoulder study	2018	no target intervention; cross-sectional study w/o TSA, PT, etc.
Malcherczyk, D.; Abdelmoula, A.; Heyse, T. J.; Peterlein, C. D.; Greene, B.; El-Zayat, B. F.	Bleeding in primary shoulder arthroplasty	2018	no target condition; degenerative shoulder path, no explicit OA
Odquist, M.; Hallberg, K.; Rahme, H.; Salomonsson, B.; Rosso, A.	Lower age increases the risk of revision for stemmed and resurfacing shoulder hemi arthroplasty	2018	<90% OA (83% primary, 17% secondary)
Choate, W. S.; Kwapisz, A.; Momaya, A. M.; Hawkins, R. J.; Tokish, J. M.	Outcomes for subscapularis management techniques in shoulder arthroplasty: a systematic review	2018	Review/ Systematic Review
Lefevre-Colau, M. M.; Nguyen, C.; Palazzo, C.; Srour, F.; Paris, G.; Vuillemin, V.; Poiradeau, S.; Roby-Brami, A.; Roren, A.	Kinematic patterns in normal and degenerative shoulders. Part II: Review of 3-D scapular kinematic patterns in patients with shoulder pain, and clinical implications	2018	non-systematic review
Collin, P.; Liu, X.; Denard, P. J.; Gain, S.; Nowak, A.; Ladermann, A.	Standard versus bony increased-offset reverse shoulder arthroplasty: a retrospective comparative cohort study	2018	insufficient data for target condition: <90% GJO
Tashjian, R. Z.; Granger, E.; Chalmers, P. N.	Structural glenoid grafting during primary reverse total shoulder arthroplasty using humeral head autograft	2018	< 40 pts; n = 17
Denard, P. J.; Noyes, M. P.; Walker, J. B.; Shishani, Y.; Gobezeie, R.; Romeo, A. A.; Lederman, E.	Proximal stress shielding is decreased with a short stem compared with a traditional-length stem in total shoulder arthroplasty	2018	GJO status unclear
Baumgarten, K. M.; Osborn, R.; Schweinle, W. E., Jr.; Zens, M. J.	The influence of anatomic total shoulder arthroplasty using a subscapularis tenotomy on shoulder strength	2018	< 40 pts; n = 31
Romeo, A. A.; Thorsness, R. J.; Sumner, S. A.; Gobezeie, R.; Lederman, E. S.; Denard, P. J.	Short-term clinical outcome of an anatomic short-stem humeral component in total shoulder arthroplasty	2018	case series, no breakdown
Zhang, H.; Gong, J.; Xie, M.; Tang, K.	Individualized coracoid osteotomy and 3D congruent arc reconstruction of glenoid for the treatment of recurrent anterior shoulder dislocation	2017	no GJO
Baettig, S. J.; Wieser, K.; Gerber, C.	Determinants of patient satisfaction following reconstructive shoulder surgery	2017	no target intervention; TSA and RC repair combined, no breakdown of TSA pts
Simovitch, R. W.; Friedman, R. J.; Cheung, E. V.; Flurin, P. H.; Wright, T.; Zuckerman, J. D.; Roche, C.	Rate of Improvement in Clinical Outcomes with Anatomic and Reverse Total Shoulder Arthroplasty	2017	GJO status unclear

Authors	Article Title	Year	Reason for Exclusion
Habermeyer, P.; Magosch, P.; Weis, C.; Hawi, N.; Lichtenberg, S.; Tauber, M.; Ipach, B.	Classification of humeral head pathomorphology in primary osteoarthritis: a radiographic and in vivo photographic analysis	2017	pico not answered: no surgical outcomes
Kilian, C. M.; Press, C. M.; Smith, K. M.; O'Connor, D. P.; Morris, B. J.; Elkousy, H. A.; Gartsman, G. M.; Edwards, T. B.	Radiographic and clinical comparison of pegged and keeled glenoid components using modern cementing techniques: midterm results of a prospective randomized study	2017	< 40 pts; n = 38
Dauzere, F.; Arboucalot, M.; Lebon, J.; Elia, F.; Bonnevialle, N.; Mansat, P.	Evaluation of thirty eight cemented pegged glenoid components with variable backside curvature: two-year minimum follow-up	2017	< 40 pts; n = 38
Wong, S. E.; Pitcher, A. A.; Ding, D. Y.; Cashman, N.; Zhang, A. L.; Ma, C. B.; Feeley, B. T.	The effect of patient gender on outcomes after reverse total shoulder arthroplasty	2017	<90% OA (62% OA w/ RC tear, no breakdown)
Iannotti, J. P.; Jun, B. J.; Patterson, T. E.; Ricchetti, E. T.	Quantitative Measurement of Osseous Pathology in Advanced Glenohumeral Osteoarthritis	2017	pico not answered: no surgical outcomes
Cowling, P. D.; Holland, P.; Kottam, L.; Baker, P.; Rangan, A.	Risk factors associated with intraoperative complications in primary shoulder arthroplasty	2017	<90% OA (54% OA, no breakdown)
Schoch, B.; Werthel, J. D.; Sanchez-Sotelo, J.; Sperling, J. W.; Cofield, R. H.; Morrey, M.	Shoulder arthroplasty in patients with osteochondrodysplasias	2017	< 40 pts; n = 13
Choate, W. S.; Shanley, E.; Washburn, R.; Tolan, S. J.; Salim, T. I.; Tadlock, J.; Shealy, E. C.; Long, C. D.; Crawford, A. E.; Kissenberth, M. J.; Lonergan, K. T.; Hawkins, R. J.; Tokish, J. M.	The incidence and effect of fatty atrophy, positive tangent sign, and rotator cuff tears on outcomes after total shoulder arthroplasty	2017	<20 pts per group; n1=16, n2=24
Bjarnison, A. O.; Sorensen, T. J.; Kallemose, T.; Barfod, K. W.	The critical shoulder angle is associated with osteoarthritis in the shoulder but not rotator cuff tears: a retrospective case-control study	2017	healthy controls; no target intervention
Cheah, J. W.; Sing, D. C.; McLaughlin, D.; Feeley, B. T.; Ma, C. B.; Zhang, A. L.	The perioperative effects of chronic preoperative opioid use on shoulder arthroplasty outcomes	2017	GJO status unclear
Nagaya, L. H.; Salles, M. J. C.; Takikawa, L. S. C.; Fregoneze, M.; Doneux, P.; Silva, L. A. D.; Sella, G. D. V.; Miyazaki, A. N.; Checchia, S. L.	Infections after shoulder arthroplasty are correlated with higher anesthetic risk score: a case-control study in Brazil	2017	no shoulder OA; pts received TSA/HA for any indication, unclear how many were given for GJO

Authors	Article Title	Year	Reason for Exclusion
Torrens, C.; Santana, F.; Mari, R.; Puig, L.; Alier, A.	Serum C-reactive protein in patients undergoing elective shoulder arthroplasty. Prospective study	2017	insufficient data for target condition: <90% GJO
Seivas, N.; Ferreira, N.; Andrade, R.; Moreira, P.; Portugal, R.; Alves, D.; Vieira da Silva, M.; Sousa, N.; Salgado, A. J.; Espregueira-Mendes, J.	Reverse shoulder arthroplasty for irreparable massive rotator cuff tears: a systematic review with meta-analysis and meta-regression	2017	irrelevant topic: rotator cuff tear management
Neviaser, R. J.; Benke, M. T.; Neviaser, A. S.	Mid-term to long-term outcome of the open Bankart repair for recurrent traumatic anterior dislocation of the shoulder	2017	irrelevant topic: shoulder dislocation
Service, B. C.; Hsu, J. E.; Somerson, J. S.; Russ, S. M.; Matsen, F. A., 3rd	Does Postoperative Glenoid Retroversion Affect the 2-Year Clinical and Radiographic Outcomes for Total Shoulder Arthroplasty?	2017	<90% OA (86% OA, no breakdown)
Bohler, C.; Pock, A.; Waldstein, W.; Staats, K.; Puchner, S. E.; Holinka, J.; Windhager, R.	Surgical treatment of shoulder infections: a comparison between arthroscopy and arthrotomy	2017	no GJO
Karagulle, M.; Kardes, S.; Karagulle, M. Z.	Real-life effectiveness of spa therapy in rheumatic and musculoskeletal diseases: a retrospective study of 819 patients	2017	insufficient data for target condition: <90% GJO
Kopka, M.; Fourman, M.; Soni, A.; Cordle, A. C.; Lin, A.	Can glenoid wear be accurately assessed using x-ray imaging? Evaluating agreement of x-ray and magnetic resonance imaging (MRI) Walch classification	2017	diagnostic
Kim, K. H.; Suh, J. W.; Oh, K. Y.	The effect of intra-articular hyaluronate and tramadol injection on patients with adhesive capsulitis of the shoulder	2017	irrelevant topic: frozen shoulder
Louie, P. K.; Levy, D. M.; Bach, B. R., Jr.; Nicholson, G. P.; Romeo, A. A.	Subscapularis Tenotomy Versus Lesser Tuberosity Osteotomy for Total Shoulder Arthroplasty: A Systematic Review	2017	Review/ Systematic Review
Geervliet, P. C.; van den Bekerom, M. P. J.; Spruyt, P.; Curvers, M.; van Noort, A.; Visser, C. P. J.	Outcome and revision rate of uncemented glenohumeral resurfacing (C.A.P.) after 5-8 years	2017	<20 pts per group; n1=12, n2=15
Hawi, N.; Magosch, P.; Tauber, M.; Lichtenberg, S.; Habermeyer, P.	Nine-year outcome after anatomic stemless shoulder prosthesis: clinical and radiologic results	2017	insufficient data for target condition: <90% GJO
Aronowitz, J. G.; Harmsen, W. S.; Schleck, C. D.; Sperling, J. W.; Cofield, R. H.; Sanchez-Sotelo, J.	Radiographs and computed tomography scans show similar observer agreement when classifying glenoid morphology in glenohumeral arthritis	2017	diagnostic

Authors	Article Title	Year	Reason for Exclusion
Sciascia, A. D.; Morris, B. J.; Jacobs, C. A.; Edwards, T. B.	Responsiveness and Internal Validity of Common Patient-Reported Outcome Measures Following Total Shoulder Arthroplasty	2017	validation study
Garcia, G. H.; Liu, J. N.; Sinatra, A.; Wu, H. H.; Dines, J. S.; Warren, R. F.; Dines, D. M.; Gulotta, L. V.	High Satisfaction and Return to Sports After Total Shoulder Arthroplasty in Patients Aged 55 Years and Younger	2017	case series, no breakdown
Vo, K. V.; Hackett, D. J.; Gee, A. O.; Hsu, J. E.	Classifications in Brief: Walch Classification of Primary Glenohumeral Osteoarthritis	2017	validation
Bacle, G.; Nove-Josserand, L.; Garaud, P.; Walch, G.	Long-Term Outcomes of Reverse Total Shoulder Arthroplasty: A Follow-up of a Previous Study	2017	case series; no prog analysis
Matsen, F. A., 3rd; Tang, A.; Russ, S. M.; Hsu, J. E.	Relationship Between Patient-Reported Assessment of Shoulder Function and Objective Range-of-Motion Measurements	2017	no postop data to extract; all data is preop
Roberson, T. A.; Bentley, J. C.; Griscom, J. T.; Kissenberth, M. J.; Tolan, S. J.; Hawkins, R. J.; Tokish, J. M.	Outcomes of total shoulder arthroplasty in patients younger than 65 years: a systematic review	2017	Review/ Systematic Review
Tokish, J. M.; Kissenberth, M. J.; Tolan, S. J.; Salim, T. I.; Tadlock, J.; Kellam, T.; Long, C. D.; Crawford, A.; Lonergan, K. T.; Hawkins, R. J.; Shanley, E.	Resilience correlates with outcomes after total shoulder arthroplasty	2017	GJO status unclear
Soudy, K.; Szymanski, C.; Lalanne, C.; Bourgault, C.; Thiounn, A.; Cotten, A.; Maynou, C.	Results and limitations of humeral head resurfacing: 105 cases at a mean follow-up of 5 years	2017	no target comparison; implant brands
Morris, B. J.; Sciascia, A. D.; Jacobs, C. A.; Edwards, T. B.	Sleep Disturbance and Anatomic Shoulder Arthroplasty	2017	irrelevant prognostic factor
Sowa, B.; Thierjung, H.; Bulhoff, M.; Loew, M.; Zeifang, F.; Bruckner, T.; Raiss, P.	Functional results of hemi- and total shoulder arthroplasty according to diagnosis and patient age at surgery	2017	insufficient data for target condition: <90% GJO
Schoch, B.; Werthel, J. D.; Schleck, C. D.; Harmsen, W. S.; Sperling, J.; Sanchez-Sotelo, J.; Cofield, R. H.	Optimizing follow-up after anatomic total shoulder arthroplasty	2017	<90% OA (70% OA, no breakdown)
Mellano, C. R.; Kupfer, N.; Thorsness, R.; Chalmers, P. N.; Feldheim, T. F.; O'Donnell, P.; Cole,	Functional results of bilateral reverse total shoulder arthroplasty	2017	insufficient data for target condition: <90% GJO

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B. J.; Verma, N. N.; Romeo, A. A.; Nicholson, G. P.			
Collin, P.; Matsukawa, T.; Boileau, P.; Brunner, U.; Walch, G.	Is the humeral stem useful in anatomic total shoulder arthroplasty?	2017	insufficient data for target condition: <90% GJO
Dillon, M. T.; Chan, P. H.; Inacio, M. C. S.; Singh, A.; Yian, E. H.; Navarro, R. A.	Yearly Trends in Elective Shoulder Arthroplasty, 2005-2013	2017	<90% OA (65-79% OA, no breakdown)
Holschen, M.; Franetzki, B.; Witt, K. A.; Liem, D.; Steinbeck, J.	Conversions from anatomic shoulder replacements to reverse total shoulder arthroplasty: do the indications for initial surgery influence the clinical outcome after revision surgery?	2017	insufficient data for target condition: <90% GJO
Uschok, S.; Magosch, P.; Moe, M.; Lichtenberg, S.; Habermeyer, P.	Is the stemless humeral head replacement clinically and radiographically a secure equivalent to standard stem humeral head replacement in the long-term follow-up? A prospective randomized trial	2017	< 40 pts; n = 29
Mitchell, J. J.; Warner, B. T.; Horan, M. P.; Raynor, M. B.; Menge, T. J.; Greenspoon, J. A.; Millett, P. J.	Comprehensive Arthroscopic Management of Glenohumeral Osteoarthritis: Preoperative Factors Predictive of Treatment Failure	2017	<20 pts per group; n1=90pts, n2=17 pts
Lowe, J. T.; Testa, E. J.; Li, X.; Miller, S.; DeAngelis, J. P.; Jawa, A.	Magnetic resonance imaging is comparable to computed tomography for determination of glenoid version but does not accurately distinguish between Walch B2 and C classifications	2017	<20 per group; n=30 pts
MacPherson, H.; Vertosick, E. A.; Foster, N. E.; Lewith, G.; Linde, K.; Sherman, K. J.; Witt, C. M.; Vickers, A. J.	The persistence of the effects of acupuncture after a course of treatment: a meta-analysis of patients with chronic pain	2017	Review/ Systematic Review
Hawi, N.; Magosch, P.; Tauber, M.; Lichtenberg, S.; Martetschlager, F.; Habermeyer, P.	Glenoid deformity in the coronal plane correlates with humeral head changes in osteoarthritis: a radiographic analysis	2017	pico not answered: no surgical outcomes
Moraiti, C.; Klouche, S.; Werthel, J. D.; Bauer, T.; Hardy, P.	Description and reproducibility assessment of a new computerised tomography scan index to measure the glenoid orientation in relation to the anterior glenoid surface	2017	pico not answered: no surgical outcomes

Authors	Article Title	Year	Reason for Exclusion
Salt, E.; Wiggins, A. T.; Rayens, M. K.; Morris, B. J.; Mannino, D.; Hoellein, A.; Donegan, R. P.; Crofford, L. J.	Moderating effects of immunosuppressive medications and risk factors for post-operative joint infection following total joint arthroplasty in patients with rheumatoid arthritis or osteoarthritis	2017	no target intervention; any joint replacement surgery, no breakdown of just TSA/other target int. for OA
Chammaa, R.; Uri, O.; Lambert, S.	Primary shoulder arthroplasty using a custom-made hip-inspired implant for the treatment of advanced glenohumeral arthritis in the presence of severe glenoid bone loss	2017	< 40 pts; n = 37
Macias-Hernandez, S. I.; Morones-Alba, J. D.; Miranda-Duarte, A.; Coronado-Zarco, R.; Soria-Bastida, M. L. A.; Nava-Bringas, T.; Cruz-Medina, E.; Olascoaga-Gomez, A.; Tallabs-Almazan, L. V.; Palencia, C.	Glenohumeral osteoarthritis: overview, therapy, and rehabilitation	2017	Review/ Systematic Review
Thomas, M.; Bidwai, A.; Rangan, A.; Rees, J. L.; Brownson, P.; Tennent, D.; Connor, C.; Kulkarni, R.	Glenohumeral osteoarthritis	2016	
Bull, D.; Tai Kie, A.; Hanusch, B.; Kulkarni, R.; Rees, J.; Rangan, A.	Is there sufficient evidence to support intervention to manage shoulder arthritis?	2016	Review/ Systematic Review
Migliore, A.; Bizzi, E.; De Lucia, O.; Delle Sedie, A.; Tropea, S.; Bentivegna, M.; Mahmoud, A.; Foti, C.	Differences Regarding Branded HA in Italy, Part 2: Data from Clinical Studies on Knee, Hip, Shoulder, Ankle, Temporomandibular Joint, Vertebral Facets, and Carpometacarpal Joint	2016	not just gjo
Levy, D. M.; Abrams, G. D.; Harris, J. D.; Bach, B. R., Jr.; Nicholson, G. P.; Romeo, A. A.	Rotator cuff tears after total shoulder arthroplasty in primary osteoarthritis: A systematic review	2016	Review/ Systematic Review
Donohue, K. W.; Ricchetti, E. T.; Iannotti, J. P.	Surgical management of the biconcave (B2) glenoid	2016	Review/ Systematic Review
Heaven, S.; de Sa, D.; Duong, A.; Simunovic, N.; Ayeni, O. R.	Safety and efficacy of arthroscopy in the setting of shoulder arthroplasty	2016	non-systematic review
Knowles, N. K.; Ferreira, L. M.; Athwal, G. S.	The arthritic glenoid: anatomy and arthroplasty designs	2016	non-systematic review
Chalmers, P. N.; Keener, J. D.	Expanding roles for reverse shoulder arthroplasty	2016	Review/ Systematic Review
Walton, J.; Russell, S.	Physiotherapy assessment of shoulder stiffness and how it influences management	2015	non-systematic review

Authors	Article Title	Year	Reason for Exclusion
Rashid, A.; Kalson, N.; Jiwa, N.; Patel, A.; Irwin, A.; Corner, T.	The effects of pre-operative intra-articular glenohumeral corticosteroid injection on infective complications after shoulder arthroplasty	2015	GJO status unclear
Porcellini, G.; Merolla, G.; Giordan, N.; Paladini, P.; Burini, A.; Cesari, E.; Castagna, A.	Intra-articular glenohumeral injections of HYADD4-G for the treatment of painful shoulder osteoarthritis: a prospective multicenter, open-label trial	2015	case series; no prog analysis
Raz, Y.; Henseler, J. F.; Kolk, A.; Riaz, M.; van der Zwaal, P.; Nagels, J.; Nelissen, R. G.; Raz, V.	Patterns of Age-Associated Degeneration Differ in Shoulder Muscles	2015	no target condition; RC muscle tears and pathology, no shoulder OA
Mook, W. R.; Petri, M.; Greenspoon, J. A.; Millett, P. J.	The Comprehensive Arthroscopic Management Procedure for Treatment of Glenohumeral Osteoarthritis	2015	
Russo, R.; Rotonda, G. D.; Ciccarelli, M.; Cautiero, F.	Analysis of complications of reverse total shoulder arthroplasty	2015	insufficient data for target condition: <90% GJO
Petriccioli, D.; Bertone, C.; Marchi, G.	Stemless shoulder arthroplasty: a literature review	2015	Review/ Systematic Review
Yian, E. H.; Dillon, M.; Sodl, J.; Dionysian, E.; Navarro, R.; Singh, A.	Incidence of symptomatic compressive peripheral neuropathy after shoulder replacement	2015	univariate testing, no matching
Connaughton, A.; Childs, A.; Dylewski, S.; Sabesan, V. J.	Biofilm Disrupting Technology for Orthopedic Implants: What's on the Horizon?	2014	Review/ Systematic Review
Colen, S.; Geervliet, P.; Haverkamp, D.; Van Den Bekerom, M. P.	Intra-articular infiltration therapy for patients with glenohumeral osteoarthritis: A systematic review of the literature	2014	Review/ Systematic Review
Bell, S. N.; Coghlan, J. A.	Short stem shoulder replacement	2014	case series; no prog analysis
Lee, L. H.; Desai, A.	Reverse polarity shoulder replacement: Current concepts and review of literature	2014	Review/ Systematic Review
Weinreb, J. H.; Sheth, C.; Apostolakos, J.; McCarthy, M. B.; Barden, B.; Cote, M. P.; Mazzocca, A. D.	Tendon structure, disease, and imaging	2014	tendons not just gjo
Tokish, J. M.	The Mature Athlete's Shoulder	2014	Review/ Systematic Review
Middleton, K.; Acevedo, A.; Dietz, L.; Brandon, Z.; Andrade, R.; Wallen, G.	Yoga and Physical Rehabilitation Medicine: A Research Partnership in Integrative Care	2013	insufficient data for target condition: <90% GJO
Gross, C.; Dhawan, A.; Harwood, D.; Gochanour, E.; Romeo, A.	Glenohumeral joint injections: a review	2013	Review/ Systematic Review

Authors	Article Title	Year	Reason for Exclusion
Ahearn, N.; McCann, P. A.; Tasker, A.; Sarangi, P. P.	The influence of rotator cuff pathology on functional outcome in total shoulder replacement	2013	< 20 pts per group: n1= 15, n2= 14, n3=14
Farshad-Amacker, N. A.; Jain Palrecha, S.; Farshad, M.	The primer for sports medicine professionals on imaging: the shoulder	2013	non-systematic review
Merolla, G.; Nastrucci, G.; Porcellini, G.	Shoulder arthroplasty in osteoarthritis: current concepts in biomechanics and surgical technique	2013	non-systematic review
van den Bekerom, M. P.; Geervliet, P. C.; Somford, M. P.; van den Borne, M. P.; Boer, R.	Total shoulder arthroplasty versus hemiarthroplasty for glenohumeral arthritis: A systematic review of the literature at long-term follow-up	2013	Review/ Systematic Review
Pailhes, R. G.; Bonnevalle, N.; Laffosse, J.; Tricoire, J.; Cavaignac, E.; Chiron, P.	Floating shoulders: Clinical and radiographic analysis at a mean follow-up of 11 years	2013	no target condition; floating shoulder, no OA
Franceschini, V.; Chillemi, C.	Periprosthetic shoulder infection	2013	irrelevant topic: infection
Chillemi, C.; Franceschini, V.	Shoulder osteoarthritis	2013	non-systematic review
de Almeida Filho, I. A.; de Castro Veado, M. A.; Fim, M.; da Silva Correa, L. V.; de Carvalho Junior, A. E.	Functional Assessment of Arthroscopic Repair for Recurrent Anterior Shoulder Instability	2012	no target condition; anterior glenohumeral instability, no OA
Biz, C.; Vinanti, G. B.; Zamperetti, M.; Rossato, A.; Aldegheri, R.	Clinical review of patients subjected to mini-Mumford arthroscopy	2012	irrelevant topic: acromioclavicular joint arthritis
Samuel, A. M.; Jain, H.	Scintigraphic changes of osteoarthritis: An analysis of findings during routine bone scans to evaluate the incidence in an Indian population	2012	no target condition or intervention; OA of any joint, no breakdown of shoulderOA, no TSA/PT, etc.
Gaitini, D.	Shoulder ultrasonography: performance and common findings	2012	non-systematic review
van der Meijden, O. A.; Gaskill, T. R.; Millett, P. J.	Glenohumeral joint preservation: a review of management options for young, active patients with osteoarthritis	2012	Review/ Systematic Review
Cook, C. E.; Hegedus, E. J.; Stefancin, J. J.; Kissenberth, M.; Cassas, K.; Hawkins, R.; Tobola, A.	An investigation of the relationship between measures of pain intensity, pain affect, and disability, in patients with shoulder dysfunction	2011	<90% OA (21% OA, no breakdown)
Sanchez-Sotelo, J.	Total shoulder arthroplasty	2011	Review/ Systematic Review

Authors	Article Title	Year	Reason for Exclusion
Izquierdo, R.; Voloshin, I.; Edwards, S.; Freehill, M. Q.; Stanwood, W.; Wiater, J. M.; Watters, W. C., 3rd; Goldberg, M. J.; Keith, M.; Turkelson, C. M.; Wies, J. L.; Anderson, S.; Boyer, K.; Raymond, L.; Sluka, P.; Hitchcock, K.	American academy of orthopaedic surgeons clinical practice guideline on: the treatment of glenohumeral joint osteoarthritis	2011	Review/ Systematic Review
Godin, J.; Sekiya, J. K.	Systematic review of rehabilitation versus operative stabilization for the treatment of first-time anterior shoulder dislocations	2010	no GJO
Filho, G. M.; Galvao, M. V.; Monteiro, M.; Cohen, M.; Brandao, B.	Shoulder Arthroplasty Records	2009	<90% OA (17% OA, no breakdown)
Conduah, A. H.; Baker, C. L.; Baker, C. L.	Managing joint pain in osteoarthritis: safety and efficacy of hyylan G-F 20	2009	non-systematic review
M. Seagger R; Loveridge, J.; A. A. Crowther M	Beware of glenoid dysplasia mimicking bone trauma in the injured shoulder	2009	no GJO
Sayed-Noor, A. S.	Joint Arthroplasties other than the Hip in Solid Organ Transplant Recipients	2009	not just gjo
Zappia, M.; Negri, G.; Grassi, S.; Pecoraro, C.; Rotondo, A.	The CT-arthrography in the antero-inferior glenoid labral lesion: Pictorial presentation and diagnostic value	2008	diagnostic
George, M. S.	Arthroscopic management of shoulder osteoarthritis	2008	Review/ Systematic Review
Gerber, A.; Lehtinen, J. T.; Warner, J. J.	Glenohumeral osteoarthritis in active patients: diagnostic tips and complete management options	2003	non-systematic review
Carfagno, D. G.; Ellenbecker, T. S.	Osteoarthritis of the glenohumeral joint: nonsurgical treatment options	2002	non-systematic review
Klement, M. R.; Nickel, B. T.; Bala, A.; Penrose, C. T.; Zura, R. D.; Garrigues, G. E.	Glenohumeral arthritis as a risk factor for proximal humerus nonunion	2016	Review/ Systematic Review
Gray, M.; Wallace, A.; Aldridge, S.	Assessment of shoulder pain for non-specialists	2016	non-systematic review
Nijs, J.; Goubert, D.; Ickmans, K.	Recognition and Treatment of Central Sensitization in Chronic Pain Patients: Not Limited to Specialized Care	2016	non-systematic review
McFarland, E. G.; Huri, G.; Hyun, Y. S.; Petersen, S. A.; Srikuamran, U.	Reverse Total Shoulder Arthroplasty without Bone-Grafting for Severe Glenoid Bone Loss in Patients with Osteoarthritis and Intact Rotator Cuff	2016	case series; no prog analysis

Authors	Article Title	Year	Reason for Exclusion
Laslett, L. L.; Otahal, P.; Hensor, E. M.; Kingsbury, S. R.; Conaghan, P. G.	Knee Pain Predicts Subsequent Shoulder Pain and the Association Is Mediated by Leg Weakness: Longitudinal Observational Data from the Osteoarthritis Initiative	2016	no target intervention or outcome; no TSA/PT, etc; outcome of knee joint pain association w/ shoulder pain
Rasmussen, J. V.; Olsen, B. S.; Al-Hamdani, A.; Brorson, S.	Outcome of Revision Shoulder Arthroplasty After Resurfacing Hemiarthroplasty in Patients with Glenohumeral Osteoarthritis	2016	no target intervention; revision for resurfacing hemiarthroplasty
Williams, V. F.; Clark, L. L.; Oh, G. T.	Update: Osteoarthritis and spondylosis, active component, U.S. Armed Forces, 2010-2015	2016	no target intervention; observing rates of OA and spondylosis; no breakdown of shoulder OA
Beach, H.; Gordon, P.	VIDEOS IN CLINICAL MEDICINE. Clinical Examination of the Shoulder	2016	technique review
Hawi, N.; Tauber, M.; Messina, M. J.; Habermeyer, P.; Martetschlager, F.	Anatomic stemless shoulder arthroplasty and related outcomes: a systematic review	2016	Review/ Systematic Review
Mitchell, J. J.; Horan, M. P.; Greenspoon, J. A.; Menge, T. J.; Tahal, D. S.; Millett, P. J.	Survivorship and Patient-Reported Outcomes After Comprehensive Arthroscopic Management of Glenohumeral Osteoarthritis: Minimum 5-Year Follow-up	2016	case series, no breakdown
Yuan, Q. L.; Wang, P.; Liu, L.; Sun, F.; Cai, Y. S.; Wu, W. T.; Ye, M. L.; Ma, J. T.; Xu, B. B.; Zhang, Y. G.	Acupuncture for musculoskeletal pain: A meta-analysis and meta-regression of sham-controlled randomized clinical trials	2016	no GJO
Brennan-Olsen, S. L.; Page, R. S.; Lane, S. E.; Lorimer, M.; Buchbinder, R.; Osborne, R. H.; Pasco, J. A.; Wluka, A. E.; Sanders, K. M.; Ebeling, P. R.; Graves, S. E.	Few geographic and socioeconomic variations exist in primary total shoulder arthroplasty: a multi-level study of Australian registry data	2016	pico not answered: no surgical outcomes
Wijeratna, M.; Taylor, D. M.; Lee, S.; Hoy, G.; Evans, M. C.	Clinical and Radiographic Results of an All-Polyethylene Pegged Bone-Ingrowth Glenoid Component	2016	case series; no prog analysis
Guo, J. J.; Wu, K.; Guan, H.; Zhang, L.; Ji, C.; Yang, H.; Tang, T.	Three-Year Follow-up of Conservative Treatments of Shoulder Osteoarthritis in Older Patients	2016	observational: no adjustment
Eichinger, J. K.; Galvin, J. W.; Grassbaugh, J. A.; Parada, S. A.; Li, X.	Glenoid Dysplasia: Pathophysiology, Diagnosis, and Management	2016	no GJO
Raja, R.; Dube, B.; Hensor, E. M.; Hogg, S. F.; Conaghan, P. G.; Kingsbury, S. R.	The clinical characteristics of older people with chronic multiple-site joint pains and their utilisation of therapeutic interventions: data from a prospective cohort study	2016	insufficient data for target condition: <90% GJO

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Rasmussen, J. V.; Brorson, S.; Hallan, G.; Dale, H.; Arimaa, V.; Mokka, J.; Jensen, S. L.; Fenstad, A. M.; Salomonsson, B.	Is it feasible to merge data from national shoulder registries? A new collaboration within the Nordic Arthroplasty Register Association	2016	pico not answered: no surgical outcomes
Kadum, B.; Wahlstrom, P.; Khoschnau, S.; Sjoden, G.; Sayed-Noor, A.	Association of lateral humeral offset with functional outcome and geometric restoration in stemless total shoulder arthroplasty	2016	case series, no breakdown
Churchill, R. S.; Chuinard, C.; Wiater, J. M.; Friedman, R.; Freehill, M.; Jacobson, S.; Spencer, E., Jr.; Holloway, G. B.; Wittstein, J.; Lassiter, T.; Smith, M.; Blaine, T.; Nicholson, G. P.	Clinical and Radiographic Outcomes of the Simplicity Canal-Sparing Shoulder Arthroplasty System: A Prospective Two-Year Multicenter Study	2016	case series, no breakdown
Urch, E.; Dines, J. S.; Dines, D. M.	Emerging Indications for Reverse Shoulder Arthroplasty	2016	non-systematic review
Centeno, C. J.; Al-Sayegh, H.; Freeman, M. D.; Smith, J.; Murrell, W. D.; Bubnov, R.	A multi-center analysis of adverse events among two thousand, three hundred and seventy two adult patients undergoing adult autologous stem cell therapy for orthopaedic conditions	2016	insufficient data for target condition: <90% GJO
Chalmers, P. N.; Van Thiel, G. S.; Trenhaile, S. W.	Surgical Exposures of the Shoulder	2016	Review/ Systematic Review
Blonna, D.; Giani, A.; Bellato, E.; Mattei, L.; Calo, M.; Rossi, R.; Castoldi, F.	Predominance of the critical shoulder angle in the pathogenesis of degenerative diseases of the shoulder	2016	pico not answered: no surgical outcomes
Lo, E. Y.; Flanagan, B. A.; Burkhead, W. Z.	Biologic resurfacing arthroplasty with acellular human dermal allograft and platelet-rich plasma (PRP) in young patients with glenohumeral arthritis-average of 60 months of at mid-term follow-up	2016	insufficient data for target condition: <90% GJO
Knowles, N. K.; Ferreira, L. M.; Athwal, G. S.	Premorbid retroversion is significantly greater in type B2 glenoids	2016	no target intervention; observation of glenoid erosion, healthy controls
Mehmood, A.; Everett, W.	Shoulder replacements: a review	2016	non-systematic review
Liu, J. N.; Garcia, G. H.; Mahony, G.; Wu, H. H.; Dines, D. M.; Warren, R. F.; Gulotta, L. V.	Sports after shoulder arthroplasty: a comparative analysis of hemiarthroplasty and reverse total shoulder replacement	2016	insufficient data for target condition: <90% GJO
Padegimas, E. M.; Clyde, C. T.; Zmistowski, B. M.; Restrepo, C.; Williams, G. R.; Namdari, S.	Risk factors for blood transfusion after shoulder arthroplasty	2016	<90% OA (48% OA, no breakdown)

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Walker, D. R.; Kinney, A. L.; Wright, T. W.; Banks, S. A.	How sensitive is the deltoid moment arm to humeral offset changes with reverse total shoulder arthroplasty?	2016	<20 pts per group; n=3 pts total
Pitta, M.; Davis, W., 3rd; Argintar, E. H.	Arthroscopic Management of Osteoarthritis	2016	no GJO
Lin, D. J.; Wong, T. T.; Kazam, J. K.	Shoulder Arthroplasty, from Indications to Complications: What the Radiologist Needs to Know	2016	Review/ Systematic Review
Merolla, G.; Chin, P.; Sasyniuk, T. M.; Paladini, P.; Porcellini, G.	Total shoulder arthroplasty with a second-generation tantalum trabecular metal-backed glenoid component: Clinical and radiographic outcomes at a mean follow-up of 38 months	2016	case series, no breakdown
Phadnis, J.; Huang, T.; Watts, A.; Krishnan, J.; Bain, G. I.	Cemented or cementless humeral fixation in reverse total shoulder arthroplasty? a systematic review	2016	Review/ Systematic Review
Raynor, M. B.; Kuhn, J. E.	Utility of features of the patient's history in the diagnosis of atraumatic shoulder pain: a systematic review	2016	Review/ Systematic Review
Amundsen, A.; Rasmussen, J. V.; Olsen, B. S.; Brorson, S.	Mortality after shoulder arthroplasty: 30-day, 90-day, and 1-year mortality after shoulder replacement--5853 primary operations reported to the Danish Shoulder Arthroplasty Registry	2016	<90% OA (30% OA, no breakdown)
Morris, B. J.; Sciascia, A. D.; Jacobs, C. A.; Edwards, T. B.	Preoperative opioid use associated with worse outcomes after anatomic shoulder arthroplasty	2016	excluded at final meeting by workgroup; not applicable to PICO
Werner, B. C.; Cancienne, J. M.; Burrus, M. T.; Griffin, J. W.; Gwathmey, F. W.; Brockmeier, S. F.	The timing of elective shoulder surgery after shoulder injection affects postoperative infection risk in Medicare patients	2016	GJO status unclear
Khenioui, H.; Houvenagel, E.; Catanzariti, J. F.; Guyot, M. A.; Agnani, O.; Donze, C.	Usefulness of intra-articular botulinum toxin injections. A systematic review	2016	Review/ Systematic Review
Schnetzke, M.; Coda, S.; Raiss, P.; Walch, G.; Loew, M.	Radiologic bone adaptations on a cementless short-stem shoulder prosthesis	2016	insufficient data for target comparison: no preop prognostic factors
Willinger, L.; Schanda, J.; Herbst, E.; Imhoff, A. B.; Martetschlager, F.	Outcomes and complications following graft reconstruction for anterior sternoclavicular joint instability	2016	irrelevant topic: sternoclavicular joint
Messina, C.; Banfi, G.; Orlandi, D.; Lacelli, F.; Serafini, G.; Mauri, G.; Secchi, F.; Silvestri, E.; Sconfienza, L. M.	Ultrasound-guided interventional procedures around the shoulder	2016	technique review

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Kadum, B.; Hassany, H.; Wadsten, M.; Sayed-Noor, A.; Sjoden, G.	Geometrical analysis of stemless shoulder arthroplasty: a radiological study of seventy TESS total shoulder prostheses	2016	case series, no breakdown
Cerciello, S.; Visona, E.; Morris, B. J.; Corona, K.	Bone block procedures in posterior shoulder instability	2016	irrelevant topic: shoulder instability
Savoie, F. H., 3rd; O'Brien, M. J.	The Subscapularis-Sparing Approach in Humeral Head Replacement	2015	technique review
Flurin, P. H.; Roche, C. P.; Wright, T. W.; Marczuk, Y.; Zuckerman, J. D.	A Comparison and Correlation of Clinical Outcome Metrics in Anatomic and Reverse Total Shoulder Arthroplasty	2015	insufficient data for target condition: <90% GJO
Flurin, P. H.; Roche, C. P.; Wright, T. W.; Zuckerman, J. D.	Correlation Between Clinical Outcomes and Anatomic Reconstruction with Anatomic Total Shoulder Arthroplasty	2015	insufficient data for target comparison
Karelse, A.; Leuridan, S.; Van Tongel, A.; Debeer, P.; Van Der Sloten, J.; Denis, K.; De Wilde, L. F.	Consequences of reaming with flat and convex reamers for bone volume and surface area of the glenoid; a basic science study	2015	pico not answered: no surgical outcomes
Dommerholt, J.; Grieve, R.; Hooks, T.; Layton, M.	A critical overview of the current myofascial pain literature - October 2015	2015	irrelevant topic: myofascial pain
Bashir, M. A.; Ray, R.; Sarda, P.; Li, S.; Corbett, S.	Determination of a safe INR for joint injections in patients taking warfarin	2015	insufficient data for target condition: <90% GJO
Westermann, R. W.; Pugely, A. J.; Martin, C. T.; Gao, Y.; Wolf, B. R.; Hettrich, C. M.	Reverse Shoulder Arthroplasty in the United States: A Comparison of National Volume, Patient Demographics, Complications, and Surgical Indications	2015	insufficient data for target condition: <90% GJO
Gibbs, D. B.; Lynch, T. S.; Nuber, E. D.; Nuber, G. W.	Common Shoulder Injuries in American Football Athletes	2015	irrelevant topic: sports injury
Chin, P. C.; Hachadorian, M. E.; Pulido, P. A.; Munro, M. L.; Meric, G.; Hoenecke, H. R., Jr.	Outcomes of anatomic shoulder arthroplasty in primary osteoarthritis in type B glenoids	2015	irrelevant prognostic factor
Matsen, F. A., 3rd; Li, N.; Gao, H.; Yuan, S.; Russ, S. M.; Sampson, P. D.	Factors Affecting Length of Stay, Readmission, and Revision After Shoulder Arthroplasty: A Population-Based Study	2015	<90% OA (74% OA, no breakdown)
Schoch, B.; Werthel, J. D.; Schleck, C.; Sperling, J. W.; Cofield, R. H.	Does an increase in modularity improve the outcomes of total shoulder replacement? Comparison across design generations	2015	excluded at final meeting by workgroup; not comparison of interest; Tx not available
Codsi, M.; Howe, C. R.	Shoulder Conditions: Diagnosis and Treatment Guideline	2015	non-systematic review
Styron, J. F.; Higuera, C. A.; Strnad, G.; Iannotti, J. P.	Greater patient confidence yields greater functional outcomes after primary total shoulder arthroplasty	2015	no target condition; unclear if TSA for OA

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Kennedy, D. J.; Mattie, R.; Nguyen, Q.; Hamilton, S.; Conrad, B.	Glenohumeral Joint Pain Referral Patterns: A Descriptive Study	2015	pico not answered: no surgical outcomes
Fatemi, A.; Iraj, B.; Barzalian, J.; Maracy, M.; Smiley, A.	Musculoskeletal manifestations in diabetic versus prediabetic patients	2015	no target outcome; development of musculoskeletal disease, no breakdown of shoulder OA
Aumiller, W. D.; Kleuser, T. M.	Diagnosis and treatment of cuff tear arthropathy	2015	irrelevant topic: rotator cuff tear
Ackland, D. C.; Patel, M.; Knox, D.	Prosthesis design and placement in reverse total shoulder arthroplasty	2015	Review/ Systematic Review
Bervoets, D. C.; Luijsterburg, P. A.; Alessie, J. J.; Buijs, M. J.; Verhagen, A. P.	Massage therapy has short-term benefits for people with common musculoskeletal disorders compared to no treatment: a systematic review	2015	Review/ Systematic Review
Cvetanovich, G. L.; Chalmers, P. N.; Streit, J. J.; Romeo, A. A.; Nicholson, G. P.	Patients Undergoing Total Shoulder Arthroplasty on the Dominant Extremity Attain Greater Postoperative ROM	2015	excluded at final meeting by workgroup; not RF of interest
Saier, T.; Cotic, M.; Kirchhoff, C.; Feucht, M. J.; Minzlaff, P.; Glanzmann, M. C.; Schottle, P.; Imhoff, A. B.	Early results after modular non-cemented reverse total shoulder arthroplasty: a prospective single-centre study of 38 consecutive cases	2015	case series, no breakdown
Sankaye, P.; Ostlere, S.	Arthritis at the shoulder joint	2015	non-systematic review
Schnetzke, M.; Coda, S.; Walch, G.; Loew, M.	Clinical and radiological results of a cementless short stem shoulder prosthesis at minimum follow-up of two years	2015	<90% OA (82% OA, no breakdown)
Bishop, J. Y.; Santiago-Torres, J. E.; Rimmke, N.; Flanigan, D. C.	Smoking Predisposes to Rotator Cuff Pathology and Shoulder Dysfunction: A Systematic Review	2015	irrelevant topic: rotator cuff tear
Churchill, R. S.; Spencer, E. E., Jr.; Fehringer, E. V.	Quantification of B2 glenoid morphology in total shoulder arthroplasty	2015	no target intervention; observing glenoid erosion
Dillon, M. T.; Ake, C. F.; Burke, M. F.; Singh, A.; Yian, E. H.; Paxton, E. W.; Navarro, R. A.	The Kaiser Permanente shoulder arthroplasty registry: results from 6,336 primary shoulder arthroplasties	2015	<90% OA (60% OA, no breakdown)
Smucny, M.; Menendez, M. E.; Ring, D.; Feeley, B. T.; Zhang, A. L.	Inpatient surgical site infection after shoulder arthroplasty	2015	insufficient data for target condition: <90% GJO
Day, J. S.; Paxton, E. S.; Lau, E.; Gordon, V. A.; Abboud, J. A.; Williams, G. R.	Use of reverse total shoulder arthroplasty in the Medicare population	2015	insufficient data for target comparison

Authors	Article Title	Year	Reason for Exclusion
Florschutz, A. V.; Lane, P. D.; Crosby, L. A.	Infection after primary anatomic versus primary reverse total shoulder arthroplasty	2015	insufficient data for target condition: <90% GJO
Stephens, S. P.; Paisley, K. C.; Jeng, J.; Dutta, A. K.; Wirth, M. A.	Shoulder arthroplasty in the presence of posterior glenoid bone loss	2015	Review/ Systematic Review
Kersten, A. D.; Flores-Hernandez, C.; Hoenecke, H. R.; D'Lima, D. D.	Posterior augmented glenoid designs preserve more bone in biconcave glenoids	2015	pico not answered: no surgical outcomes
Mansat, P.; Bonnevialle, N.	Treatment of fracture sequelae of the proximal humerus: anatomical vs reverse shoulder prosthesis	2015	irrelevant topic: proximal humeral fractures
Matsen, F. A., 3rd	The ream and run: not for every patient, every surgeon or every problem	2015	non-systematic review
Legre-Boyer, V.	Viscosupplementation: techniques, indications, results	2015	non-systematic review
Clavert, P.	Glenoid labrum pathology	2015	non-systematic review
Sweet, S. J.; Takara, T.; Ho, L.; Tibone, J. E.	Primary partial humeral head resurfacing: outcomes with the HemiCAP implant	2015	< 40 pts; n = 19
Somerson, J. S.; Wirth, M. A.	Self-assessed and radiographic outcomes of humeral head replacement with nonprosthetic glenoid arthroplasty	2015	< 40 pts; n = 17
Maier, M. W.; Lauer, S.; Wolf, S. I.; Dreher, T.; Klotz, M. C.; Zeifang, F.; Rickert, M.	Low preoperative Constant score is a negative predictive factor for postoperative proprioception after total shoulder arthroplasty in osteoarthritis	2015	<20 pts per group; n=24 pts total, n1=8, n2=7, n3=9
Matsen, F. A., 3rd; Russ, S. M.; Bertelsen, A.; Butler-Wu, S.; Pottinger, P. S.	Propionibacterium can be isolated from deep cultures obtained at primary arthroplasty despite intravenous antimicrobial prophylaxis	2015	<20 pts per group; n=10
Sayegh, E. T.; Mascarenhas, R.; Chalmers, P. N.; Cole, B. J.; Romeo, A. A.; Verma, N. N.	Surgical Treatment Options for Glenohumeral Arthritis in Young Patients: A Systematic Review and Meta-analysis	2015	Review/ Systematic Review
Gazielly, D. F.; Scarlat, M. M.; Verborgt, O.	Long-term survival of the glenoid components in total shoulder replacement for arthritis	2015	case series; no prog analysis
Roemer, F. W.; Hayes, C. W.; Miller, C. G.; Hoover, K.; Guermazi, A.	Imaging atlas for eligibility and on-study safety of potential shoulder adverse events in anti-NGF studies (Part 3)	2015	no target intervention; effect of anti-nerve growth factor and NSAIDs on OA progression
Werner, B. C.; Brockmeier, S. F.; Gwathmey, F. W.	Trends in long head biceps tenodesis	2015	insufficient data for target condition: <90% GJO

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Matsen, F. A., 3rd; Warme, W. J.; Jackins, S. E.	Can the ream and run procedure improve glenohumeral relationships and function for shoulders with the arthritic triad?	2015	insufficient data for target comparison
Hussey, M. M.; Steen, B. M.; Cusick, M. C.; Cox, J. L.; Marberry, S. T.; Simon, P.; Cottrell, B. J.; Santoni, B. G.; Frankle, M. A.	The effects of glenoid wear patterns on patients with osteoarthritis in total shoulder arthroplasty: an assessment of outcomes and value	2015	irrelevant prognostic factor
Johnson, M. H.; Paxton, E. S.; Green, A.	Shoulder arthroplasty options in young (<50 years old) patients: review of current concepts	2015	Review/ Systematic Review
Skelley, N. W.; Namdari, S.; Chamberlain, A. M.; Keener, J. D.; Galatz, L. M.; Yamaguchi, K.	Arthroscopic debridement and capsular release for the treatment of shoulder osteoarthritis	2015	< 40 pts; n = 33
Morris, B. J.; Haigler, R. E.; O'Connor, D. P.; Elkousy, H. A.; Gartsman, G. M.; Edwards, T. B.	Outcomes of staged bilateral reverse shoulder arthroplasties for rotator cuff tear arthropathy	2015	< 40 pts; n = 11
Patel, R. J.; Gulotta, L.; Wright, T. M.; Gao, Y.	Effects of osteoarthritis on load transfer after cemented total shoulder arthroplasty	2015	pico not answered: no surgical outcomes
Bjornholdt, K. T.; Brandsborg, B.; Soballe, K.; Nikolajsen, L.	Persistent pain is common 1-2 years after shoulder replacement	2015	repeat article of 3180
Schoch, B.; Schleck, C.; Cofield, R. H.; Sperling, J. W.	Shoulder arthroplasty in patients younger than 50 years: minimum 20-year follow-up	2015	insufficient data for target condition: <90% GJO
Papaliodis, D.; Richardson, N.; Tartaglione, J.; Roberts, T.; Whipple, R.; Zanaros, G.	Impact of Total Shoulder Arthroplasty on Golfing Activity	2015	case series, no breakdown
Lapner, P. L.; Jiang, L.; Zhang, T.; Athwal, G. S.	Rotator cuff fatty infiltration and atrophy are associated with functional outcomes in anatomic shoulder arthroplasty	2015	case series, no breakdown
Gilmer, B. B.; DeMers, A. M.; Guerrero, D.; Reid, J. B., 3rd; Lubowitz, J. H.; Guttmann, D.	Arthroscopic versus open comparison of long head of biceps tendon visualization and pathology in patients requiring tenodesis	2015	diagnostic
Kiet, T. K.; Feeley, B. T.; Naimark, M.; Gajiu, T.; Hall, S. L.; Chung, T. T.; Ma, C. B.	Outcomes after shoulder replacement: comparison between reverse and anatomic total shoulder arthroplasty	2015	insufficient data for target condition: <90% GJO
Waterman, B. R.; Dunn, J. C.; Bader, J.; Urrea, L.; Schoenfeld, A. J.; Belmont, P. J., Jr.	Thirty-day morbidity and mortality after elective total shoulder arthroplasty: patient-based and surgical risk factors	2015	no shoulder OA; mentioned in abstract but unclear if pt population has OA

Authors	Article Title	Year	Reason for Exclusion
Gouttebarge, V.; Inklaar, H.; Backx, F.; Kerkhoffs, G.	Prevalence of osteoarthritis in former elite athletes: a systematic overview of the recent literature	2015	irrelevant topic: athletes
Bookman, J. S.; Pereira, D. S.	Ultrasound guidance for intra-articular knee and shoulder injections: a review	2014	Review/ Systematic Review
Verborgt, O.; Vanhees, M.; Heylen, S.; Hardy, P.; Declercq, G.; Bicknell, R.	Computer navigation and patient-specific instrumentation in shoulder arthroplasty	2014	non-systematic review
Jain, N. B.; Yamaguchi, K.	The contribution of reverse shoulder arthroplasty to utilization of primary shoulder arthroplasty	2014	pico not answered: no surgical outcomes
Hasan, S. S.; Gordon, M. P.; Ramsey, J. A.; Levy, M. S.	Reverse shoulder arthroplasty using an implant with a lateral center of rotation: outcomes, complications, and the influence of experience	2014	insufficient data for target condition: <90% GJO
Mechlenburg, I.; Klebe, T. M.; Dossing, K. V.; Amstrup, A.; Soballe, K.; Stilling, M.	Evaluation of periprosthetic bone mineral density and postoperative migration of humeral head resurfacing implants: two-year results of a randomized controlled clinical trial	2014	< 40 pts; n = 32
Menge, T. J.; Boykin, R. E.; Byram, I. R.; Bushnell, B. D.	A comprehensive approach to glenohumeral arthritis	2014	Review/ Systematic Review
Davis, D. E.; Paxton, E. S.; Maltenfort, M.; Abboud, J.	Factors affecting hospital charges after total shoulder arthroplasty: an evaluation of the National Inpatient Sample database	2014	no shoulder OA; unclear how many have OA
Nuttall, D.; Birch, A.; Haines, J. F.; Trail, I. A.	Radiostereographic analysis of a shoulder surface replacement: does hydroxyapatite have a place?	2014	< 40 pts; n = 20
Armstrong, A.	Evaluation and management of adult shoulder pain: a focus on rotator cuff disorders, acromioclavicular joint arthritis, and glenohumeral arthritis	2014	Review/ Systematic Review
Middleton, C.; Uri, O.; Phillips, S.; Barmpaghannis, K.; Higgs, D.; Falworth, M.; Bayley, I.; Lambert, S.	A reverse shoulder arthroplasty with increased offset for the treatment of cuff-deficient shoulders with glenohumeral arthritis	2014	GJO status unclear
Rasmussen, J. V.	Outcome and risk of revision following shoulder replacement in patients with glenohumeral osteoarthritis	2014	Review/ Systematic Review
Spormann, C.; Durchholz, H.; Audige, L.; Flury, M.; Schwyzer, H. K.; Simmen, B. R.; Kolling, C.	Patterns of proximal humeral bone resorption after total shoulder arthroplasty with an uncemented rectangular stem	2014	insufficient data for target condition: <90% GJO

Authors	Article Title	Year	Reason for Exclusion
Maier, M. W.; Caspers, M.; Zeifang, F.; Dreher, T.; Klotz, M. C.; Wolf, S. I.; Kasten, P.	How does reverse shoulder replacement change the range of motion in activities of daily living in patients with cuff tear arthropathy? A prospective optical 3D motion analysis study	2014	< 40 pts; n = 9
Longo, U. G.; Loppini, M.; Rizzello, G.; Ciuffreda, M.; Maffulli, N.; Denaro, V.	Latarjet, Bristow, and Eden-Hybinette procedures for anterior shoulder dislocation: systematic review and quantitative synthesis of the literature	2014	irrelevant topic: shoulder dislocation
Abate, M.; Schiavone, C.; Salini, V.	The use of hyaluronic acid after tendon surgery and in tendinopathies	2014	Review/ Systematic Review
Inacio, M. C.; Dillon, M. T.; Miric, A.; Anthony, F.; Navarro, R. A.; Paxton, E. W.	Mortality after shoulder arthroplasty	2014	<90% OA (75% OA, no breakdown)
Owens, C. J.; Sperling, J. W.; Cofield, R. H.	Long-stemmed humeral components in primary shoulder arthroplasty	2014	<20 pts (n1=18, n2=18 pts)
Trofa, D.; Rajaei, S. S.; Smith, E. L.	Nationwide trends in total shoulder arthroplasty and hemiarthroplasty for osteoarthritis	2014	non-systematic review
Raiss, P.; Edwards, T. B.; Deutsch, A.; Shah, A.; Bruckner, T.; Loew, M.; Boileau, P.; Walch, G.	Radiographic changes around humeral components in shoulder arthroplasty	2014	
Rasmussen, J. V.; Polk, A.; Sorensen, A. K.; Olsen, B. S.; Brorson, S.	Outcome, revision rate and indication for revision following resurfacing hemiarthroplasty for osteoarthritis of the shoulder: 837 operations reported to the Danish Shoulder Arthroplasty Registry	2014	Doesn't address comparison of interest; Brand vs. Brand
Wiater, B. P.; Moravek, J. E., Jr.; Wiater, J. M.	The evaluation of the failed shoulder arthroplasty	2014	Review/ Systematic Review
Raiss, P.; Bruckner, T.; Rickert, M.; Walch, G.	Longitudinal observational study of total shoulder replacements with cement: fifteen to twenty-year follow-up	2014	case series, no breakdown
Simone, J. P.; Streubel, P. H.; Sperling, J. W.; Schleck, C. D.; Cofield, R. H.; Athwal, G. S.	Anatomical total shoulder replacement with rotator cuff repair for osteoarthritis of the shoulder	2014	< 40 pts; n = 33
Nerot, C.; Ohl, X.	Primary shoulder reverse arthroplasty: surgical technique	2014	technique review
Geervliet, P.; van den Bekerom, M.; Spruyt, P.; Curvers, M.; Visser, C.; van Noort, A.	Short-term results of the global C.A.P. uncemented resurfacing shoulder prosthesis	2014	case series, no breakdown

Authors	Article Title	Year	Reason for Exclusion
Sabesan, V.; Callanan, M.; Sharma, V.; Iannotti, J. P.	Correction of acquired glenoid bone loss in osteoarthritis with a standard versus an augmented glenoid component	2014	< 40 pts; n = 29
Sabesan, V.; Callanan, M.; Sharma, V.	Guidelines for the selection of optimal glenoid augment size for moderate to severe glenohumeral osteoarthritis	2014	pico not answered: no surgical outcomes
Klika, B. J.; Wooten, C. W.; Sperling, J. W.; Steinmann, S. P.; Schleck, C. D.; Harmsen, W. S.; Cofield, R. H.	Structural bone grafting for glenoid deficiency in primary total shoulder arthroplasty	2014	< 40 pts; n = 24
Tagliafico, A.; Russo, G.; Boccalini, S.; Michaud, J.; Klauser, A.; Serafini, G.; Martinoli, C.	Ultrasound-guided interventional procedures around the shoulder	2014	Review/ Systematic Review
Clitherow, H. D.; Frampton, C. M.; Astley, T. M.	Effect of glenoid cementation on total shoulder arthroplasty for degenerative arthritis of the shoulder: a review of the New Zealand National Joint Registry	2014	excluded at final meeting by workgroup; not applicable to PICO
Matsen, F. A., 3rd; Gupta, A.	Axillary view: arthritic glenohumeral anatomy and changes after ream and run	2014	diagnostic
Gombera, M. M.; Sekiya, J. K.	Rotator cuff tear and glenohumeral instability : a systematic review	2014	Review/ Systematic Review
Strauss, E. J.; Verma, N. N.; Salata, M. J.; McGill, K. C.; Klifto, C.; Nicholson, G. P.; Cole, B. J.; Romeo, A. A.	The high failure rate of biologic resurfacing of the glenoid in young patients with glenohumeral arthritis	2014	insufficient data for target condition: <90% GJO
Baczkowicz, D.; Krecisz, K.	Vibroarthrography in the evaluation of musculoskeletal system - a pilot study	2013	insufficient data for target condition: <90% GJO
Papadonikolakis, A.; Neradilek, M. B.; Matsen, F. A., 3rd	Failure of the glenoid component in anatomic total shoulder arthroplasty: a systematic review of the English-language literature between 2006 and 2012	2013	Review/ Systematic Review
Gandhi, R.; Perruccio, A. V.; Rizek, R.; Dessouki, O.; Evans, H. M.; Mahomed, N. N.	Obesity-related adipokines predict patient-reported shoulder pain	2013	no target intervention; no TSA, only preop data
Flurin, P. H.; Marczuk, Y.; Janout, M.; Wright, T. W.; Zuckerman, J.; Roche, C. P.	Comparison of outcomes using anatomic and reverse total shoulder arthroplasty	2013	insufficient data for target condition: <90% GJO
Jones, R. B.	Addressing glenoid erosion in anatomic total shoulder arthroplasty	2013	pico not answered: no surgical outcomes

Authors	Article Title	Year	Reason for Exclusion
Reid, M. C.	Viscosupplementation for osteoarthritis: a primer for primary care physicians	2013	Review/ Systematic Review
Neviaser, A.; Braman, J.; Parsons, B.	What's new in shoulder and elbow surgery	2013	non-systematic review
Muh, S. J.; Streit, J. J.; Wanner, J. P.; Lenarz, C. J.; Shishani, Y.; Rowland, D. Y.; Riley, C.; Nowinski, R. J.; Edwards, T. B.; Gobezie, R.	Early follow-up of reverse total shoulder arthroplasty in patients sixty years of age or younger	2013	insufficient data for target condition: <90% GJO
Gregory, T. M.; Sankey, A.; Augereau, B.; Vandenbussche, E.; Amis, A.; Emery, R.; Hansen, U.	Accuracy of glenoid component placement in total shoulder arthroplasty and its effect on clinical and radiological outcome in a retrospective, longitudinal, monocentric open study	2013	case series; no comparison group
Smith, T.; Gettmann, A.; Wellmann, M.; Pastor, F.; Struck, M.	Humeral surface replacement for osteoarthritis	2013	insufficient data for target comparison
Denard, P. J.; Walch, G.	Current concepts in the surgical management of primary glenohumeral arthritis with a biconcave glenoid	2013	Review/ Systematic Review
Zappia, M.; Reginelli, A.; Russo, A.; D'Agosto, G. F.; Di Pietro, F.; Genovese, E. A.; Coppolino, F.; Brunese, L.	Long head of the biceps tendon and rotator interval	2013	non-systematic review
Mizuno, N.; Denard, P. J.; Raiss, P.; Walch, G.	Reverse total shoulder arthroplasty for primary glenohumeral osteoarthritis in patients with a biconcave glenoid	2013	case series, no breakdown
Sabesan, V.; Callanan, M.; Ho, J.; Iannotti, J. P.	Clinical and radiographic outcomes of total shoulder arthroplasty with bone graft for osteoarthritis with severe glenoid bone loss	2013	<20 pts; n=13 pts
Greiner, S.; Berth, A.; Kaab, M.; Irlenbusch, U.	Glenoid morphology affects the incidence of radiolucent lines around cemented pegged polyethylene glenoid components	2013	<90% OA (57% OA, no breakdown)
Hammond, L. C.; Lin, E. C.; Harwood, D. P.; Juhan, T. W.; Gochanour, E.; Klosterman, E. L.; Cole, B. J.; Nicholson, G. P.; Verma, N. N.; Romeo, A. A.	Clinical outcomes of hemiarthroplasty and biological resurfacing in patients aged younger than 50 years	2013	insufficient data for target condition: <90% GJO
Ho, J. C.; Sabesan, V. J.; Iannotti, J. P.	Glenoid component retroversion is associated with osteolysis	2013	insufficient data for target comparison: no preop prognostic factors

Authors	Article Title	Year	Reason for Exclusion
Duan, X.; Zhang, W.; Dong, X.; Liu, M.; Gao, Y.; Huang, F.; Li, J.; Xiang, Z.	Total shoulder arthroplasty versus hemiarthroplasty in patients with shoulder osteoarthritis: a meta-analysis of randomized controlled trials	2013	Review/ Systematic Review
Smith, T. O.; Jerman, E.; Easton, V.; Bacon, H.; Armon, K.; Poland, F.; Macgregor, A. J.	Do people with benign joint hypermobility syndrome (BJHS) have reduced joint proprioception? A systematic review and meta-analysis	2013	irrelevant topic: benign joint hypermobility syndrome (BJHS)
Namdari, S.; Skelley, N.; Keener, J. D.; Galatz, L. M.; Yamaguchi, K.	What is the role of arthroscopic debridement for glenohumeral arthritis? A critical examination of the literature	2013	Review/ Systematic Review
Proffen, B.; Vavken, P.; Dorotka, R.	Surgical management of osteoarthritis	2013	non-systematic review
Madhusudhan, T. R.; Sinha, A.; Widdowson, D.	Deep vein thrombosis in shoulder arthroplasty - a prospective study	2013	pico not answered: no surgical outcomes
Merolla, G.; Bianchi, P.; Lollino, N.; Rossi, R.; Paladini, P.; Porcellini, G.	Clinical and radiographic mid-term outcomes after shoulder resurfacing in patients aged 50 years old or younger	2013	insufficient data for target condition: <90% GJO
Fusaro, I.; Orsini, S.; Stignani, S.; Creta, D.; Cava, F. C.; Benedetti, M. G.; Societa Italiana di Chirurgia della Spalla e del, Gomito	Proposal for SICSeG guidelines for rehabilitation after anatomical shoulder prosthesis in concentric shoulder osteoarthritis	2013	Review/ Systematic Review
Dillon, M. T.; Inacio, M. C.; Burke, M. F.; Navarro, R. A.; Yian, E. H.	Shoulder arthroplasty in patients 59 years of age and younger	2013	<90% OA (80% OA, no breakdown)
Castricini, R.; Gasparini, G.; Di Lugo, F.; De Benedetto, M.; De Gori, M.; Galasso, O.	Health-related quality of life and functionality after reverse shoulder arthroplasty	2013	insufficient data for target condition: <90% GJO
Kukkonen, J.; Joukainen, A.; Lehtinen, J.; Aarimaa, V.	The effect of glenohumeral osteoarthritis on the outcome of isolated operatively treated supraspinatus tears	2013	no target intervention; arthroscopy for RC tear, not OA
Mechlenburg, I.; Amstrup, A.; Klebe, T.; Jacobsen, S. S.; Teichert, G.; Stilling, M.	The Copeland resurfacing humeral head implant does not restore humeral head anatomy. A retrospective study	2013	insufficient data for target condition: <90% GJO
Packer, J. D.; Blaine, T. A.	Shoulder and elbow arthroplasty in younger patients	2013	non-systematic review
Ballas, R.; Beguin, L.	Results of a stemless reverse shoulder prosthesis at more than 58 months mean without loosening	2013	case series, no breakdown
Vidil, A.; Valenti, P.; Guichoux, F.; Barthas, J. H.	CT scan evaluation of glenoid component fixation: a prospective study of 27 minimally cemented shoulder arthroplasties	2013	< 40 pts; n = 27

Authors	Article Title	Year	Reason for Exclusion
Jean, K.	Classifications of glenoid dysplasia, glenoid bone loss and glenoid loosening: a review of the literature	2013	Review/ Systematic Review
Kany, J.; Katz, D.	How to deal with glenoid type B2 or C? How to prevent mistakes in implantation of glenoid component?	2013	<20 pts per group; n1=20 type B2, n2=10 type C
Jean, K.	Glenoid or not glenoid component in primary osteoarthritis	2013	Review/ Systematic Review
Mansat, P.; Bonnevialle, N.	Morphology of the normal and arthritic glenoid	2013	Review/ Systematic Review
Bush, C. A.; Hawkins, R. J.	Prevention of complications in shoulder arthroplasty: understanding options and critical steps	2013	Review/ Systematic Review
Ek, E. T.; Neukom, L.; Catanzaro, S.; Gerber, C.	Reverse total shoulder arthroplasty for massive irreparable rotator cuff tears in patients younger than 65 years old: results after five to fifteen years	2013	no shoulder OA; TSA for RC tear, no OA
Ho, J. C.; Youderian, A.; Davidson, I. U.; Bryan, J.; Iannotti, J. P.	Accuracy and reliability of postoperative radiographic measurements of glenoid anatomy and relationships in patients with total shoulder arthroplasty	2013	< 40 pts; n = 31
Botez, P.; Sirbu, P. D.; Grierosu, C.; Mihailescu, D.; Savin, L.; Scarlat, M. M.	Adult multifocal pigmented villonodular synovitis--clinical review	2013	irrelevant topic: Pigmented villonodular synovitis (PVNS)
Fevang, B. T.; Lygre, S. H.; Bertelsen, G.; Skredderstuen, A.; Havelin, L. I.; Furnes, O.	Pain and function in eight hundred and fifty nine patients comparing shoulder hemiprostheses, resurfacing prostheses, reversed total and conventional total prostheses	2013	insufficient data for target comparison
Porcellini, G.; Merolla, G.; Campi, F.; Pellegrini, A.; Bodanki, C. S.; Paladini, P.	Arthroscopic treatment of early glenohumeral arthritis	2013	excluded at final meeting by workgroup; not applicable for age and glenoid type not of interest
Bonnevialle, N.; Melis, B.; Neyton, L.; Favard, L.; Mole, D.; Walch, G.; Boileau, P.	Aseptic glenoid loosening or failure in total shoulder arthroplasty: revision with glenoid reimplantation	2013	no target intervention; revision TSA for loosening or failure
Montoya, F.; Magosch, P.; Scheiderer, B.; Lichtenberg, S.; Melean, P.; Habermeyer, P.	Midterm results of a total shoulder prosthesis fixed with a cementless glenoid component	2013	case series, no breakdown
Clement, N. D.; Duckworth, A. D.; Colling, R. C.; Stirrat, A. N.	An uncemented metal-backed glenoid component in total shoulder arthroplasty for osteoarthritis: factors affecting survival and outcome	2013	< 40 pts; n = 31

Authors	Article Title	Year	Reason for Exclusion
Levy, O.; Iyer, S.; Atoun, E.; Peter, N.; Hous, N.; Cash, D.; Musa, F.; Narvani, A. A.	Propionibacterium acnes: an underestimated etiology in the pathogenesis of osteoarthritis?	2013	case series, no breakdown
Lee, B. K.; Vaishnav, S.; Rick Hatch, G. F., 3rd; Itamura, J. M.	Biologic resurfacing of the glenoid with meniscal allograft: long-term results with minimum 2-year follow-up	2013	< 40 pts; n = 19
Razmjou, H.; Holtby, R.; Christakis, M.; Axelrod, T.; Richards, R.	Impact of prosthetic design on clinical and radiologic outcomes of total shoulder arthroplasty: a prospective study	2013	< 20 pts per group; n1 18, n2 39, n3 17
Wand, R. J.; Dear, K. E.; Bigsby, E.; Wand, J. S.	A review of shoulder replacement surgery	2012	non-systematic review
Hagen, K. B.; Dagfinrud, H.; Moe, R. H.; Osteras, N.; Kjeken, I.; Grotle, M.; Smedslund, G.	Exercise therapy for bone and muscle health: an overview of systematic reviews	2012	Review/ Systematic Review
Riboh, J. C.; Garrigues, G. E.	Bone grafting in shoulder arthroplasty	2012	Review/ Systematic Review
Shafritz, A. B.; Flieger, S.	Reverse total shoulder arthroplasty: early results of forty-one cases and a review of the literature	2012	Review/ Systematic Review
Carter, M. J.; Mikuls, T. R.; Nayak, S.; Fehringer, E. V.; Michaud, K.	Impact of total shoulder arthroplasty on generic and shoulder-specific health-related quality-of-life measures: a systematic literature review and meta-analysis	2012	Review/ Systematic Review
Laslett, L. L.; Quinn, S. J.; Winzenberg, T. M.; Sanderson, K.; Cicuttini, F.; Jones, G.	A prospective study of the impact of musculoskeletal pain and radiographic osteoarthritis on health related quality of life in community dwelling older people	2012	no target intervention; no TSA/alternative
Fevang, B. T.; Lygre, S. H.; Bertelsen, G.; Skredderstuen, A.; Havelin, L. I.; Furnes, O.	Good function after shoulder arthroplasty	2012	<90% OA (32% OA, no breakdown)
Deladerriere, J. Y.; Szymanski, C.; Vervoort, T.; Budzik, J. F.; Maynou, C.	Geometrical analysis results of 42 resurfacing shoulder prostheses: A CT scan study	2012	<90% OA (78% OA, no breakdown)
Nijs, J.; Kosek, E.; Van Oosterwijk, J.; Meeus, M.	Dysfunctional endogenous analgesia during exercise in patients with chronic pain: to exercise or not to exercise?	2012	non-systematic review
Hegedus, E. J.; Goode, A. P.; Cook, C. E.; Michener, L.; Myer, C. A.; Myer, D. M.; Wright, A. A.	Which physical examination tests provide clinicians with the most value when examining the shoulder? Update of a systematic review with meta-analysis of individual tests	2012	irrelevant topic: shoulder examination
Grayson, C. W.; Decker, R. C.	Total joint arthroplasty for persons with osteoarthritis	2012	non-systematic review

Authors	Article Title	Year	Reason for Exclusion
Kenney, N. A.; Farmer, K. W.	Minimally invasive versus conventional joint arthroplasty	2012	non-systematic review
Al-Hadithy, N.; Domos, P.; Sewell, M. D.; Naleem, A.; Papanna, M. C.; Pandit, R.	Cementless surface replacement arthroplasty of the shoulder for osteoarthritis: results of fifty Mark III Copeland prosthesis from an independent center with four-year mean follow-up	2012	case series, no breakdown
Al-Nasser, B.	Review of interscalene block for postoperative analgesia after shoulder surgery in obese patients	2012	Review/ Systematic Review
Sassoon, A. A.; Rhee, P. C.; Schleck, C. D.; Harmsen, W. S.; Sperling, J. W.; Cofield, R. H.	Revision total shoulder arthroplasty for painful glenoid arthrosis after humeral head replacement: the nontraumatic shoulder	2012	no prognostic factors of interest
Colen, S.; Haverkamp, D.; Mulier, M.; van den Bekerom, M. P.	Hyaluronic acid for the treatment of osteoarthritis in all joints except the knee: what is the current evidence?	2012	Review/ Systematic Review
Lawrence, T. M.; Ahmadi, S.; Sanchez-Sotelo, J.; Sperling, J. W.; Cofield, R. H.	Patient reported activities after reverse shoulder arthroplasty: part II	2012	no shoulder OA; only RC tears, fractures
Rasmussen, J. V.; Jakobsen, J.; Brorson, S.; Olsen, B. S.	The Danish Shoulder Arthroplasty Registry: clinical outcome and short-term survival of 2,137 primary shoulder replacements	2012	<90% OA (30% OA, no breakdown)
Wirth, M. A.; Loredo, R.; Garcia, G.; Rockwood, C. A., Jr.; Southworth, C.; Iannotti, J. P.	Total shoulder arthroplasty with an all-polyethylene pegged bone-ingrowth glenoid component: a clinical and radiographic outcome study	2012	case series, no breakdown
Verstraeten, T. R.; Deschepper, E.; Jacxsens, M.; Walravens, S.; De Coninck, B.; De Wilde, L. F.	Operative guidelines for the reconstruction of the native glenoid plane: an anatomic three-dimensional computed tomography-scan reconstruction study	2012	pico not answered: no surgical outcomes
Sinusas, K.	Osteoarthritis: diagnosis and treatment	2012	non-systematic review
Edwards, T. B.; Trappey, G. J.; Riley, C.; O'Connor, D. P.; Elkousy, H. A.; Gartsman, G. M.	Inferior tilt of the glenoid component does not decrease scapular notching in reverse shoulder arthroplasty: results of a prospective randomized study	2012	irrelevant topic: rotator cuff tear management
Nuttall, D.; Haines, J. F.; Trail, I. A.	The early migration of a partially cemented fluted pegged glenoid component using radiostereometric analysis	2012	<20 pts per group; n=11
Irlenbusch, U.; Berth, A.; Blatter, G.; Zenz, P.	Variability of medial and posterior offset in patients with fourth-generation stemmed shoulder arthroplasty	2012	insufficient data for target condition: <90% GJO

Authors	Article Title	Year	Reason for Exclusion
Vegini, J. B.; Steglich, V.; Bonilauri Ferreira, A. P.; Gandhi, M.; Shah, J.; Pietrobon, R.	Do insurance and race represent independent predictors of undergoing total shoulder arthroplasty? A secondary data analysis of 3529 patients	2012	no target outcome; TSA vs no TSA
Churchill, R. S.	Post-treatment glenoid classification system for total shoulder arthroplasty	2012	non-systematic review
Chaoui, J.; Hamitouche, C.; Stindel, E.; Roux, C.	Recognition-based segmentation and registration method for image guided shoulder surgery	2011	pico not answered: no surgical outcomes
Longo, U. G.; Berton, A.; Alexander, S.; Maffulli, N.; Wallace, A. L.; Denaro, V.	Biological resurfacing for early osteoarthritis of the shoulder	2011	non-systematic review
Collin, P.; Tay, A. K.; Melis, B.; Boileau, P.; Walch, G.	A ten-year radiologic comparison of two-all polyethylene glenoid component designs: a prospective trial	2011	to other literature available to combine with to make a recommendation
Singh, J. A.; Sperling, J. W.; Cofield, R. H.	Revision surgery following total shoulder arthroplasty: analysis of 2588 shoulders over three decades (1976 to 2008)	2011	<90% OA (63% OA, no breakdown)
Abdelshafi, M. E.; Yosry, M.; Elmulla, A. F.; Al-Shahawy, E. A.; Adou Aly, M.; Eliewa, E. A.	Relief of chronic shoulder pain: a comparative study of three approaches	2011	irrelevant topic: frozen shoulder and RA
Gobezie, R.; Lenarz, C. J.; Wanner, J. P.; Streit, J. J.	All-arthroscopic biologic total shoulder resurfacing	2011	pico not answered: no surgical outcomes
Namdari, S.; Alesh, H.; Baldwin, K.; Glaser, D.; Kelly, J. D.	Biological glenoid resurfacing for glenohumeral osteoarthritis: a systematic review	2011	Review/ Systematic Review
Millett, P. J.; Gaskill, T. R.	Arthroscopic management of glenohumeral arthrosis: humeral osteoplasty, capsular release, and arthroscopic axillary nerve release as a joint-preserving approach	2011	technique review
Ladermann, A.; Lubbeke, A.; Melis, B.; Stern, R.; Christofilopoulos, P.; Bacle, G.; Walch, G.	Prevalence of neurologic lesions after total shoulder arthroplasty	2011	<90% OA (n1=79% and n2=96% OA, no breakdown)
Brantingham, J. W.; Cassa, T. K.; Bonnefin, D.; Jensen, M.; Globe, G.; Hicks, M.; Korporaal, C.	Manipulative therapy for shoulder pain and disorders: expansion of a systematic review	2011	Review/ Systematic Review
Kilic, M.; End, S.; Irlenbusch, U.	Replication of the rotational center of the humeral head with second-generation stemmed prostheses	2011	insufficient data for target condition: <90% GJO
Zumstein, V.; Kraljevic, M.; Huegli, R.; Muller-Gerbl, M.	Mineralisation patterns in the subchondral bone plate of the humeral head	2011	pico not answered: no surgical outcomes

Authors	Article Title	Year	Reason for Exclusion
Litchfield, R. B.; McKee, M. D.; Balyk, R.; Mandel, S.; Holtby, R.; Hollinshead, R.; Drosdowech, D.; Wambolt, S. E.; Griffin, S. H.; McCormack, R.	Cemented versus uncemented fixation of humeral components in total shoulder arthroplasty for osteoarthritis of the shoulder: a prospective, randomized, double-blind clinical trial-A JOINTs Canada Project	2011	excluded at final meeting by workgroup; not applicable to PICO
Merolla, G.; Sperling, J. W.; Paladini, P.; Porcellini, G.	Efficacy of Hyland G-F 20 versus 6-methylprednisolone acetate in painful shoulder osteoarthritis: a retrospective controlled trial	2011	excluded at final meeting by workgroup; not comparison of interest
Provencher, M. T.; Barker, J. U.; Strauss, E. J.; Frank, R. M.; Romeo, A. A.; Matsen, F. A., 3rd; Cole, B. J.	Glenohumeral arthritis in the young adult	2011	non-systematic review
Denard, P. J.; Wirth, M. A.; Orfaly, R. M.	Management of glenohumeral arthritis in the young adult	2011	non-systematic review
Franceschi, F.; Papalia, R.; Del Buono, A.; Vasta, S.; Maffulli, N.; Denaro, V.	Glenohumeral osteoarthritis after arthroscopic Bankart repair for anterior instability	2011	no target outcome; development of OA post arthroscopy
Lollino, N.; Pellegrini, A.; Paladini, P.; Campi, F.; Porcellini, G.	Gleno-Humeral arthritis in young patients: clinical and radiographic analysis of humerus resurfacing prosthesis and meniscus interposition	2011	< 40 pts; n = 18
Nikooyan, A. A.; van der Helm, F. C.; Westerhoff, P.; Graichen, F.; Bergmann, G.; Veeger, H. E.	Comparison of two methods for in vivo estimation of the glenohumeral joint rotation center (GH-JRC) of the patients with shoulder hemiarthroplasty	2011	pico not answered: no surgical outcomes
Lee, M. S.; Ernst, E.	Acupuncture for pain: an overview of Cochrane reviews	2011	Review/ Systematic Review
Chong, P. Y.; Srikumaran, U.; Kuye, I. O.; Warner, J. J.	Glenohumeral arthritis in the young patient	2011	Review/ Systematic Review
Singh, J. A.; Sperling, J.; Buchbinder, R.; McMaken, K.	Surgery for shoulder osteoarthritis: a Cochrane systematic review	2011	Review/ Systematic Review
Briem, D.; Ruecker, A. H.; Neumann, J.; Gebauer, M.; Kendoff, D.; Gehrke, T.; Lehmann, W.; Schumacher, U.; Rueger, J. M.; Grosssterlinden, L. G.	3D fluoroscopic navigated reaming of the glenoid for total shoulder arthroplasty (TSA)	2011	cadaver
Kempton, L. B.; Balasubramaniam, M.; Ankerson, E.; Wiater, J. M.	A radiographic analysis of the effects of prosthesis design on scapular notching following reverse total shoulder arthroplasty	2011	insufficient data for target condition; <90% GJO (4%)
Saltzman, M. D.; Chamberlain, A. M.; Mercer, D. M.; Warne, W. J.; Bertelsen, A. L.; Matsen, F. A., 3rd	Shoulder hemiarthroplasty with concentric glenoid reaming in patients 55 years old or less	2011	insufficient data for target condition; <90% GJO (55%)

Authors	Article Title	Year	Reason for Exclusion
Hultenheim Klintberg, I.; Karlsson, J.; Svantesson, U.	Health-related quality of life, patient satisfaction, and physical activity 8-11 years after arthroscopic subacromial decompression	2011	insufficient data for target condition: <90% GJO
Levigne, C.; Garret, J.; Boileau, P.; Alami, G.; Favard, L.; Walch, G.	Scapular notching in reverse shoulder arthroplasty: is it important to avoid it and how?	2011	insufficient data for target condition; <90% GJO (8%)
Gigante, A.; Callegari, L.	The role of intra-articular hyaluronan (Sinovial) in the treatment of osteoarthritis	2011	non-systematic review
Walch, G.; Young, A. A.; Melis, B.; Gazielly, D.; Loew, M.; Boileau, P.	Results of a convex-back cemented keeled glenoid component in primary osteoarthritis: multicenter study with a follow-up greater than 5 years	2011	case series; no prog analysis
Ganapathi, A.; McCarron, J. A.; Chen, X.; Iannotti, J. P.	Predicting normal glenoid version from the pathologic scapula: a comparison of 4 methods in 2- and 3-dimensional models	2011	cadavers inluced
Arnold, R. M.; High, R. R.; Grosshans, K. T.; Walker, C. W.; Fehringer, E. V.	Bone presence between the central peg's radial fins of a partially cemented pegged all poly glenoid component suggest few radiolucencies	2011	no adjustment
Irlenbusch, U.; Blatter, G.; Gebhardt, K.; Pap, G.; Zenz, P.	Prospective study of double-eccentric hemi shoulder arthroplasty in different aetiologies: midterm results	2011	<90% OA (45% OA, no breakdown)
Weber, P.; Utzschneider, S.; Sadoghi, P.; Andress, H. J.; Jansson, V.; Muller, P. E.	Management of the infected shoulder prosthesis: a retrospective analysis and review of the literature	2011	Review/ Systematic Review
Kilic, M.; Berth, A.; Blatter, G.; Fuhrmann, U.; Gebhardt, K.; Rott, O.; Zenz, P.; Irlenbusch, U.	Anatomic and reverse shoulder prostheses in fracture sequelae of the humeral head	2010	no shoulder OA; secondary fracture prostheses/dequelae of fractures of humeral head
Lakemeier, S.; Schwuchow, S. A.; Peterlein, C. D.; Foelsch, C.; Fuchs-Winkelmann, S.; Archontidou-Aprin, E.; Paletta, J. R.; Schofer, M. D.	Expression of matrix metalloproteinases 1, 3, and 9 in degenerated long head biceps tendon in the presence of rotator cuff tears: an immunohistological study	2010	no GJO
Nho, S. J.; Strauss, E. J.; Lenart, B. A.; Provencher, M. T.; Mazzocca, A. D.; Verma, N. N.; Romeo, A. A.	Long head of the biceps tendinopathy: diagnosis and management	2010	non-systematic review
Vickers, A. J.; Cronin, A. M.; Maschino, A. C.; Lewith, G.; Macpherson, H.; Victor, N.;	Individual patient data meta-analysis of acupuncture for chronic pain: protocol of the Acupuncture Trialists' Collaboration	2010	Review/ Systematic Review

Authors	Article Title	Year	Reason for Exclusion
Sherman, K. J.; Witt, C.; Linde, K.; Acupuncture Trialists, Collaboration			
Van Thiel, G. S.; Sheehan, S.; Frank, R. M.; Slabaugh, M.; Cole, B. J.; Nicholson, G. P.; Romeo, A. A.; Verma, N. N.	Retrospective analysis of arthroscopic management of glenohumeral degenerative disease	2010	case series; no prog analysis
Nho, S. J.; Frank, R. M.; Verma, N. N.; Romeo, A. A.	Incidence of early development of radiolucent lines in keeled polyethylene glenoid components after total shoulder arthroplasty	2010	case series, no breakdown
Steurer-Dober, I.; Rufibach, K.; Hodler, J.; Saupe, N.; Zanetti, M.; Fucentese, S. F.; Pfirrmann, C. W.	Do patients with structural abnormalities of the shoulder experience pain after MR arthrography of the shoulder?	2010	insufficient data for target condition: <90% GJO
Park, M. S.; Kim, S. J.; Chung, C. Y.; Choi, I. H.; Lee, S. H.; Lee, K. M.	Statistical consideration for bilateral cases in orthopaedic research	2010	Review/ Systematic Review
Foruria, A. M.; Sperling, J. W.; Ankem, H. K.; Oh, L. S.; Cofield, R. H.	Total shoulder replacement for osteoarthritis in patients 80 years of age and older	2010	< 40 pts; n = 27
Izquierdo, R.; Voloshin, I.; Edwards, S.; Freehill, M. Q.; Stanwood, W.; Wiater, J. M.; Watters, W. C., 3rd; Goldberg, M. J.; Keith, M.; Turkelson, C. M.; Wies, J. L.; Anderson, S.; Boyer, K.; Raymond, L.; Sluka, P.; American Academy of Orthopedic Surgeons	Treatment of glenohumeral osteoarthritis	2010	Review/ Systematic Review
Jackson, J. D.; Cil, A.; Smith, J.; Steinmann, S. P.	Integrity and function of the subscapularis after total shoulder arthroplasty	2010	< 40 pts; n = 15
Abate, M.; Pulcini, D.; Di Iorio, A.; Schiavone, C.	Viscosupplementation with intra-articular hyaluronic acid for treatment of osteoarthritis in the elderly	2010	pico not answered: no surgical outcomes
Papalia, R.; Osti, L.; Del Buono, A.; Denaro, V.; Maffulli, N.	Glenohumeral arthropathy following stabilization for recurrent instability	2010	irrelevant topic: shoulder instability
Huguet, D.; DeClercq, G.; Rio, B.; Teissier, J.; Zipoli, B.; Tess Group	Results of a new stemless shoulder prosthesis: radiologic proof of maintained fixation and stability after a minimum of three years' follow-up	2010	case series, no breakdown

Authors	Article Title	Year	Reason for Exclusion
Wylie, J. D.; Bershadsky, B.; Iannotti, J. P.	The effect of medical comorbidity on self-reported shoulder-specific health related quality of life in patients with shoulder disease	2010	<90% OA (52% OA, no breakdown)
Throckmorton, T. W.; Zarkadas, P. C.; Sperling, J. W.; Cofield, R. H.	Radiographic stability of ingrowth humeral stems in total shoulder arthroplasty	2010	case series, no breakdown
Lehnert, B. E.; Bree, R. L.	Analysis of appropriateness of outpatient CT and MRI referred from primary care clinics at an academic medical center: how critical is the need for improved decision support?	2010	insufficient data for target condition: <90% GJO
Kasten, P.; Pape, G.; Raiss, P.; Bruckner, T.; Rickert, M.; Zeifang, F.; Loew, M.	Mid-term survivorship analysis of a shoulder replacement with a keeled glenoid and a modern cementing technique	2010	<90% OA (79% OA, no breakdown)
Foruria, A. M.; Oh, L. S.; Sperling, J. W.; Cofield, R. H.	Anteromedial approach for shoulder arthroplasty: current indications, complications, and results	2010	<90% OA (52% and 38% OA, no breakdown)
Saltzman, M. D.; Mercer, D. M.; Warme, W. J.; Bertelsen, A. L.; Matsen, F. A., 3rd	Comparison of patients undergoing primary shoulder arthroplasty before and after the age of fifty	2010	no target outcome; preop outcomes
Kepler, C. K.; Nho, S. J.; Bansal, M.; Ala, O. L.; Craig, E. V.; Wright, T. M.; Warren, R. F.	Radiographic and histopathologic analysis of osteolysis after total shoulder arthroplasty	2010	no target intervention; revision TSA
Patzer, T.; Lichtenberg, S.; Kircher, J.; Magosch, P.; Habermeyer, P.	Influence of SLAP lesions on chondral lesions of the glenohumeral joint	2010	no shoulder OA; SLAP lesions vs none, no OA
Peterson, C.; Hodler, J.	Evidence-based radiology (part 2): Is there sufficient research to support the use of therapeutic injections into the peripheral joints?	2010	Review/ Systematic Review
Kircher, J.; Morhard, M.; Magosch, P.; Ebinger, N.; Lichtenberg, S.; Habermeyer, P.	How much are radiological parameters related to clinical symptoms and function in osteoarthritis of the shoulder?	2010	no target intervention; no TSA/alternative
Siviero, P.; Tonin, P.; Maggi, S.	Functional limitations of upper limbs in older diabetic individuals. The Italian Longitudinal Study on Aging	2009	no target intervention; assessing risk factors of OA, no TSA/alternative
Donigan, J. A.; Frisella, W. A.; Haase, D.; Dolan, L.; Wolf, B.	Pre-operative and intra-operative factors related to shoulder arthroplasty outcomes	2009	<90% OA (57% OA, no breakdown)
Kepler, C. K.; Nho, S. J.; Ala, O. L.; Craig, E. V.; Wright, T. M.; Warren, R. F.	Comparison of early and delayed failed total shoulder arthroplasty	2009	<90% OA (81% OA, no breakdown)

Authors	Article Title	Year	Reason for Exclusion
Linberg, C. J.; Sperling, J. W.; Schleck, C. D.; Cofield, R. H.	Shoulder arthroplasty in morbidly obese patients	2009	case series, no breakdown
Young, S. W.; Everts, N. M.; Ball, C. M.; Astley, T. M.; Poon, P. C.	The SMR reverse shoulder prosthesis in the treatment of cuff-deficient shoulder conditions	2009	insufficient data for target condition: <90% GJO
Mahowald, M. L.; Krug, H. E.; Singh, J. A.; Dykstra, D.	Intra-articular Botulinum Toxin Type A: a new approach to treat arthritis joint pain	2009	non-systematic review
Pfahler, M.; Meier, K.; Anetzberger, H.; Schulz, C. U.	An evaluation of the efficiency of the use of an anatomical third generation shoulder prosthesis in 102 patients	2009	case series, no breakdown
Kircher, J.; Patzer, T.; Magosch, P.; Lichtenberg, S.; Habermeyer, P.	Osteochondral autologous transplantation for the treatment of full-thickness cartilage defects of the shoulder: results at nine years	2009	< 40 pts; n = 7
Fevang, B. T.; Lie, S. A.; Havelin, L. I.; Skredderstuen, A.; Furnes, O.	Risk factors for revision after shoulder arthroplasty: 1,825 shoulder arthroplasties from the Norwegian Arthroplasty Register	2009	<90% OA (23% OA, no breakdown)
Fox, T. J.; Cil, A.; Sperling, J. W.; Sanchez-Sotelo, J.; Schleck, C. D.; Cofield, R. H.	Survival of the glenoid component in shoulder arthroplasty	2009	<90% OA (64% OA, no breakdown)
Neri, B. R.; Vollmer, E. A.; Kvistne, R. S.	Isolated type II superior labral anterior posterior lesions: age-related outcome of arthroscopic fixation	2009	<90% OA (no breakdown)
Willis, A. A.; Warren, R. F.; Craig, E. V.; Adler, R. S.; Cordasco, F. A.; Lyman, S.; Fealy, S.	Deep vein thrombosis after reconstructive shoulder arthroplasty: a prospective observational study	2009	<90% OA (62% OA, no breakdown)
Sanchez-Sotelo, J.	Reverse total shoulder arthroplasty	2009	Review/ Systematic Review
Ravenscroft, M.; Charalambous, C. P.; Haines, J. F.; Trail, I. A.	Outcome of stemmed shoulder hemi-arthroplasty revision	2009	<20 pts per group; n=17 pts
Scalise, J. J.; Codsi, M. J.; Bryan, J.; Brems, J. J.; Iannotti, J. P.	The influence of three-dimensional computed tomography images of the shoulder in preoperative planning for total shoulder arthroplasty	2008	pico not answered: no surgical outcomes
Taunton, M. J.; McIntosh, A. L.; Sperling, J. W.; Cofield, R. H.	Total shoulder arthroplasty with a metal-backed, bone-ingrowth glenoid component. Medium to long-term results	2008	<90% OA (89% OA, no breakdown)
Millett, P. J.; Gobezeie, R.; Boykin, R. E.	Shoulder osteoarthritis: diagnosis and management	2008	Review/ Systematic Review

Authors	Article Title	Year	Reason for Exclusion
Ruckstuhl, H.; de Bruin, E. D.; Stussi, E.; Vanwanseele, B.	Post-traumatic glenohumeral cartilage lesions: a systematic review	2008	irrelevant topic: posttraumatic arthritis
Barwood, S.; Setter, K. J.; Blaine, T. A.; Bigliani, L. U.	The incidence of early radiolucencies about a pegged glenoid component using cement pressurization	2008	case series; no prog analysis
Levy, P. Y.; Fenollar, F.; Stein, A.; Borrione, F.; Cohen, E.; Lebail, B.; Raoult, D.	Propionibacterium acnes postoperative shoulder arthritis: an emerging clinical entity	2008	<20 pts oer group (n=19 shoulder infections)
Long, F.	Consider the angles. Shoulder injuries require a 360-degree look at failure and prevention	2008	non-systematic review
Middernacht, B.; De Wilde, L.; Mole, D.; Favard, L.; Debeer, P.	Glenosphere disengagement: a potentially serious default in reverse shoulder surgery	2008	no shoulder OA; unclear how many have OA
Cheung, E. V.; Sperling, J. W.; Cofield, R. H.	Revision shoulder arthroplasty for glenoid component loosening	2008	<90% OA (60% OA, no breakdown)
Buchner, M.; Eschbach, N.; Loew, M.	Comparison of the short-term functional results after surface replacement and total shoulder arthroplasty for osteoarthritis of the shoulder: a matched-pair analysis	2008	< 40 pts; n = 22
Williams, G. R., Jr.; Iannotti, J. P.	Options for glenoid bone loss: composites of prosthetics and biologics	2007	non-systematic review
Rosenberg, N.; Neumann, L.; Modi, A.; Mersich, I. J.; Wallace, A. W.	Improvements in survival of the uncemented Nottingham Total Shoulder prosthesis: a prospective comparative study	2007	
Cole, B. J.; Yanke, A.; Provencher, M. T.	Nonarthroplasty alternatives for the treatment of glenohumeral arthritis	2007	non-systematic review
Adams, J. E.; Steinmann, S. P.	Soft tissue interposition arthroplasty of the shoulder	2007	Review/ Systematic Review
Wall, B.; Nove-Josserand, L.; O'Connor, D. P.; Edwards, T. B.; Walch, G.	Reverse total shoulder arthroplasty: a review of results according to etiology	2007	insufficient data for target condition: <90% GJO
Klett, R.; Lange, U.; Haas, H.; Voth, M.; Pinkert, J.	Radiosynoviorthesis of medium-sized joints with rhenium-186-sulphide colloid: a review of the literature	2007	Review/ Systematic Review
Radnay, C. S.; Setter, K. J.; Chambers, L.; Levine, W. N.; Bigliani, L. U.; Ahmad, C. S.	Total shoulder replacement compared with humeral head replacement for the treatment of primary glenohumeral osteoarthritis: a systematic review	2007	Review/ Systematic Review

Authors	Article Title	Year	Reason for Exclusion
Auclair, D.; Hopwood, J. J.; Lemontt, J. F.; Chen, L.; Byers, S.	Long-term intra-articular administration of recombinant human N-acetylgalactosamine-4-sulfatase in feline mucopolysaccharidosis VI	2007	animal: cat
Cofield, R. H.	Bone grafting for glenoid bone deficiencies in shoulder arthritis: a review	2007	non-systematic review
Boileau, P.; Baque, F.; Valerio, L.; Ahrens, P.; Chuinard, C.; Trojani, C.	Isolated arthroscopic biceps tenotomy or tenodesis improves symptoms in patients with massive irreparable rotator cuff tears	2007	insufficient data for target condition: <90% GJO
Wirth, M. A.; Tapscott, R. S.; Southworth, C.; Rockwood, C. A., Jr.	Treatment of glenohumeral arthritis with a hemiarthroplasty. Surgical technique	2007	case series, no breakdown
Gregory, T.; Hansen, U.; Emery, R. J.; Augereau, B.; Amis, A. A.	Developments in shoulder arthroplasty	2007	non-systematic review
Adams, J. E.; Sperling, J. W.; Schleck, C. D.; Harmsen, W. S.; Cofield, R. H.	Outcomes of shoulder arthroplasty in Olmsted County, Minnesota: a population-based study	2007	<20 pts per group; n1=5, n2=46
Gutierrez, S.; Greiwe, R. M.; Frankle, M. A.; Siegal, S.; Lee, W. E., 3rd	Biomechanical comparison of component position and hardware failure in the reverse shoulder prosthesis	2007	pico not answered: no surgical outcomes
van de Sande, M. A.; Brand, R.; Rozing, P. M.	Indications, complications, and results of shoulder arthroplasty	2006	Review/ Systematic Review
Sperling, J. W.; Steinmann, S. P.; Cordasco, F. A.; Henshaw, D. R.; Coons, D. A.; Burkhead, W. Z.	Shoulder arthritis in the young adult: arthroscopy to arthroplasty	2006	pico not answered: no surgical outcomes
Frankle, M.; Levy, J. C.; Pupello, D.; Siegal, S.; Saleem, A.; Mighell, M.; Vasey, M.	The reverse shoulder prosthesis for glenohumeral arthritis associated with severe rotator cuff deficiency. a minimum two-year follow-up study of sixty patients surgical technique	2006	case series, no breakdown
Millett, P. J.; Porramatikul, M.; Chen, N.; Zurakowski, D.; Warner, J. J.	Analysis of transfusion predictors in shoulder arthroplasty	2006	insufficient data for target condition: <90% GJO
Bhatia, D. N.; van Rooyen, K. S.; du Toit, D. F.; de Beer, J. F.	Arthroscopic technique of interposition arthroplasty of the glenohumeral joint	2006	technique review
Boileau, P.; Sinnerton, R. J.; Chuinard, C.; Walch, G.	Arthroplasty of the shoulder	2006	Review/ Systematic Review
Haines, J. F.; Trail, I. A.; Nuttall, D.; Birch, A.; Barrow, A.	The results of arthroplasty in osteoarthritis of the shoulder	2006	<90% OA (84% OA, no breakdown)

Authors	Article Title	Year	Reason for Exclusion
Sharma, S.; Drehorn, C. R.	Registry of shoulder arthroplasty - the Scottish experience	2006	non-systematic review
Keller, J.; Bak, S.; Bigliani, L. U.; Levine, W. N.	Glenoid replacement in total shoulder arthroplasty	2006	non-systematic review
Adams, J. E.; Sperling, J. W.; Hoskin, T. L.; Melton, L. J., 3rd; Cofield, R. H.	Shoulder arthroplasty in Olmsted County, Minnesota, 1976-2000: a population-based study	2006	duplicate of 1933
Chin, P. Y.; Sperling, J. W.; Cofield, R. H.; Schleck, C.	Complications of total shoulder arthroplasty: are they fewer or different?	2006	<90% OA (57% OA, no breakdown)
Gartsman, G. M.; Hasan, S. S.	What's new in shoulder and elbow surgery	2006	non-systematic review
Swieszkowski, W.; Ku, D. N.; Bersee, H. E.; Kurzydlowski, K. J.	An elastic material for cartilage replacement in an arthritic shoulder joint	2006	pico not answered: no surgical outcomes
Pennington, W. T.; Bartz, B. A.	Arthroscopic glenoid resurfacing with meniscal allograft: a minimally invasive alternative for treating glenohumeral arthritis	2005	technique review
Dias, R.; Cutts, S.; Massoud, S.	Frozen shoulder	2005	non-systematic review
Szabo, I.; Buscayret, F.; Edwards, T. B.; Nemoz, C.; Boileau, P.; Walch, G.	Radiographic comparison of flat-back and convex-back glenoid components in total shoulder arthroplasty	2005	excluded at final meeting by workgroup; no outcome of interest
Sperling, J. W.; Duncan, S. F.; Cofield, R. H.; Schleck, C. D.; Harmsen, W. S.	Incidence and risk factors for blood transfusion in shoulder arthroplasty	2005	<90% OA (53% OA, no breakdown)
Mahfouz, M.; Nicholson, G.; Komistek, R.; Hovis, D.; Kubo, M.	In vivo determination of the dynamics of normal, rotator cuff-deficient, total, and reverse replacement shoulders	2005	< 40 pts; n = 20
Bingol, U.; Altan, L.; Yurtkuran, M.	Low-power laser treatment for shoulder pain	2005	insufficient data for target condition: no GJO
Bell, A. D.; Conaway, D.	Corticosteroid injections for painful shoulders	2005	non-systematic review
Bryant, D.; Litchfield, R.; Sandow, M.; Gartsman, G. M.; Guyatt, G.; Kirkley, A.	A comparison of pain, strength, range of motion, and functional outcomes after hemiarthroplasty and total shoulder arthroplasty in patients with osteoarthritis of the shoulder. A systematic review and meta-analysis	2005	Review/ Systematic Review
Jain, N. B.; Hocker, S.; Pietrobon, R.; Guller, U.; Bathia, N.; Higgins, L. D.	Total arthroplasty versus hemiarthroplasty for glenohumeral osteoarthritis: role of provider volume	2005	pico not answered: no surgical outcomes
Martin, S. D.; Zurakowski, D.; Thornhill, T. S.	Uncemented glenoid component in total shoulder arthroplasty. Survivorship and outcomes	2005	insufficient data for target condition: <90% GJO

Authors	Article Title	Year	Reason for Exclusion
Smidt, N.; de Vet, H. C.; Bouter, L. M.; Dekker, J.; Arendzen, J. H.; de Bie, R. A.; Bierma-Zeinstra, S. M.; Holders, P. J.; Keus, S. H.; Kwakkel, G.; Lenssen, T.; Oostendorp, R. A.; Ostelo, R. W.; Reijman, M.; Terwee, C. B.; Theunissen, C.; Thomas, S.; van Baar, M. E.; van 't Hul, A.; van Peppen, R. P.; Verhagen, A.; van der Windt, D. A.; Exercise Therapy, Group	Effectiveness of exercise therapy: a best-evidence summary of systematic reviews	2005	Review/ Systematic Review
Churchill, R. S.; Kopjar, B.; Fehringer, E. V.; Boorman, R. S.; Matsen, F. A., 3rd	Humeral component modularity may not be an important factor in the outcome of shoulder arthroplasty for glenohumeral osteoarthritis	2005	< 20 pts per group: n1 = 81, n2 = 10, n3 = 10
Laudicina, L.; D'Ambrosia, R.	Management of irreparable rotator cuff tears and glenohumeral arthritis	2005	irrelevant topic: rotator cuff tear management
Green, S.; Buchbinder, R.; Hetrick, S.	Acupuncture for shoulder pain	2005	Review/ Systematic Review
Mileti, J.; Sperling, J. W.; Cofield, R. H.; Harrington, J. R.; Hoskin, T. L.	Monoblock and modular total shoulder arthroplasty for osteoarthritis	2005	excluded at final meeting by workgroup; not comparison of interest; Tx not available
Andrews, J. R.	Diagnosis and treatment of chronic painful shoulder: review of nonsurgical interventions	2005	non-systematic review
Boehm, T. D.; Wallace, W. A.; Neumann, L.	Heterotopic ossification after primary shoulder arthroplasty	2005	<90% OA (27% OA, no breakdown)
Lyman, S.; Sherman, S.; Dunn, W. R.; Marx, R. G.	Advancements in the surgical and alternative treatment of arthritis	2005	Review/ Systematic Review
Szabo, I.; Buscayret, F.; Edwards, T. B.; Nemoz, C.; O'Connor, D. P.; Boileau, P.; Walch, G.	Radiographic comparison of two glenoid preparation techniques in total shoulder arthroplasty	2005	excluded at final meeting by workgroup; not applicable to PICO; not outcome of interest
Brophy, R. H.; Marx, R. G.	Osteoarthritis following shoulder instability	2005	no target condition; OA as an outcome
Sperling, J. W.; Cofield, R. H.; Rowland, C. M.	Minimum fifteen-year follow-up of Neer hemiarthroplasty and total shoulder arthroplasty in patients aged fifty years or younger	2004	insufficient data for target condition: <90% GJO
Buscayret, F.; Edwards, T. B.; Szabo, I.; Adeleine, P.; Coudane, H.; Walch, G.	Glenohumeral arthrosis in anterior instability before and after surgical treatment: incidence and contributing factors	2004	irrelevant topic: shoulder instability

Authors	Article Title	Year	Reason for Exclusion
Hettrich, C. M.; Weldon, E., 3rd; Boorman, R. S.; Parsons, I. M. th; Matsen, F. A., 3rd	Preoperative factors associated with improvements in shoulder function after humeral hemiarthroplasty	2004	no target condition; no OA
Parsons, I. M. th; Weldon, E. J., 3rd; Titelman, R. M.; Smith, K. L.	Glenohumeral arthritis and its management	2004	non-systematic review
Sirveaux, F.; Favard, L.; Oudet, D.; Huquet, D.; Walch, G.; Mole, D.	Grammont inverted total shoulder arthroplasty in the treatment of glenohumeral osteoarthritis with massive rupture of the cuff. Results of a multicentre study of 80 shoulders	2004	case series, no breakdown
Baumgarten, K. M.; Lashgari, C. J.; Yamaguchi, K.	Glenoid resurfacing in shoulder arthroplasty: indications and contraindications	2004	non-systematic review
Gold, G. E.; Reeder, S. B.; Beaulieu, C. F.	Advanced MR imaging of the shoulder: dedicated cartilage techniques	2004	pico not answered: no surgical outcomes
Scheibel, M.; Magosch, P.; Lichtenberg, S.; Habermeyer, P.	Open reconstruction of anterior glenoid rim fractures	2004	< 40 pts; n = 25
Bishop, J. Y.; Flatow, E. L.	Management of glenohumeral arthritis: a role for arthroscopy?	2003	non-systematic review
Rockwood, C. A., Jr.	Shoulder arthroplasty without a rotator cuff	2003	non-systematic review
Matsoukis, J.; Tabib, W.; Guiffault, P.; Mandelbaum, A.; Walch, G.; Nemoz, C.; Edwards, T. B.	Shoulder arthroplasty in patients with a prior anterior shoulder dislocation. Results of a multicenter study	2003	no GJO
Wilder, F. V.; Hall, B. J.; Barrett, J. P.	Osteoarthritis pain and weather	2003	no target intervention; effect of pressure/temp on OA
Shanahan, E. M.; Ahern, M.; Smith, M.; Wetherall, M.; Bresnihan, B.; Fitzgerald, O.	Suprascapular nerve block (using bupivacaine and methylprednisolone acetate) in chronic shoulder pain	2003	insufficient data for target condition: <90% GJO
Fardet, L.; Messow, M.; Maillefert, J. F.; Dougados, M.	Primary glenohumeral degenerative joint disease: factors predisposing to arthroplasty	2003	no target outcome; no postop outcomes
Matsen, F. A., 3rd; Iannotti, J. P.; Rockwood, C. A., Jr.	Humeral fixation by press-fitting of a tapered metaphyseal stem: a prospective radiographic study	2003	case series; no prog analysis
Harris, G. R.; Susman, J. L.	Managing musculoskeletal complaints with rehabilitation therapy: summary of the Philadelphia Panel evidence-based clinical practice guidelines on musculoskeletal rehabilitation interventions	2002	Review/ Systematic Review

Authors	Article Title	Year	Reason for Exclusion
Walch, G.; Edwards, T. B.; Boulahia, A.; Boileau, P.; Mole, D.; Adeleine, P.	The influence of glenohumeral prosthetic mismatch on glenoid radiolucent lines: results of a multicenter study	2002	postop factor predicting postop outcome
Hasan, S. S.; Leith, J. M.; Campbell, B.; Kapil, R.; Smith, K. L.; Matsen, F. A., 3rd	Characteristics of unsatisfactory shoulder arthroplasties	2002	<90% OA (28% OA, no breakdown)
Sperling, J. W.; Potter, H. G.; Craig, E. V.; Flatow, E.; Warren, R. F.	Magnetic resonance imaging of painful shoulder arthroplasty	2002	< 40 pts; n = 21
Pienimaki, T.	Cold exposure and musculoskeletal disorders and diseases. A review	2002	Review/ Systematic Review
Norris, T. R.; Iannotti, J. P.	Functional outcome after shoulder arthroplasty for primary osteoarthritis: a multicenter study	2002	#2184 is a follow up study
Antuna, S. A.; Sperling, J. W.; Sanchez-Sotelo, J.; Cofield, R. H.	Shoulder arthroplasty for proximal humeral malunions: long-term results	2002	insufficient data for target condition: <90% GJO
Marx, R. G.; McCarty, E. C.; Montemurno, T. D.; Altchek, D. W.; Craig, E. V.; Warren, R. F.	Development of arthrosis following dislocation of the shoulder: a case-control study	2002	no target condition; TKA pts included as controls
Goldberg, B. A.; Smith, K.; Jackins, S.; Campbell, B.; Matsen, F. A., 3rd	The magnitude and durability of functional improvement after total shoulder arthroplasty for degenerative joint disease	2001	case series; no prog analysis
Umans, H. R.; Pavlov, H.; Berkowitz, M.; Warren, R. F.	Correlation of radiographic and arthroscopic findings with rotator cuff tears and degenerative joint disease	2001	no target intervention; no TSA/alternative
Cameron, B.; Galatz, L.; Williams, G. R., Jr.	Factors affecting the outcome of total shoulder arthroplasty	2001	no data to extract
Jahangier, Z. N.; Moolenburgh, J. D.; Jacobs, J. W.; Serdijn, H.; Bijlsma, J. W.	The effect of radiation synovectomy in patients with persistent arthritis: a prospective study	2001	insufficient data for target condition: <90% GJO
Levy, O.; Copeland, S. A.	Cementless surface replacement arthroplasty of the shoulder. 5- to 10-year results with the Copeland mark-2 prosthesis	2001	<20 pts per group; n1=5 , n2=33
Sperling, J. W.; Kozak, T. K.; Hanssen, A. D.; Cofield, R. H.	Infection after shoulder arthroplasty	2001	<20 pts per group; 21, 6, 2, 3 pts in 4 groups
Matsen, F. A., 3rd; Antoniou, J.; Rozencwaig, R.; Campbell, B.; Smith, K. L.	Correlates with comfort and function after total shoulder arthroplasty for degenerative joint disease	2000	case series, no breakdown

Authors	Article Title	Year	Reason for Exclusion
Murthi, A. M.; Vosburgh, C. L.; Neviaser, T. J.	The incidence of pathologic changes of the long head of the biceps tendon	2000	irrelevant topic: arthroscopic shoulder surgery for treatment of impingement syndrome or rotator cuff pathosis.
Prescher, A.	Anatomical basics, variations, and degenerative changes of the shoulder joint and shoulder girdle	2000	Review/ Systematic Review
Dickson, J.	Shoulder injections in primary care	2000	non-systematic review
Lockard, M. A.	Exercise for the patient with upper quadrant osteoarthritis	2000	pico not answered: no surgical outcomes
Kelley, M. J.; Ramsey, M. L.	Osteoarthritis and traumatic arthritis of the shoulder	2000	non-systematic review
Pons-Estel, B. A.; Gimenez, C.; Sacnun, M.; Gentiletti, S.; Battagliotti, C. A.; de la Pena, L. S.; Williams, C. J.; Reginato, A. J.	Familial osteoarthritis and Milwaukee shoulder associated with calcium pyrophosphate and apatite crystal deposition	2000	no target intervention; observation of Milwaukee shoulder
Trofa, D. P.; Paulino, F. E.; Munoz, J.; Villacis, D. C.; Irvine, J. N.; Jobin, C. M.; Levine, W. N.; Ahmad, C. S.	Short-term outcomes associated with drain use in shoulder arthroplasties: a prospective, randomized controlled trial	2019	GJO status unclear
Jordan, R. W.; Kelly, C. P.	Management of glenohumeral arthritis in the young patient ?? A systematic review	2019	Review/ Systematic Review
Jeong, H. J.; Kong, B. Y.; Rhee, S. M.; Oh, J. H.	Hemodynamic change and affecting factors after shoulder arthroplasty in the Asian population	2019	insufficient data for target condition; <90% GJO (79.6%)
Padegimas, E. M.; Hendy, B. A.; Chan, W. W.; Lawrence, C.; Cox, R. M.; Namdari, S.; Lazarus, M. D.; Williams, G. R.; Ramsey, M. L.; Horneff, J. G.	The effect of an orthopedic specialty hospital on operating room efficiency in shoulder arthroplasty	2019	<90% OA (65% and 60% OA, no breakdown)
Rauck, R. C.; Swarup, I.; Chang, B.; Dines, D. M.; Warren, R. F.; Gulotta, L. V.; Henn, R. F.	Effect of preoperative patient expectations on outcomes after reverse total shoulder arthroplasty	2018	<90% OA (21% OA, no breakdown)
Chand, M. R.; Meiyappan, A.; Villa, J. M.; Kanwar, S.; Sabesan, V. J.; Gilot, G.	Ninety-Day Readmission Following Shoulder Arthroplasty	2018	<90% OA (51% OA, no breakdown)
Rao, A. G.; Chan, P. H.; Prentice, H. A.; Paxton, E. W.; Navarro, R. A.; Dillon, M. T.; Singh, A.	Risk factors for postoperative opioid use after elective shoulder arthroplasty	2018	GJO status unclear

Authors	Article Title	Year	Reason for Exclusion
Bridges, M.; Hilliard, J.; Chui, K.	Management of Conditions Associated with Aging and Older Adults Using Therapeutic Electromagnetic Energy: A Narrative Systematic Review	2018	no GJO
Vrotsou, K.; Á Ç vila, M.; MachÃ³n, M.; Mateo-Abad, M.; Pardo, Y.; Garin, O.; Zaror, C.; GonzÃ¡lez, N.; Escobar, A.; CuÃ©llar, R.	Constantâ??Murley Score: systematic review and standardized evaluation in different shoulder pathologies	2018	validation
Grosh, T.; Elkassabany, N. M.	Enhanced Recovery After Shoulder Arthroplasty	2018	pico not answered: no surgical outcomes
Fasulo, S. M.; Testa, E. J.; Lawler, S. M.; Fitzgerald, M.; Lowe, J. T.; Jawa, A.	A Preoperative Educational Video Improves Patient Satisfaction and Perceived Knowledge, but Not Patient Understanding for Total Shoulder Arthroplasty: A Randomized, Surgeon-Blinded Study	2018	< 40 pts; n = 32
Tran, G.; Cowling, P.; Smith, T.; Bury, J.; Lucas, A.; Barr, A.; Kingsbury, S. R.; Conaghan, P. G.	What Imaging-Detected Pathologies Are Associated With Shoulder Symptoms and Their Persistence? A Systematic Literature Review	2018	not just gjo
Hashemi, S. M.; Khamene, S. M. H.; Naderi-Nabi, B.; Ghasemi, M.	Effects of ultrasound-guided intraarticular botox vs. corticosteroids for shoulder osteoarthritis	2018	excluded at final meeting by workgroup; not comparison of interest
Cushman, D. M.; Bruno, B.; Christiansen, J.; Schultz, A.; McCormick, Z. L.	Efficacy of Injected Corticosteroid Type, Dose, and Volume for Pain in Large Joints: A Narrative Review	2018	Review/ Systematic Review
De Martino, I.; Gulotta, L. V.	The Effect of Obesity in Shoulder Arthroplasty Outcomes and Complications	2018	Review/ Systematic Review
Song, D. J.; Grogan, B.; Jobin, C. M.	Anatomic total shoulder arthroplasty for severe glenoid bone loss: Still a viable option	2018	non-systematic review
Ghazala, C. G.; Candal-Couto, J.	Anatomic shoulder arthroplasty	2018	non-systematic review
Weston, M.; Gandhi, M. J.; Henning, S.; Lawrence, T.	Reverse shoulder arthroplasty for non-traumatic problems	2018	non-systematic review
Duquin, T. R.; Sperling, J. W.	Bone preserving technique for reverse arthroplasty: The preferred management option for osteoarthritis with glenoid bone loss in patients 70 and older	2018	technique review
Leathers, M. P.; Ialenti, M. N.; Feeley, B. T.; Zhang, A. L.; Ma, C. B.	Do younger patients have better results after reverse total shoulder arthroplasty?	2018	<90% OA (no breakdown)

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Kumar, K.; Punit, A.; Bhatia, C.; Barker, S.	Evaluation and management after failed shoulder stabilisation surgery: A review	2018	irrelevant topic: shoulder instability
Jeon, Y. S.; Rhee, Y. G.	Factors associated with poor active anterior elevation after reverse total shoulder arthroplasty	2018	insufficient data for target condition: <90% GJO
Floyd, S. B.; Chapman, C. G.; Thigpen, C. A.; Brooks, J. M.; Hawkins, R. J.; Tokish, J. M.	Shoulder arthroplasty in the US Medicare population: a 1-year evaluation of surgical complications, hospital admissions, and revision surgery	2018	<90% OA (72% OA, no breakdown)
Sanchez-Sotelo, J.; Nguyen, N. T. V.; Morrey, M. E.	Reverse Shoulder Arthroplasty Using a Bone-preserving Glenoid Component: Clinical and Radiographic Outcomes	2018	insufficient data for target condition: <90% GJO
Familiari, F.; Rojas, J.; Doral, M. N.; Huri, G.; McFarland, E. G.	Reverse total shoulder arthroplasty	2018	non-systematic review
Sanchez-Sotelo, J.; Nguyen, N. T. V.; Morrey, M.	Anatomic Total Shoulder Arthroplasty Using a Self-Pressurizing Pegged Bone-Preserving Cemented Glenoid Component: A 2- to 5-Year Follow-up Study	2018	<90% OA (87% OA, no breakdown)
Saltzman, B. M.; Basques, B.; Leroux, T.; Frank, R. M.; Nicholson, G. P.; Verma, N. N.; Romeo, A. A.	The influence of gender on early adverse events, hospital charges and length of stay after shoulder arthroplasty	2018	<90% OA (no breakdown)
Hopkins, C. M.; Azar, F. M.; Smith, R. A.; Throckmorton, T. W.	Scapular Notching in Revision Reverse Total Shoulder Arthroplasty	2018	insufficient data for target condition: <90% GJO
Singhal, K.; Rammohan, R.	Going forward with reverse shoulder arthroplasty	2018	
Boileau, P.; Morin-Salvo, N.; Gauci, M. O.; Seeto, B. L.; Chalmers, P. N.; Holzer, N.; Walch, G.	Angled BIO-RSA (bony-increased offsetâ??reverse shoulder arthroplasty): a solution for the management of glenoid bone loss and erosion	2017	<90% OA (24% OA, no breakdown)
Craig, R. S.; Goodier, H.; Singh, J. A.; Hopewell, S.; Rees, J. L.	Shoulder replacement surgery for osteoarthritis and rotator cuff tear arthropathy	2017	Review/ Systematic Review
Pearl, M. L.	CORR InsightsÂ®: Does Postoperative Glenoid Retroversion Affect the 2-Year Clinical and Radiographic Outcomes for Total Shoulder Arthroplasty?	2017	non-systematic review
Vopat, B.; Truntzer, J.; Aaron, D.; Anavian, J.; Schwartz, J.; Green, A.	Anatomic humeral head replacement with a press-fit prosthesis: An in vivo radiographic study	2017	case series; no prognostic analysis
Desai, S.; Mittal, A.	Midterm results of surface replacement of the shoulder	2017	case series; no prog analysis
Gurin, D.; Seitz, W. H.	The emerging role of the non-cemented glenoid in total shoulder arthroplasty	2017	case series; no prog analysis

Authors	Article Title	Year	Reason for Exclusion
Pogorzelski, J.; Godin, J. A.; Fritz, E. M.; Cinque, M. E.; Chahla, J.; Huard, J.; Millett, P. J.	The use of biological approaches in the treatment of shoulder pathology a critical analysis review	2017	pico not answered: no surgical outcomes
Wagner, E. R.; Houdek, M. T.; Schleck, C. D.; Harmsen, W. S.; Sánchez-Sotelo, J.; Cofield, R.; Elhassan, B. T.; Sperling, J. W.	The role age plays in the outcomes and complications of shoulder arthroplasty	2017	<90% OA (46% OA, no breakdown)
Ernstbrunner, L.; Werthel, J. D.; Wagner, E.; Hatta, T.; Sperling, J. W.; Cofield, R. H.	Glenoid bone grafting in primary reverse total shoulder arthroplasty	2017	case series, no breakdown
McLendon, P. B.; Schoch, B. S.; Sperling, J. W.; Sánchez-Sotelo, J.; Schleck, C. D.; Cofield, R. H.	Survival of the pegged glenoid component in shoulder arthroplasty: part II	2017	insufficient data for target condition; <90% GJO (81%)
Vara, A. D.; Koueiter, D. M.; Pinkas, D. E.; Gowda, A.; Wiater, B. P.; Wiater, J. M.	Intravenous tranexamic acid reduces total blood loss in reverse total shoulder arthroplasty: a prospective, double-blinded, randomized, controlled trial	2017	GJO status unclear
Anakwenze, O.; Fokin, A.; Chocas, M.; Dillon, M. T.; Navarro, R. A.; Yian, E. H.; Singh, A.	Complications in total shoulder and reverse total shoulder arthroplasty by body mass index	2017	unclear how many OA pts; OA, RC tear are inclusion criteria but no breakdown
Garret, J.; Godeneche, A.; Boileau, P.; Molá, D.; Etzner, M.; Favard, L.; Levigne, C.; Sirveaux, F.; Gauci, M. O.; Dezaly, C.; Walch, G.	Pyrocarbon interposition shoulder arthroplasty: preliminary results from a prospective multicenter study at 2 years of follow-up	2017	insufficient data for target condition; <90% GJO (60%)
Hurwit, D. J.; Liu, J. N.; Garcia, G. H.; Mahony, G.; Wu, H. H.; Dines, D. M.; Warren, R. F.; Gulotta, L. V.	A comparative analysis of work-related outcomes after humeral hemiarthroplasty and reverse total shoulder arthroplasty	2017	insufficient data for target condition; <90% GJO
Naimark, M.; Berliner, J.; Zhang, A. L.; Davies, M.; Ma, C. B.; Feeley, B. T.	Prevalence of Rotator Cuff Atrophy and Fatty Infiltration in Patients Undergoing Total Shoulder Arthroplasty	2017	healthy controls; no relevant data
Zhou, J.; Zhang, L.; Shen, L.; Zhu, M.; Zheng, F.	Analyzing on the location of the bicipital groove for alignment in shoulder arthroplasty of Chinese	2017	no target intervention; no TSA, only preop data
Schnetzke, M.; Preis, A.; Coda, S.; Raiss, P.; Loew, M.	Anatomical and reverse shoulder replacement with a convertible, uncemented short-stem shoulder prosthesis: first clinical and radiological results	2017	insufficient data for target condition: <90% GJO

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Marcheggiani Muccioli, G. M.; Huri, G.; Grassi, A.; Roberti di Sarsina, T.; Carbone, G.; Guerra, E.; McFarland, E. G.; Doral, M. N.; Marcacci, M.; Zaffagnini, S.	Surgical treatment of infected shoulder arthroplasty. A systematic review	2017	Review/ Systematic Review
Kuo, L. T.; Lin, Y. S.; Lenza, M.; Huang, K. C.; Chi, C. C.	Hyaluronate for shoulder osteoarthritis	2017	Review/ Systematic Review
Shishani, Y.; Gobezie, R.	Does a short-stemmed humeral implant really make a difference?	2017	non-systematic review
Brolin, T. J.; Mulligan, R. P.; Azar, F. M.; Throckmorton, T. W.	Neer Award 2016: Outpatient total shoulder arthroplasty in an ambulatory surgery center is a safe alternative to inpatient total shoulder arthroplasty in a hospital: a matched cohort study	2017	<90% OA (80% and 90% OA, no breakdown)
Matsen, F. A.; Russ, S. M.; Vu, P. T.; Hsu, J. E.; Lucas, R. M.; Comstock, B. A.	What Factors are Predictive of Patient-reported Outcomes? A Prospective Study of 337 Shoulder Arthroplasties	2016	<90% OA (68% OA, no breakdown)
Koorevaar, R. C. T.; Van't Riet, E.; Gerritsen, M. J. J.; Madden, K.; Bulstra, S. K.	The influence of preoperative and postoperative psychological symptoms on clinical outcome after shoulder surgery: A prospective longitudinal cohort study	2016	<90% OA (14% OA, no breakdown)
Mollon, B.; Mahure, S. A.; Ensor, K. L.; Zuckerman, J. D.; Kwon, Y. W.; Rokito, A. S.	Subsequent Shoulder Surgery After Isolated Arthroscopic SLAP Repair	2016	<90% OA (no breakdown)
Casagrande, D. J.; Parks, D. L.; Torgren, T.; Schrumpf, M. A.; Harmsen, S. M.; Norris, T. R.; Kelly, J. D.	Radiographic evaluation of short-stem press-fit total shoulder arthroplasty: Short-term follow-up	2016	case series, no breakdown
Amundsen, A.; Rasmussen, J. V.; Olsen, B. S.; Brorson, S.	Mortality after shoulder arthroplasty: 30-day, 90-day, and 1-year mortality after shoulder replacement-5853 primary operations reported to the Danish Shoulder Arthroplasty Registry	2016	insufficient data for target comparison; healthy controls
Merkle, T. P.; Beckmann, N.; Bruckner, T.; Zeifang, F.	Shoulder joint replacement can improve quality of life and outcome in patients with dysmelia: A case series	2016	<20 pts (5 shoulders)
Churchill, R. S.; Chuinard, C.; Wiater, J. M.; Friedman, R.; Freehill, M.; Jacobson, S.; Spencer, E.; Holloway, G. B.; Wittstein, J.; Lassiter, T.; Smith, M.; Blaine, T.; Nicholson, G. P.	Clinical and radiographic outcomes of the simpliciti canal-sparing shoulder arthroplasty system	2016	case series, no breakdown

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Fox, M. G.; Patrie, J. T.	Does reducing the concentration of bupivacaine when performing therapeutic shoulder joint injections impact the clinical outcome?	2016	insufficient data for target condition: <90% GJO
Werner, B. C.; Dines, J. S.; Dines, D. M.	Platform systems in shoulder arthroplasty	2016	
Parks, D. L.; Casagrande, D. J.; Schrumpf, M. A.; Harmsen, S. M.; Norris, T. R.; Kelly, J. D.	Radiographic and clinical outcomes of total shoulder arthroplasty with an all-polyethylene pegged bone ingrowth glenoid component: Prospective short- to medium-term follow-up	2016	case series, no breakdown
Throckmorton, T. W.	Glenohumeral arthritis: Current indications for hemiarthroplasty versus total shoulder arthroplasty	2016	pico not answered: no surgical outcomes
Ablove, R. H.	Total shoulder arthroplasty: Historical perspective, indications, and epidemiology	2016	non-systematic review
Yilmaz, B.; KÄ¶mÄ¼r, B.; AktaÅ?, E.; Yazar, E. A.; Alfidan, S.; MemiÅ?oÅ?lu, S.	Is the high incidence of shoulder pathologies a coincidence in patients having advanced stage gonarthrosis and high body index?	2016	no target intervention; observing association b/w gonarthrosis, shoulder pain
Etier, B. E.; Pehlivan, H. C.; Brockmeier, S. F.	Postoperative rehabilitation and outcomes of primary anatomic shoulder arthroplasty	2016	non-systematic review
Melamed, R.; Boland, L. L.; Normington, J. P.; Prenevost, R. M.; Hur, L. Y.; Maynard, L. F.; McNaughton, M. A.; Kinzy, T. G.; Masood, A.; Dastrange, M.; Huguelet, J. A.	Postoperative respiratory failure necessitating transfer to the intensive care unit in orthopedic surgery patients: Risk factors, costs, and outcomes	2016	<20 pts with shoulder OA
Menendez, M. E.; Baker, D. K.; Fryberger, C. T.; Ponce, B. A.	Predictors of extended length of stay after elective shoulder arthroplasty	2015	unclear how many OA pts; avascular necrosis, RA, cuff arthropathy included
Gowda, A.; Pinkas, D.; Michael Wiater, J.	Treatment of glenoid bone deficiency in total shoulder arthroplasty: A critical analysis review	2015	non-systematic review
Singh, J. A.; Ramachandran, R.	Does hospital volume predict outcomes and complications after total shoulder arthroplasty in the US?	2015	<90% OA (no breakdown)
Fevang, B. T. S.; Nystad, T. W.; Skredderstuen, A.; Furnes, O. N.; Havelin, L. I.	Improved survival for anatomic total shoulder prostheses: Results of 4,173 shoulder arthroplasties reported to the Norwegian Arthroplasty Register from 1994 through 2012	2015	<90% OA (no breakdown)

Authors	Article Title	Year	Reason for Exclusion
Habermeyer, P.; Lichtenberg, S.; Tauber, M.; Magosch, P.	Midterm results of stemless shoulder arthroplasty: A prospective study	2015	<90% OA (no breakdown)
Weusten, A. J.; Khan, S. K.; Lawson-Smith, M. J.; McBirnie, J.; Siebert, W.; Rangan, A.	Implant survivorship and clinical outcomes of the Bigliani-Flatow shoulder prosthesis at a mean of five years: A post-marketing surveillance study from three centres	2015	insufficient data for target condition: <90% GJO
Ponce, B. A.; Oladeji, L. O.; Rogers, M. E.; Menendez, M. E.	Comparative analysis of anatomic and reverse total shoulder arthroplasty: In-hospital outcomes and costs	2015	insufficient data for target condition; <90% GJO
Steven Pray, W.; Pray, G. E.	Treating arthritis with nonprescription products and devices	2015	non-systematic review
Jiang, J. J.; Toor, A. S.; Shi, L. L.; Koh, J. L.	Analysis of perioperative complications in patients after total shoulder arthroplasty and reverse total shoulder arthroplasty	2014	insufficient data for target condition; <90% GJO
Petscavage-Thomas, J.	Preoperative planning and postoperative imaging in shoulder arthroplasty	2014	non-systematic review
Cahill, J. B.; Cavanaugh, J. T.; Craig, E. V.	Total shoulder arthroplasty rehabilitation	2014	non-systematic review
Hollatz, M. F.; Stang, A.	Nationwide shoulder arthroplasty rates and revision burden in Germany: Analysis of the national hospitalization data 2005 to 2006	2014	insufficient data for target condition; <90% GJO
Familiari, F.; Huri, G.; McFarland, E. G.	Supraspinatus tears after total shoulder arthroplasty: A review of diagnosis and treatment	2014	Review/ Systematic Review
Takahashi, H.; Yamamoto, N.; Nagamoto, H.; Sano, H.; Tanaka, M.; Itoi, E.	Venous thromboembolism after elective shoulder surgery: A prospective cohort study of 175 patients	2014	<90% OA (no breakdown)
Kadum, B.; Mukka, S.; Englund, E.; Sayed-Noor, A.; Sjödén, G.	Clinical and radiological outcome of the Total Evolutive Shoulder System (TESS®) reverse shoulder arthroplasty: A prospective comparative non-randomised study	2014	<20 pts per group; n1=16, n2=26
King, J. J.; Farmer, K. W.; Struk, A. M.; Wright, T. W.	Uncemented versus cemented humeral stem fixation in reverse shoulder arthroplasty	2014	insufficient data for target condition: <90% GJO
Moraes, V. Y.; Lenza, M.; Tamaoki, M. J.; Faloppa, F.; Bellotti, J. C.	Platelet-rich therapies for musculoskeletal soft tissue injuries	2013	Review/ Systematic Review
Grey, S. G.	Use of a caged, bone ingrowth, glenoid implant in anatomic total shoulder arthroplasty: Technique and early results	2013	technique review

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Wiesel, B. B.; Gartsman, G. M.; Press, C. M.; Spencer, E. E.; Morris, B. J.; Zuckerman, J.; Roghani, R.; Williams, G. R.	What went wrong and what was done about it: Pitfalls in the treatment of common shoulder surgery	2013	non-systematic review
Boileau, P.; Melis, B.; Duperron, D.; Moineau, G.; Rumian, A. P.; Han, Y.	Revision surgery of reverse shoulder arthroplasty	2013	no target intervention; revision for RSA
Hsu, J. E.; Ricchetti, E. T.; Huffman, G. R.; Iannotti, J. P.; Glaser, D. L.	Addressing glenoid bone deficiency and asymmetric posterior erosion in shoulder arthroplasty	2013	Review/ Systematic Review
Edwards, T. B.	CORR insights®: Is premorbid glenoid anatomy altered in patients with glenohumeral osteoarthritis?	2013	summary document
Huff, L. R.; Scalise, J. J.	The glenoid in total shoulder arthroplasty: Current concepts	2013	non-systematic review
Owens, C. J.; Sperling, J. W.; Cofield, R. H.	Utility and complications of long-stem humeral components in revision shoulder arthroplasty	2013	insufficient data for target condition; <90% GJO
Varthi, A.; Piposar, J.; Chan, W.; Blaine, T. A.	Biologic treatments for shoulder pain	2013	non-systematic review
Verma, N. N.; Harris, J. D.	Surgery: Preserving shoulder movement in advanced OA—yes we CAM!	2013	summary document
Karel, Y. H. J. M.; Scholten-Peeters, W. G. M.; Thooomes-De Graaf, M.; Duijn, E.; Ottenheijm, R. P. G.; Van Den Borne, M. P. J.; Koes, B. W.; Verhagen, A. P.; Dinant, G. J.; Tetteroo, E.; Beumer, A.; Van Broekhoven, J. B.; Heijmans, M.	Current management and prognostic factors in physiotherapy practice for patients with shoulder pain: Design of a prospective cohort study	2013	insufficient data for target condition: no GJO
Clegg, T. E.; Caborn, D.; Mauffrey, C.	Viscosupplementation with hyaluronic acid in the treatment for cartilage lesions: A review of current evidence and future directions	2013	non-systematic review
Simovitch, R.; Fullick, R.; Kwon, Y.; Zuckerman, J. D.	Use of the subscapularis preserving technique in anatomic total shoulder arthroplasty	2013	technique review
Del-Olmo, C.; de-Diego, P.; Morillas, P.; Garcia-Navlet, M.	Ultrasound-guided pain interventions in shoulder region	2013	non-systematic review
Rios, D.; MartetschlÄ¤ger, F.; Gaskill, T. R.; Millett, P. J.	Comprehensive arthroscopic management (CAM) procedure for shoulder osteoarthritis	2012	technique review

Authors	Article Title	Year	Reason for Exclusion
Roh, Y. H.; Noh, J. H.; Oh, J. H.; Baek, G. H.; Gong, H. S.	To what degree do shoulder outcome instruments reflect patients' psychologic distress?	2012	no target intervention; psych distress on shoulder symptoms
Singh, J. A.; Sperling, J.; Schleck, C.; Harmsen, W.; Cofield, R.	Periprosthetic fractures associated with primary total shoulder arthroplasty and primary humeral head replacement: A thirty-three-year study	2012	<90% OA (72% OA, no breakdown)
Singh, J. A.; Sperling, J. W.; Schleck, C.; Harmsen, W.; Cofield, R. H.	Periprosthetic infections after shoulder hemiarthroplasty	2012	<90% OA (24% OA, no breakdown)
Giannotti, S.; Bottai, V.; Ghilardi, M.; Dell'osso, G.; Guido, G.	Shoulder resurfacing with Durom Cup: Clinical and radiological re-assessment	2012	case series, no breakdown
De Wilde, L. F.; De Coninck, T.; De Neve, F.; Berghs, B. M.	Subscapularis release in shoulder replacement determines structural muscular changes shoulder	2012	< 40 pts; n = 36
Aaron, D. L.; Flatow, E. L.	Glenoid Component Design and Fixation in Total Shoulder Arthroplasty	2012	Review/ Systematic Review
Schauss, A. G.; Stenehjem, J.; Park, J.; Endres, J. R.; Clewell, A.	Effect of the novel low molecular weight hydrolyzed chicken sternal cartilage extract, biocell collagen, on improving osteoarthritis-related symptoms: A randomized, double-blind, placebo-controlled trial	2012	GJO status unclear
Levy, O.	Shoulder resurfacing: Is it really as good as total shoulder replacement?	2012	insufficient data for target condition: <90% GJO
Katz, D. C.; Sauzíres, P.; Valenti, P.; Kany, J.	The case for the metal-backed glenoid design in total anatomical shoulder arthroplasty	2012	non-systematic review
Henn, Iii R. F.; Ghomrawi, H.; Rutledge, J. R.; Mazumdar, M.; Mancuso, C. A.; Marx, R. G.	Preoperative patient expectations of total shoulder arthroplasty	2011	case series, no breakdown
De Beer, J.	Corticosteriod Injections in the Shoulder	2011	editorial
Chan, C. W.; Peng, P. W. H.	Suprascapular nerve block: A narrative review	2011	Review/ Systematic Review
Tauber, M.; Brugger, A.; Povacz, P.; Resch, H.	Reconstructive surgical treatment without bone grafting in nonunions of humeral surgical neck fractures	2011	insufficient data for target condition: no GJO
Hua, N. G.; Ming, L. Y.; Obaje, J.	A transdermal glucosamine formulation improves osteoarthritic symptoms in an open clinical survey	2011	insufficient data for target condition: <90% GJO
Satam, S.; Jain, R.; Dagaonkar, J.; Chotalia, C.; Suthar, A.; Joshi, R.	Clinical study to establish efficacy and safety of contodol gel as topical pain relieving agent	2011	insufficient data for target condition: <90% GJO

Authors	Article Title	Year	Reason for Exclusion
Schepman, K.; Engelbert, R. H. H.; Visser, M. M.; Yu, C.; De Vos, R.	Kashin Beck Disease: More than just osteoarthritis - A cross-sectional study regarding the influence of body function-structures and activities on level of participation	2011	review of irrelevant topic
Copeland, S.; Levy, O.	Cementless Surface Replacement Arthroplasty of the Shoulder-Indications, Techniques, and Results	2011	technique review
Hamid, N.; Galatz, L. M.	Total shoulder arthroplasty: Tried and true	2011	non-systematic review
Singh, J. A.; Fitzgerald, P. M.	Botulinum toxin for shoulder pain: A cochrane systematic review	2011	Review/ Systematic Review
Bava, E. D.; Krishnan, S. G.; Burkhead, W. Z.	Biological Resurfacing of the Glenoid-How to Improve Results	2011	non-systematic review
Zumstein, M. A.; Pinedo, M.; Old, J.; Boileau, P.	Problems, complications, reoperations, and revisions in reverse total shoulder arthroplasty: A systematic review	2011	Review/ Systematic Review
Farshad, M.; Gerber, C.	Reverse total shoulder arthroplasty-from the most to the least common complication	2010	Review/ Systematic Review
Seitz, W. H.	Cemented glenohumeral fixation: Standard of care-affirms	2010	Review/ Systematic Review
Myer, D.; Bell, R. H.	Instability after total shoulder arthroplasty	2010	Review/ Systematic Review
Heckman, D. S.; Creighton, R. A.; Romeo, A. A.	Management of failed biceps tenodesis or tenotomy: Causation and treatment	2010	non-systematic review
Aldinger, P. R.; Raiss, P.; Rickert, M.; Loew, M.	Complications in shoulder arthroplasty: An analysis of 485 cases	2010	insufficient data for target condition; <90% GJO (83%)
Fehringer, E. V.; Mikuls, T. R.; Michaud, K. D.; Henderson, W. G.; O'Dell, J. R.	Shoulder arthroplasties have fewer complications than hip or knee arthroplasties in US veterans	2010	insufficient data for target comparison; TSA vs THA and TKA; no breakdown of TSA
Dorsher, P. T.	Clinical equivalence of laser needle to metal acupuncture needle in treating musculoskeletal pain: A pilot study	2010	< 40 pts; n = 30
Keen, H. I.; Conaghan, P. G.	Usefulness of Ultrasound in Osteoarthritis	2009	pico not answered: no surgical outcomes
Cheng, P. H.; Modir, J. G.; Kim, H. J.; Narouze, S.	Ultrasound-guided shoulder joint injections	2009	non-systematic review
Lutton, D. M.; Flatow, E. L.	Lesser Tuberosity Osteotomy: The Door to Shoulder Replacement	2009	non-systematic review
Singh, J. A.; Mahowald, M. L.; Kushnaryov, A.; Goelz, E.; Dykstra, D.	Repeat injections of intra-articular botulinum toxin a for the treatment of chronic arthritis joint pain	2009	< 40 pts; n = 11

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Fayad, F.; Lefevre-Colau, M. M.; MacC, Y.; Gautheron, V.; Fermanian, J.; Roren, A.; Roby-Brami, A.; Revel, M.; Poiraudieu, S.	Responsiveness of the French version of the Disability of the Arm, Shoulder and Hand questionnaire (F-DASH) in patients with orthopaedic and medical shoulder disorders	2008	validation/responsiveness study
Kippe, M. A.; Nguyen, D.; Bigliani, L. U.	Surface Replacement Options in the Young Patient with Advanced Glenohumeral Arthritis	2008	pico not answered: no surgical outcomes
Krishnan, S. G.; Reineck, J. R.; Nowinski, R. J.; Harrison, D.; Burkhead, W. Z.	Humeral hemiarthroplasty with biologic resurfacing of the glenoid for glenohumeral arthritis	2008	case series; no prog analysis
Ochoa Jr, E.; Burkhart, S. S.	Bone Defects in Anterior Instability of the Shoulder: Diagnosis and Management	2008	irrelevant topic: shoulder instability
Bahu, M. J.; Covey, A. S.; Bigliani, L. U.; Vadasi, K. B.	Open Instability Repair: The Anterior-Inferior Capsular Shift	2008	irrelevant topic: shoulder instability
Elkousy, H.; Gartsman, G.	Arthroscopic Management of Glenohumeral Arthritis in the Athlete	2008	technique review
Williams, M. D.; Edwards, T. B.	Glenohumeral Arthritis in the Athlete: Evaluation and Algorithm for Management	2008	non-systematic review
Turman, K. A.; Miller, M. D.	What's new in sports medicine	2008	non-systematic review
Sanchez-Sotelo, J.	(i) Shoulder arthroplasty for osteoarthritis and rheumatoid arthritis	2007	non-systematic review
Woertler, K.	Multimodality imaging of the postoperative shoulder	2007	non-systematic review
Frampton, J. E.; Keating, G. M.	Celecoxib: A review of its use in the management of arthritis and acute pain	2007	no GJO
Mullett, H.; Levy, O.; Raj, D.; Even, T.; Abraham, R.; Copeland, S. A.	Copeland surface replacement of the shoulder: Results of an hydroxyapatite-coated cementless implant in patients over 80 years of age	2007	insufficient data for target condition: <90% GJO
Scalise, J. J.; Miniaci, A.; Iannotti, J. P.	Resurfacing arthroplasty of the humerus: Indications, surgical technique, and clinical results	2007	technique review
Burkhead Jr, W. Z.; Krishnan, S. G.; Lin, K. C.	Biologic resurfacing of the arthritic glenohumeral joint: Historical review and current applications	2007	technique review
Flatow, E. L.; Klug, R. A.	Humeral Head Replacement: When Half a Loaf Will Do	2007	non-systematic review
Flatow, E. L.; Klug, R. A.	Instability After Shoulder Replacement: Rockin' & Rollin'	2007	non-systematic review

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Shea, K. P.	Intra-articular viscosupplementation with hyaluronic acid for symptomatic osteoarthritis of the glenohumeral joint	2007	non-systematic review
Flatow, E. L.; Bigliani, L. U.; Galatz, L. M.; Seitz Jr, W. H.; Yamaguchi, K.; Zuckerman, J. D.	What Would You Do? Challenges in Shoulder Surgery	2007	8 case studies
Angst, F.; Goldhahn, J.; Pap, G.; Mannion, A. F.; Roach, K. E.; Siebertz, D.; Drerup, S.; Schwyzer, H. K.; Simmen, B. R.	Cross-cultural adaptation, reliability and validity of the German shoulder pain and disability index (SPADI)	2007	validation study; unclear how many subjects were OA vs RA
Newton, E. J.; Love, J.	Emergency Department Management of Selected Orthopedic Injuries	2007	irrelevant topic: orthopedic injuries
Frost, A.; Michael Robinson, C.	The painful shoulder	2006	non-systematic review
Magovern, B.; Marra, G.	Shoulder replacement: Emerging trends	2006	non-systematic review
Warmbacher, M.; Smekal, V.; Dallapozza, C.; Fritz, D.; Kralinger, F.	Operative management of anterior glenohumeral instability	2006	irrelevant topic: shoulder instability
Nicholson, G. P.	Current concepts in reverse shoulder replacement	2006	non-systematic review
Dines, J. S.; Fealy, S.; Strauss, E. J.; Allen, A.; Craig, E. V.; Warren, R. F.; Dines, D. M.	Outcomes analysis of revision total shoulder replacement	2006	insufficient data for target condition: <90% GJO
Farron, A.; Terrier, A.; Bächler, P.	Risks of loosening of a prosthetic glenoid implanted in retroversion	2006	compu
Marx, R. G.	Quality of life after shoulder arthroplasty - Total shoulder arthroplasty versus hemiarthroplasty: Commentary	2006	commentary
Largacha, M.; Parsons, Iv I. M.; Campbell, B.; Titelman, R. M.; Smith, K. L.; Matsen, III F.	Deficits in shoulder function and general health associated with sixteen common shoulder diagnoses: A study of 2674 patients	2006	no target intervention; observation of shoulder function
Schiffenb, S. C.; Harrison, D. K.; Burkhead Jr, W. Z.; Krishnan, S. G.	Cementless prosthetic fixation: When less is more - In the affirmative	2005	non-systematic review
Ankem, H. K.; Blaine, T. A.	Revision shoulder arthroplasty	2005	non-systematic review
Bigliani, L. U.; Brems, J. J.; Burkhead Jr, W. Z.; Flatow, E. L.; Galatz, L. M.; Seitz Jr, W. H.	What would you do? Challenges in shoulder surgery	2005	non-systematic review
Snibbe, J. C.; Gambardella, R. A.	Use of injections for osteoarthritis in joints and sports activity	2005	non-systematic review

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Mitchell, C.; Adebajo, A.; Hay, E.; Carr, A.	Shoulder pain: Diagnosis and management in primary care	2005	Review/ Systematic Review
Lervick, G. N.	Articular resurfacing of the glenohumeral joint	2005	non-systematic review
Sanders, T. G.; Jersey, S. L.	Conventional radiography of the shoulder	2005	pico not answered: no surgical outcomes
Moretti, B.; Lanzisera, R.; Sisti, G. L.; Moretti, L.; Patella, S.; Patella, V.; Simone, C.	O2-O3 therapy in tendinopathies and entrapment syndromes	2005	non-systematic review
VandenBerghe, G.; Hoenecke, H. R.; Fronek, J.	Glenohumeral joint instability: The orthopedic approach	2005	non-systematic review
Potter, H. G.; Birchansky, S. B.	Magnetic resonance imaging of the shoulder: A tailored approach	2005	non-systematic review
Stitik, Ali,	Osteoarthritis of the glenohumeral joint: A "hands-on" approach	2005	non-systematic review
Habermeyer, P.; Engel, G.	Surgical technique for total shoulder arthroplasty	2004	case series, no breakdown
Gordiev, K.; Seitz Jr, W. H.	Surface arthroplasty in shoulder arthritis	2004	non-systematic review
Seitz Jr, W. H.	Managing the tight shoulder: Subscapularis lengthening - In the affirmative	2004	non-systematic review
Gordiev, K.; Seitz Jr, W. H.	Avoiding and managing the unstable shoulder arthroplasty	2004	non-systematic review
Martin, S. D.; Thornhill, T. S.	Total shoulder arthroplasty with an uncemented glenoid component	2004	<90% OA (57% OA, no breakdown)
Braman, J. P.; Flatow, E. L.	Managing the tight shoulder: Subscapularis lengthening - In opposition	2004	non-systematic review
Goldberg, S. S.; Bak, S. F.; Voloshin, I.; Bigliani, L. U.	Glenoid deficiency: Makin' somethin' outa nothin'	2004	non-systematic review
Krishnan, S. G.; Harkins, D. C.; Burkhead, W. Z.	Total shoulder versus hemiarthroplasty: Elements in decision making	2004	non-systematic review
Katzer, A.; Sickelmann, F.; Seemann, K.; Loehr, J. F.	Two-year results after exchange shoulder arthroplasty using inverse implants	2004	insufficient data for target condition: <90% GJO
Grassi, W.; Filippucci, E.; Farina, A.	Ultrasonography in Osteoarthritis	2005	non-systematic review
Franceschini, R.; Franceschini, M.; Romano, P.; Bussi, P.; Caruso, E. M.; De Amici, S.	Joint Replacement in Osteoarthritis: State of the Art	2005	non-systematic review
Gill, D. R. J.; Cofield, R. H.; Rowland, C.	The anteromedial approach for shoulder arthroplasty: The importance of the anterior deltoid	2004	insufficient data for target condition: <90% GJO

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Kean, W. F.	Oxaprozin: Kinetic and dynamic profile in the treatment of pain	2004	non-systematic review
Weldon, Iii E. J.; Boorman, R. S.; Parsons, Iv I. M.; Matsen, Iii F. A.	"Ream and run": The principles and procedures of non-prosthetic glenoid arthroplasty with prosthetic humeral hemiarthroplasty	2004	technique review
Goldstein, B.	Shoulder anatomy and biomechanics	2004	non-systematic review
Shanahan, E. M.; Ahern, M.; Smith, M.; Symmons, D.	Suprascapular nerve block reduced chronic shoulder pain and disability in degenerative disease or rheumatoid arthritis	2004	insufficient data for target condition: <90% GJO
Seitz Jr, W. H.	Surface replacement: A head is all that's required - In the affirmative	2004	non-systematic review
Isbell, W. M.; Warren, R. F.	The case for preemptive debridement of the degenerative shoulder: When less is more	2004	non-systematic review
Ostlere, S.	Imaging the shoulder	2003	non-systematic review
Copeland, S. A.; Levy, O.; Brownlow, H. C.	Resurfacing Arthroplasty of the Shoulder	2003	technique review
Wise, C.	The rational use of steroid injections in arthritis and nonarticular musculoskeletal pain syndromes	2003	non-systematic review
Summers, G. D.	Shoulder pain in elderly patients	2003	non-systematic review
Harner, C. D.; Rihn, J. A.; Vogrin, T. M.	What's new in sports medicine	2003	pico not answered: no surgical outcomes
Brox, J. I.	Shoulder pain	2003	non-systematic review
Magermans, D. J.; Smits, N. C. M. A.; Chadwick, E. K. J.; Veeger, D.; Van Der Helm, F. C. T.; Rozing, P. M.	Discriminating factors for functional outcome after shoulder arthroplasty: A critical review of the literature	2003	Review/ Systematic Review
Klepps, S.; Hazrati, Y.; Flatow, E.; May, L.; May, P. W.	Management of Glenoid Bone Deficiency During Shoulder Replacement	2003	technique review
Yao, J.; Dines, D. M.; Warren, R. F.	Surgical Arthroplasty Options for Rotator Cuff Tear Arthropathy	2003	irrelevant topic: rotator cuff tear
Rahme, H.; Wikblad, L.; Nowak, J.; Larsson, S.	Long-term clinical and radiologic results after Eden-Hybinette operation for anterior instability of the shoulder	2003	no target condition; anterior instability
Seitz Jr, W. H.	Managing contractures in total shoulder arthroplasty: "Sore, stiff, and stuck"	2003	non-systematic review

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Nagi, O. N.; Aggarwal, S.; Sen, R. K.; Goni, V. G.	Total shoulder arthroplasty	2002	non-systematic review
Petersson, I. F.; Jacobsson, L. T. H.	Osteoarthritis of the peripheral joints	2002	non-systematic review
Von Schulthess, G. K.; Meier, N.; Stumpe, K. D. M.	Joint accumulations of FDG in whole body PET scans	2001	no target intervention; tumor imaging
Boardman, III N. D.; Cofield, R. H.; Bengtson, K. A.; Little, R.; Jones, M. C.; Rowland, C. M.	Rehabilitation after total shoulder arthroplasty	2001	case series, no breakdown
Rifat, S. F.; Moeller, J. L.	Site-specific techniques of joint injection: Useful additions to your treatment repertoire	2001	technique review
Craig Satterlee, C.	Shoulder replacement: The current state of the art for humeral head replacement versus total shoulder replacement, cuff deficiency, and new techniques of interposition soft-tissue arthroplasty	2000	non-systematic review
Wallace, A. L.; Emery, R. J. H.	Glenohumeral instability	2000	non-systematic review
David, T.; Tibone, J.	Don't miss posterior shoulder dislocations	2000	non-systematic review
Rao, A. J.; Chalmers, P. N.; Cvetanovich, G. L.; O'Brien, M. C.; Newgren, J. M.; Cole, B. J.; Verma, N. N.; Nicholson, G. P.; Romeo, A. A.	Preoperative Doxycycline Does Not Reduce Propionibacterium acnes in Shoulder Arthroplasty	2018	GJO status unclear
Singh, J. A.; Mahowald, M. L.; Noorbaloochi, S.	Intra-articular botulinum toxin A for refractory shoulder pain: a randomized, double-blinded, placebo-controlled trial	2009	<90% OA in both groups; n1=90%, n2=86%; no breakdown
Roche GC, Murphy DJ, Berry TS, Shanks S	Low-Level Laser Therapy for the Treatment of Chronic Neck and Shoulder Pain	2016	GJO status unclear
Steinhaus, M. E.; Gowd, A. K.; Hurwit, D. J.; Lieber, A. C.; Liu, J. N.	Return to work after shoulder arthroplasty: a systematic review and meta-analysis	2019	
Castagna, A.; Garofalo, R.	Journey of the glenoid in anatomic total shoulder replacement	2019	non-systematic review
Auregan, J. C.; Klouche, S.; Levy, B.; Bauer, T.; Rousselin, B.; Ferrand, M.; Hardy, P.	Autologous Conditioned Plasma for tendon healing following arthroscopic rotator cuff repair. Prospective comparative assessment with magnetic resonance arthrography at 6 months' follow-up	2019	post rc repair pts

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Irlenbusch, U.; Zenz, P.; Blatter, G.; Berth, A.	Adjustable stemmed shoulder hemiarthroplasty: Ten-year results of a prospective multicentre study	2019	case series; 50% OA
Bakti, N.; Antonios, T.; Phadke, A.; Singh, B.	Early versus delayed mobilization following rotator cuff repair	2019	post rc repair pts
Lapner, P. L. C.; Rollins, M. D.; Netting, C.; Tuna, M.; Bader Eddeen, A.; van Walraven, C.	A population-based comparison of joint survival of hemiarthroplasty versus total shoulder arthroplasty in osteoarthritis and rheumatoid arthritis	2019	insufficient data for target condition: <90% GJO
Kolling, C.; Borovac, M.; Audige, L.; Mueller, A. M.; Schwyzer, H. K.	Return to sports after reverse shoulder arthroplasty-the Swiss perspective	2018	rc tear pts
Chen, D. Q.; Montgomery, S. R.; Cancienne, J. M.; Werner, B. C.	Postoperative Venous Thromboembolism and other Complications after Anatomic Total Shoulder Arthroplasty in Patients With a History of Prostate or Breast Cancer	2019	new prog
Malik, A. T.; Bishop, J. Y.; Neviaser, A. S.; Beals, C. T.; Jain, N.; Khan, S. N.	Shoulder Arthroplasty for a Fracture Is Not the Same as Shoulder Arthroplasty for Osteoarthritis: Implications for a Bundled Payment Model	2019	insufficient data for target condition: <90% GJO
BÄhlhoff, M.; Spranz, D.; Maier, M.; Raiss, P.; Bruckner, T.; Zeifang, F.	Mid-term results with an anatomic stemless shoulder prosthesis in patients with primary osteoarthritis	2019	< 40 pts; n = 38
Levy, J. C.; Berglund, D.; Vakharia, R.; Tahal, D. S.; Mijc, D.; DeVito, P.; Motisi, M.	Midterm results of anatomic total shoulder arthroplasty with a third-generation implant	2019	no prog factor of interest
Raiss, P.; Schnetzke, M.; Wittmann, T.; Kilian, C. M.; Edwards, T. B.; Denard, P. J.; Neyton, L.; Godenčche, A.; Walch, G.	Postoperative radiographic findings of an uncemented convertible short stem for anatomic and reverse shoulder arthroplasty	2019	mixes those with and without RC tear
Okoroha, K. R.; Muh, S.; Gabbard, M.; Evans, T.; Roche, C.; Flurin, P. H.; Wright, T. W.; Zuckerman, J. D.	Early outcomes of shoulder arthroplasty according to sex	2019	insufficient data for target condition: <90% GJO
Berglund, D. D.; Mijic, D.; Law, T. Y.; Kurowicki, J.; Rosas, S.; Levy, J. C.	Value comparison of humeral component press-fit and cemented techniques in reverse shoulder arthroplasty	2019	insufficient data for target condition: <90% GJO
Kuper, G.; Shanmugaraj, A.; Horner, N. S.; Ekhtiari, S.; Simunovic, N.; Cadet, E. R.; Ayeni, O. R.	Critical shoulder angle is an effective radiographic parameter that is associated with rotator cuff tears and osteoarthritis: A systematic review	2019	Review/ Systematic Review

Authors	Article Title	Year	Reason for Exclusion
Yin, C.; Sing, D. C.; Curry, E. J.; Abdul-Rassoul, H.; Galvin, J. W.; Eichinger, J. K.; Li, X.	The effect of race on early perioperative outcomes after shoulder arthroplasty: A propensity score matched analysis	2019	new prog
Beck, A.; Lee, H.; Fourman, M.; Giugale, J.; Zlotnicki, J.; Rodosky, M.; Lin, A.	Preoperative Comorbidities and Postoperative Complications Do Not Influence Patient-Reported Satisfaction Following Humeral Head Resurfacing: Mid-to Long-term Follow-up of 106 Patients	2019	new prog
Schumaier, A.; Grawe, B.; Abboud, J.; Gabriel Horneff, J.; Getz, C.; Williams, G.; Ramsey, M.; Namdari, S.; Romeo, A.; Nicholson, G.; Keener, J.; Friedman, R.; Yian, E.; Muh, S.; Delaney, R.; Otto, R.; Levine, W.; Tokish, J. T.; Kazanjian, J.; Dines, J.; Green, A.; Paxton, S.; Flanagin, B.; Hasan, S.; Kaar, S.; Miniaci, A.; Cuomo, F.	Evaluating glenohumeral osteoarthritis: The relative impact of patient age, activity level, symptoms, and Kellgren-Lawrence grade on treatment	2019	preop outcomes
Pinto, M. C.; Archie, A. T.; Mosher, Z. A.; Ransom, E. F.; McGwin, G.; Fehringer, E. V.; Brabston, E. W.; Ponce, B. A.	Radiographic restoration of native anatomy: a comparison between stemmed and stemless shoulder arthroplasty	2019	unique outcomes
Malahias, M. A.; Fandridis, E.; Chytas, D.; Chronopoulos, E.; Brilakis, E.; Antonogiannakis, E.	Arthroscopic versus open Latarjet: a step-by-step comprehensive and systematic review	2019	Review/ Systematic Review
Dekker, A. P.; Joshi, N.; Morgan, M.; Espag, M.; A. Tambe A; Clark, D. I.	6-Year clinical results and survival of Copeland Resurfacing hemiarthroplasty of the shoulder in a consecutive series of 279 cases	2019	case series
Walters, J. D.; George, L. W.; Wan, J. Y.; Brolin, T. J.; Azar, F. M.; Throckmorton, T. W.	Tobacco use results in inferior outcomes after anatomic total shoulder arthroplasty	2019	new prog
Craig, R. S.; Lane, J. C. E.; Carr, A. J.; Furniss, D.; Collins, G. S.; Rees, J. L.	Serious adverse events and lifetime risk of reoperation after elective shoulder replacement: Population based cohort study using hospital episode statistics for England	2019	insufficient data for target condition: <90% GJO\
Nwankwo, C. D.; Dutton, P.; Merriman, J. A.; Gajudo, G.; Gill, K.; Hatch, J.	Outpatient Total Shoulder Arthroplasty Does Not Increase the 90-Day Risk of Complications Compared With Inpatient Surgery in Prescreened Patients	2018	<90% GJO (81%) Table 1
Brolin, T. J.; Throckmorton, T. W.	Outpatient Shoulder Arthroplasty	2018	non-systematic review

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Patel, R. B.; Muh, S.; Okoroha, K. R.; Wright, T. W.; Flurin, P. H.; Roche, C.; Zuckerman, J. D.	Results of total shoulder arthroplasty in patients aged 55 years or younger versus those older than 55 years: an analysis of 1135 patients with over 2 years of follow-up	2018	unadjusted; very low quality
Schnetzke, M.; Wittmann, T.; Raiss, P.; Walch, G.	Short-term results of a second generation anatomic short-stem shoulder prosthesis in primary osteoarthritis	2018	unadjusted; very low quality
Jeong, H. Y.; Jeon, Y. S.; Lee, D. K.; Rhee, Y. G.	Rotator cuff tear with early osteoarthritis: how does it affect clinical outcome after large to massive rotator cuff repair?	2019	not best available
Baumgarten, K. M.; Osborn, R.; Schweinle, W. E., 3rd; Zens, M. J.	The position of sling immobilization influences the outcomes of anatomic total shoulder arthroplasty: a randomized, single-blind, prospective study	2018	not best available
Lamplot, J. D.; Bansal, A.; Nguyen, J. T.; Brophy, R. H.	Risk of Subsequent Joint Arthroplasty in Contralateral or Different Joint After Index Shoulder, Hip, or Knee Arthroplasty: Association with Index Joint, Demographics, and Patient-Specific Factors	2018	unadjusted; very low quality
Kirzner, N.; Paul, E.; Moaveni, A.	Reverse shoulder arthroplasty vs BIO-RSA: clinical and radiographic outcomes at short term follow-up	2018	not best available
Razmjou, H.; Woodhouse, L. J.; Holtby, R.	Neuropathic Pain after Shoulder Arthroplasty: Prevalence, Impact on Physical and Mental Function, and Demographic Determinants	2018	< 20 pts per group: n1= 5, n2= 110
Floyd, S. B.; Chapman, C. G.; Shanley, E.; Ruffrage, L.; Matthia, E.; Cooper, P.; Brooks, J. M.	A comparison of one-year treatment utilization for shoulder osteoarthritis patients initiating care with non-orthopaedic physicians and orthopaedic specialists	2018	not best available
Mannava, S.; Horan, M. P.; Frangiamore, S. J.; Hussain, Z. B.; Fritz, E. M.; Godin, J. A.; Pogorzelski, J.; Millett, P. J.	Return to Recreational Sporting Activities Following Total Shoulder Arthroplasty	2018	unadjusted; very low quality
Donohue, K. W.; Ricchetti, E. T.; Ho, J. C.; Iannotti, J. P.	The Association Between Rotator Cuff Muscle Fatty Infiltration and Glenoid Morphology in Glenohumeral Osteoarthritis	2018	unadjusted; very low quality
Somerson, J. S.; Hsu, J. E.; Neradilek, M. B.; Matsen, F. A., 3rd	The "tipping point" for 931 elective shoulder arthroplasties	2018	unadjusted; very low quality
Schnetzke, M.; Rick, S.; Raiss, P.; Walch, G.; Loew, M.	Mid-term results of anatomical total shoulder arthroplasty for primary osteoarthritis using a short-stemmed cementless humeral component	2018	unadjusted; very low quality

Authors	Article Title	Year	Reason for Exclusion
Kadum, B.; Inngul, C.; Ihrman, R.; Sjoden, G. O.; Sayed-Noor, A. S.	Higher preoperative sensitivity to pain and pain at rest are associated with worse functional outcome after stemless total shoulder arthroplasty	2018	unadjusted; very low quality
Tanner, G.; Simon, P.; Sellers, T.; Christmas, K. N.; Otto, R. J.; Cuff, D. J.; Abdelfattah, A.; Mighell, M. A.; Frankle, M. A.	Total shoulder arthroplasty with minimum 5-year follow-up: does the presence of subchondral cysts in the glenoid increase risk of failure?	2018	unadjusted; very low quality
Leschinger, T.; Raiss, P.; Loew, M.; Zeifang, F.	Predictors of medium-term clinical outcomes after total shoulder arthroplasty	2017	not best available
Al-Hadithy, N.; Furness, N.; Patel, R.; Jonas, S.; Jobbagy, A.; Lowdon, I.; Woods, D.	Cementless surface replacement hemiarthroplasty for primary glenohumeral osteoarthritis: results of over 5-year follow-up in patients with or without rotator cuff deficiency	2015	not best available; unadjusted univariate
Centeno, C. J.; Al-Sayegh, H.; Bashir, J.; Goodear, S.; Freeman, M. D.	A prospective multi-site registry study of a specific protocol of autologous bone marrow concentrate for the treatment of shoulder rotator cuff tears and osteoarthritis	2015	not best available
Werner, B. C.; Chang, B.; Nguyen, J. T.; Dines, D. M.; Gulotta, L. V.	What Change in American Shoulder and Elbow Surgeons Score Represents a Clinically Important Change After Shoulder Arthroplasty?	2016	insufficient data for target condition: <90% GJO
Fabricant, P. D.; Chin, C. S.; Grawe, B. M.; Dines, J. S.; Craig, E. V.; Dines, D. M.	Staged bilateral total shoulder arthroplasty: improved outcomes with less than 6 months between surgeries	2016	not best available; unadjusted univariate
Jawa, A.; Dasti, U.; Brown, A.; Grannatt, K.; Miller, S.	Gender differences in expectations and outcomes for total shoulder arthroplasty: a prospective cohort study	2016	not best available; unadjusted univariate
Jacobs, C. A.; Morris, B. J.; Sciascia, A. D.; Edwards, T. B.	Comparison of satisfied and dissatisfied patients 2 to 5 years after anatomic total shoulder arthroplasty	2016	not best available; unadjusted univariate
Wright, T. W.; Flurin, P. H.; Crosby, L.; Struk, A. M.; Zuckerman, J. D.	Total shoulder arthroplasty outcome for treatment of osteoarthritis: a multicenter study using a contemporary implant	2015	not best available; unadjusted univariate
Henry, P.; Razmjou, H.; Dwyer, T.; Slade Shantz, J. A.; Holtby, R.	Relationship between probability of future shoulder arthroplasty and outcomes of arthroscopic debridement in patients with advanced osteoarthritis of glenohumeral joint	2015	< 20 pts per group: n1= 18, n2=38
Boileau, P.; Moineau, G.; Morin-Salvo, N.; Avidor, C.; Godeneche,	Metal-backed glenoid implant with polyethylene insert is not a viable long-term therapeutic option	2015	not best available; unadjusted univariate

Authors	Article Title	Year	Reason for Exclusion
A.; Levigne, C.; Baba, M.; Walch, G.			
Iannotti, J. P.; Weiner, S.; Rodriguez, E.; Subhas, N.; Patterson, T. E.; Jun, B. J.; Ricchetti, E. T.	Three-dimensional imaging and templating improve glenoid implant positioning	2015	< 20 pts per group: n1= 46, n2 = 17
Bulhoff, M.; Sattler, P.; Bruckner, T.; Loew, M.; Zeifang, F.; Raiss, P.	Do patients return to sports and work after total shoulder replacement surgery?	2015	not best available; unadjusted univariate
Simon, P.; Gupta, A.; Pappou, I.; Hussey, M. M.; Santoni, B. G.; Inoue, N.; Frankle, M. A.	Glenoid subchondral bone density distribution in male total shoulder arthroplasty subjects with eccentric and concentric wear	2015	not best available; unadjusted univariate
Rasmussen, J. V.; Olsen, B. S.; Sorensen, A. K.; Hrobjartsson, A.; Brorson, S.	Resurfacing hemiarthroplasty compared to stemmed hemiarthroplasty for glenohumeral osteoarthritis: a randomised clinical trial	2015	not best available
Alolabi, B.; Youderian, A. R.; Napolitano, L.; Szerlip, B. W.; Evans, P. J.; Nowinski, R. J.; Ricchetti, E. T.; Iannotti, J. P.	Radiographic assessment of prosthetic humeral head size after anatomic shoulder arthroplasty	2014	not best available; unadjusted univariate
Rasmussen, J. V.; Polk, A.; Brorson, S.; Sorensen, A. K.; Olsen, B. S.	Patient-reported outcome and risk of revision after shoulder replacement for osteoarthritis. 1,209 cases from the Danish Shoulder Arthroplasty Registry, 2006-2010	2014	insufficient data for target condition: <90% GJO
Millett, P. J.; Horan, M. P.; Pennock, A. T.; Rios, D.	Comprehensive Arthroscopic Management (CAM) procedure: clinical results of a joint-preserving arthroscopic treatment for young, active patients with advanced shoulder osteoarthritis	2013	not best available; unadjusted univariate
Sandow, M. J.; David, H.; Bentall, S. J.	Hemiarthroplasty vs total shoulder replacement for rotator cuff intact osteoarthritis: how do they fare after a decade?	2013	not best available
Denard, P. J.; Raiss, P.; Sowa, B.; Walch, G.	Mid- to long-term follow-up of total shoulder arthroplasty using a keeled glenoid in young adults with primary glenohumeral arthritis	2013	not best available; unadjusted univariate
Pervaiz, K.; Cabezas, A.; Downes, K.; Santoni, B. G.; Frankle, M. A.	Osteoporosis and shoulder osteoarthritis: incidence, risk factors, and surgical implications	2013	not best available; unadjusted univariate
Gilmer, B. B.; Comstock, B. A.; Jette, J. L.; Warne, W. J.; Jackins, S. E.; Matsen, F. A.	The prognosis for improvement in comfort and function after the ream-and-run arthroplasty for glenohumeral arthritis: an analysis of 176 consecutive cases	2012	not best available; unadjusted univariate

Authors	Article Title	Year	Reason for Exclusion
Singh, J. A.; Sperling, J. W.; Schleck, C.; Harmsen, W. S.; Cofield, R. H.	Periprosthetic infections after total shoulder arthroplasty: a 33-year perspective	2012	no prog factor adjusted for in Cox reg model
Walch, G.; Moraga, C.; Young, A.; Castellanos-Rosas, J.	Results of anatomic nonconstrained prosthesis in primary osteoarthritis with biconcave glenoid	2012	not best available; unadjusted univariate
Walch, G.; Young, A. A.; Boileau, P.; Loew, M.; Gazielly, D.; Mole, D.	Patterns of loosening of polyethylene keeled glenoid components after shoulder arthroplasty for primary osteoarthritis: results of a multicenter study with more than five years of follow-up	2012	not best available; unadjusted univariate
Jandhyala, S.; Unnithan, A.; Hughes, S.; Hong, T.	Subscapularis tenotomy versus lesser tuberosity osteotomy during total shoulder replacement: a comparison of patient outcomes	2011	< 40 pts; n = 36
Young, A.; Walch, G.; Boileau, P.; Favard, L.; Gohlke, F.; Loew, M.; Mole, D.	A multicentre study of the long-term results of using a flat-back polyethylene glenoid component in shoulder replacement for primary osteoarthritis	2011	not best available; unadjusted univariate
Bartelt, R.; Sperling, J. W.; Schleck, C. D.; Cofield, R. H.	Shoulder arthroplasty in patients aged fifty-five years or younger with osteoarthritis	2011	not best available
Scalise, J. J.; Ciccone, J.; Iannotti, J. P.	Clinical, radiographic, and ultrasonographic comparison of subscapularis tenotomy and lesser tuberosity osteotomy for total shoulder arthroplasty	2010	< 40 pts; n = 35
Brander, V. A.; Gomberawalla, A.; Chambers, M.; Bowen, M.; Nuber, G.	Efficacy and safety of hylan G-F 20 for symptomatic glenohumeral osteoarthritis: a prospective, pilot study	2010	< 40 pts; n = 36
Noel, E.; Hardy, P.; Hagen, F. W.; Laprelle, E.; Goebel, F.; Faure, C.; Favard, L.; Gaudin, P.; Christ, R.; Baudot, C.; Dietl, J.; Goupille, P.	Efficacy and safety of Hylyn G-F 20 in shoulder osteoarthritis with an intact rotator cuff. Open-label prospective multicenter study	2009	not best available
Tammachote, N.; Sperling, J. W.; Vathana, T.; Cofield, R. H.; Harmsen, W. S.; Schleck, C. D.	Long-term results of cemented metal-backed glenoid components for osteoarthritis of the shoulder	2009	not best available; unadjusted univariate
Kryzak, T. J.; Sperling, J. W.; Schleck, C. D.; Cofield, R. H.	Total shoulder arthroplasty in patients with Parkinson's disease	2009	not best available; unadjusted univariate
Simmen, B. R.; Bachmann, L. M.; Drerup, S.; Schwyzler, H. K.; Burkhardt, A.; Flury, M. P.; Goldhahn, J.	Usefulness of concomitant biceps tenodesis in total shoulder arthroplasty: a prospective cohort study	2008	insufficient data for target condition: <90% GJO

Authors	Article Title	Year	Reason for Exclusion
Zavadil, D. P.; Satterlee, C. C.; Costigan, J. M.; Holt, D. W.; Shostrom, V. K.	Autologous platelet gel and platelet-poor plasma reduce pain with total shoulder arthroplasty	2007	not best available
Silverstein, E.; Leger, R.; Shea, K. P.	The use of intra-articular hylan G-F 20 in the treatment of symptomatic osteoarthritis of the shoulder: a preliminary study	2007	not best available
Habermeyer, P.; Magosch, P.; Lichtenberg, S.	Recentering the humeral head for glenoid deficiency in total shoulder arthroplasty	2007	not best available; unadjusted univariate
Wirth, M. A.; Tapscott, R. S.; Southworth, C.; Rockwood, C. A., Jr.	Treatment of glenohumeral arthritis with a hemiarthroplasty: a minimum five-year follow-up outcome study	2006	not best available; unadjusted univariate
Frankle, M.; Siegal, S.; Pupello, D.; Saleem, A.; Mighell, M.; Vasey, M.	The Reverse Shoulder Prosthesis for glenohumeral arthritis associated with severe rotator cuff deficiency. A minimum two-year follow-up study of sixty patients	2005	case series
Edwards, T. B.; Boulahia, A.; Kempf, J. F.; Boileau, P.; Nemoz, C.; Walch, G.	The influence of rotator cuff disease on the results of shoulder arthroplasty for primary osteoarthritis: results of a multicenter study	2002	not best available
Boileau, P.; Avidor, C.; Krishnan, S. G.; Walch, G.; Kempf, J. F.; Mole, D.	Cemented polyethylene versus uncemented metal-backed glenoid components in total shoulder arthroplasty: a prospective, double-blind, randomized study	2002	not best available
Fehringer, E. V.; Kopjar, B.; Boorman, R. S.; Churchill, R. S.; Smith, K. L.; Matsen, F. A., 3rd	Characterizing the functional improvement after total shoulder arthroplasty for osteoarthritis	2002	not best available; unadjusted univariate
Godeneche, A.; Boileau, P.; Favard, L.; Le Huec, J. C.; Levigne, C.; Nove-Josserand, L.; Walch, G.; Edwards, T. B.	Prosthetic replacement in the treatment of osteoarthritis of the shoulder: early results of 268 cases	2002	not best available; unadjusted univariate
Angerame, M. R.; Ruder, J. A.; Odum, S. M.; Hamid, N.	Pain and opioid use after total shoulder arthroplasty with injectable liposomal bupivacaine versus interscalene block	2017	>90% GJO unclear
Swarup, I.; Henn, C. M.; Nguyen, J. T.; Dines, D. M.; Craig, E. V.; Warren, R. F.; Gulotta, L. V.; Henn, R. F.	Effect of pre-operative expectations on the outcomes following total shoulder arthroplasty	2017	not best available; unadjusted univariate
Namdari, S.; Nicholson, T.; Abboud, J.; Lazarus, M.; Steinberg, D.; Williams, G.	Randomized controlled trial of interscalene block compared with injectable liposomal bupivacaine in shoulder arthroplasty	2017	not best available

Authors	Article Title	Year	Reason for Exclusion
Chen, A. L.; Bain, E. B.; Horan, M. P.; Hawkins, R. J.	Determinants of patient satisfaction with outcome after shoulder arthroplasty	2007	not best available: unadjusted univariate
GodenC`he, A.; Boileau, P.; Favard, L.; Le Huec, J. C.; LÃ©vigne, C.; NovÃ©-Josserand, L.; Walch, G.; Edwards, T. B.	Prosthetic replacement in the treatment of osteoarthritis of the shoulder: Early results of 208 cases	2002	not best available; unadjusted univariate
Eichinger, J. K.; Miller, L. R.; Hartshorn, T.; Li, X.; Warner, J. J.; Higgins, L. D.	Evaluation of satisfaction and durability after hemiarthroplasty and total shoulder arthroplasty in a cohort of patients aged 50 years or younger: an analysis of discordance of patient satisfaction and implant survival	2016	not best available

AAOS Approval Bodies

Committee on Evidence Based Quality and Value

The committee on Evidence Based Quality and Value (EBQV) consists of twenty-three AAOS members who implement evidence-based quality initiatives such as clinical practice guidelines (CPGs), systematic literature reviews (SRs) and appropriate use criteria (AUCs). They also oversee the dissemination of related educational materials and promote the utilization of orthopaedic value products by the Academy's leadership and its members.

Council on Research and Quality

The Council on Research and Quality promotes ethically and scientifically sound clinical and translational research to sustain patient care in musculoskeletal disorders. The Council also serves as the primary resource for educating its members, the public, and public policy makers regarding evidenced-based medical practice, orthopaedic devices and biologics, regulatory pathways and standards development, patient safety, and other related important research and quality areas. The Council is comprised of the chairs of the committees on Devices, Biologics, and Technology, Patient Safety, Research Development, U.S. and chair and section leaders of the Evidence Based Quality and Value committee. Also, on the Council are the second vice-president, three members at large, and representatives of the Diversity Advisory Board, Women's Health Issues Advisory Board, Board of Specialty Societies (BOS), Board of Councilors (BOC), Communications Cabinet, Orthopaedic Research Society (ORS), Orthopedic Research and Education Foundation (OREF).

Board of Directors

The 17-member Board of Directors manage the affairs of the AAOS, set policy, and oversee the Strategic Plan

Review Organizations

Review of the clinical practice guideline is completed by interested external organizations. The AAOS solicits reviewers for each clinical practice guideline. They consist of experts in the topic area and represent professional societies other than AAOS. Review organizations are nominated by the clinical practice guideline development group at the introductory meeting. Review responses are available on www.aaos.org/quality.

Participation in the AAOS systematic literature review peer review process does not constitute an endorsement, nor does it imply that the reviewer supports this document.

Letters of Endorsement From External Organizations



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American Shoulder and Elbow Surgeons

April 8, 2020

Kaitlyn S. Sevarino, MBA, CAE
Senior Manager,
Department of Clinical Quality and Value
American Academy of Orthopaedic Surgeons

Dear Ms. Sevarino,

The American Shoulder and Elbow Surgeons have voted to endorse the AAOS Clinical Practice Guideline for the Management of Glenohumeral Joint Osteoarthritis. This endorsement implies permission for the AAOS to officially list our organization as an endorser of this clinical practice guideline and reprint our logo in the introductory section of the clinical practice guideline review document.

Sincerely,

A handwritten signature in black ink that reads "William N. Levine, MD".

William N. Levine, MD
ASES President

9400 W. Higgins Road, Suite 500, Rosemont, Illinois 60018-4976

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Kaitlyn S. Sevarino, MBA, CAE
Senior Manager,
Department of Clinical Quality and Value

Dear Ms. Sevarino,

The American Society of Shoulder and Elbow Therapists (ASSET) has voted to endorse the AAOS Clinical Practice Guideline for the Management of Glenohumeral Joint Osteoarthritis. This endorsement implies permission for the AAOS to officially list our organization as an endorser of this clinical practice guideline and reprint our logo in the introductory section of the clinical practice guideline review document.

Sincerely,



Lane Bailey, PhD, PT
President, ASSET



acr.org

June 24, 2020

Joseph A. Bosco, III MD, FAAOS
President
American Academy of Orthopaedic Surgeons
9400 West Higgins Road
Rosemount, Illinois 60018

Dear Dr. Bosco,

I am pleased to inform you that the Executive Committee of the American College of Radiology (ACR) Board of Chancellors has voted to endorse the American Academy of Orthopaedic Surgeons (AAOS) document on **Glenohumeral Joint Osteoarthritis Evidence-Based Clinical Practice Guideline Endorsement Request.**

This endorsement implies permissions for the AAOS to officially list our organization as an endorser of this guideline and reprint our logo in the introductory section of the guideline document.

Thank you again for seeking our endorsement,

Sincerely,



William T. Thorwarth, Jr. MD, FACR
Chief Executive Officer

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April 24, 2020

Kaitlyn S. Sevarino, MBA
Senior Manager, Quality and Value Implementation
Department of Research, Quality, & Scientific Affairs

Dear Ms. Sevarino,

The Board of Directors of the American Orthopaedic Society for Sports Medicine (AOSSM) is endorsing the AAOS Management of Glenohumeral Joint Osteoarthritis Evidence-Based Clinical Practice Guideline. This endorsement implies permission for the AAOS to officially list our organization as an endorser of this systematic review and reprint our logo in the introductory section of the systematic review document.

Best regards,

A handwritten signature in black ink that reads "JP Bradley MD".

James P. Bradely, MD
AOSSM President

cc: Kevin Boyer, AOSSM Director of Research



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