

Inflammatory and Rheumatoid Arthritis

Overview

- Total elbow arthroplasty in patients with rheumatoid arthritis is associated with increased revision rates compared to non-RA cohorts, despite comparable complication rates [1].
- Denosumab demonstrates efficacy in maintaining bone health and preventing joint damage in rheumatoid arthritis patients with coexisting osteoporosis [2].
- Robot-assisted total knee arthroplasty provides evidence for selecting surgical methods in rheumatoid osteoarthritis compared to conventional techniques [3].
- Rheumatoid arthritis is associated with higher 90-day systemic complications compared to osteoarthritis after total shoulder arthroplasty [4].
- Patients with rheumatoid arthritis are at higher risk of systemic and joint-related complications following total shoulder arthroplasty compared to patients with primary osteoarthritis [4].
- Patient-reported outcome measures after direct anterior total hip arthroplasty are comparable between patients with rheumatoid arthritis and osteoarthritis [5].
- Patients with rheumatoid arthritis can expect reduced pain and improved functional outcomes similar to those with osteoarthritis following primary total hip arthroplasty [5].
- Patients with rheumatoid arthritis may be at an increased risk of complications and revision surgery following total hip arthroplasty [5].
- Patients with rheumatoid arthritis reported poorer patient-reported outcome scores compared with osteoarthritis and posttraumatic arthritis groups after total ankle arthroplasty [6].
- Patients with rheumatoid arthritis experienced functional outcome improvement from the preoperative baseline after total ankle arthroplasty [6].
- Shoulder arthroplasty for inflammatory arthritis is associated with higher rates of medical and surgical complications compared to osteoarthritis [7].
- Inflammatory arthritis represents a distinctly morbid risk profile with multiple increased surgical and postoperative medical complications in patients undergoing anatomic and reverse total shoulder arthroplasty [7].

- Total knee arthroplasty in patients with rheumatoid arthritis yields significant improvement in physician- and patient-reported outcomes [8].
- Cutaneous psoriasis and psoriatic arthritis are associated with higher rates of infections and all-cause revisions following total hip arthroplasty [13].

Background & Causes

- Rheumatoid arthritis is associated with higher 90-day systemic complications compared to osteoarthritis after total shoulder arthroplasty [4].
- Inflammatory arthritis represents a distinctly morbid risk profile compared to osteoarthritis patients with multiple increased surgical and postoperative medical complications in patients undergoing aTSA and rTSA [7].
- Patients with rheumatoid arthritis may be at an increased risk of complications and revision surgery following primary total hip arthroplasty [5].
- Rates of long-term risk of revision in total elbow arthroplasty are increased in patients with rheumatoid arthritis compared to non-RA cohorts [1].
- Denosumab demonstrates efficacy in maintaining bone health and preventing joint damage in rheumatoid arthritis patients with coexisting osteoporosis [2].
- Denosumab reduced joint mTSS, JSN, and BES, alleviated joint space narrowing, and inhibited bone erosion in rheumatoid arthritis patients [21].
- Perioperative bDMARD continuation was not associated with significant increases in risks of wound healing failures or SSIs among patients with RA undergoing elective hand surgery [10].
- Shoulder arthroplasty in patients with rheumatoid arthritis reduces pain and improves function [11].
- Patients with RA reported poorer PRO scores compared with OA and posttraumatic arthritis groups after total ankle arthroplasty but experienced functional outcome improvement from the preoperative baseline [6].
- The Kudo type-5 prosthesis demonstrated satisfactory results in patients with RA but failures occurred to some extent over a long-term follow-up period [14].
- Tectochrysin may be a novel RA therapeutic agent, likely acting via macrophage JAK/STAT pathway inhibition, with promising clinical potential [15].
- There is preclinical evidence for an antioxidant, anti-inflammatory, antinociceptive, cartilage- and bone-protective effect of calcitonin in RA [16].

Symptoms & Presentation

- Internet search analysis reveals specific questions and reading behaviors regarding the treatment of rheumatoid arthritis among patients [9].

- HandScan optical imaging can reliably identify ultrasound-defined remission in rheumatoid arthritis at the joint level with good sensitivity and high positive predictive value [18].
- DAS-OST can determine ultrasound-defined remission at the patient level in rheumatoid arthritis, but with lower performance compared to joint-level identification [18].
- Chronic non-specific tenosynovitis with effusion localized at the ankle may present with intermittent symptoms that remain unrecognized for months or even years [17].

Management

- Total elbow arthroplasty in patients with rheumatoid arthritis is associated with higher long-term revision rates compared to non-RA cohorts, despite comparable complication rates [1].
- Denosumab demonstrates efficacy in maintaining bone health and preventing joint damage in rheumatoid arthritis patients with coexisting osteoporosis [2].
- Robot-assisted total knee arthroplasty provides evidence for surgical method selection in rheumatoid osteoarthritis [3].
- Rheumatoid arthritis is associated with higher 90-day systemic complications compared to osteoarthritis after total shoulder arthroplasty [4].
- Patients with rheumatoid arthritis undergoing total shoulder arthroplasty are at higher risk of systemic and joint-related complications compared to patients with primary osteoarthritis [4].
- Patient-reported outcome measures after direct anterior total hip arthroplasty are comparable between patients with rheumatoid arthritis and osteoarthritis [5].
- Patients with rheumatoid arthritis can expect reduced pain and improved functional outcomes similar to those with osteoarthritis following primary total hip arthroplasty [5].
- Patients with rheumatoid arthritis undergoing total ankle arthroplasty reported poorer patient-reported outcome scores compared with osteoarthritis and posttraumatic arthritis groups [6].
- Patients with rheumatoid arthritis undergoing total ankle arthroplasty experienced functional outcome improvement from the preoperative baseline [6].
- Shoulder arthroplasty for inflammatory arthritis is associated with higher rates of medical and surgical complications compared to osteoarthritis [7].
- Inflammatory arthritis represents a distinctly morbid risk profile with multiple increased surgical and postoperative medical complications in patients undergoing anatomic and reverse total shoulder arthroplasty [7].
- Total knee arthroplasty in patients with rheumatoid arthritis yields significant improvement in physician-reported outcomes [8].
- Total knee arthroplasty in patients with rheumatoid arthritis yields significant improvement in patient-reported outcomes [8].
- Physicians should provide internet search-derived information on rheumatoid arthritis treatment to patients in counseling and education materials [9].

- Perioperative biologic disease-modifying antirheumatic drug continuation in patients with rheumatoid arthritis undergoing elective hand surgery was not associated with significant increases in risks of wound healing failures or surgical site infections [10].
- Shoulder arthroplasty in patients with rheumatoid arthritis reduces pain and improves function [11].
- Negative affect moderates pain in patients with rheumatoid arthritis who have undergone shoulder arthroplasty [11].
- Patient-reported functional outcomes at 6 months after total elbow arthroplasty were significantly lower in the fracture group compared to osteoarthritis and rheumatoid arthritis groups [12].
- Targeting macrophage JAK3/STAT3 signaling with tectochrysin ameliorates bone erosion and synovitis in rheumatoid arthritis [15].
- Tectochrysin acts via macrophage JAK/STAT pathway inhibition and has promising clinical potential as a novel rheumatoid arthritis therapeutic agent [15].
- Preclinical evidence supports an antioxidant, anti-inflammatory, antinociceptive, cartilage-protective, and bone-protective effect of calcitonin in rheumatoid arthritis [16].

Key Considerations

- Total elbow arthroplasty in patients with rheumatoid arthritis has comparable complication rates to non-RA cohorts [1].
- Total elbow arthroplasty in patients with rheumatoid arthritis is associated with increased revision rates compared to non-RA cohorts [1].
- Denosumab demonstrates efficacy in maintaining bone health and preventing joint damage in rheumatoid arthritis patients with coexisting osteoporosis [2].
- Robot-assisted total knee arthroplasty provides evidence for selecting surgical methods in rheumatoid osteoarthritis [3].
- Rheumatoid arthritis is associated with higher 90-day systemic complications compared to osteoarthritis after total shoulder arthroplasty [4].
- Patients with rheumatoid arthritis are at higher risk of systemic and joint-related complications following total shoulder arthroplasty compared to patients with primary osteoarthritis [4].
- Patient-reported outcome measures after direct anterior total hip arthroplasty are comparable between patients with rheumatoid arthritis and osteoarthritis [5].
- Patients with rheumatoid arthritis may be at increased risk of complications and revision surgery following total hip arthroplasty [5].
- Patients with rheumatoid arthritis can expect reduced pain and improved functional outcomes similar to those with osteoarthritis following primary total hip arthroplasty [5].
- Patients with rheumatoid arthritis reported poorer patient-reported outcome scores compared with osteoarthritis and posttraumatic arthritis groups after total ankle arthroplasty [6].

- Patients with rheumatoid arthritis experienced functional outcome improvement from the preoperative baseline after total ankle arthroplasty [6].
- Total knee arthroplasty in patients with rheumatoid arthritis yields significant improvement in physician-reported outcomes [8].
- Total knee arthroplasty in patients with rheumatoid arthritis yields significant improvement in patient-reported outcomes [8].
- Physicians should provide information on internet search trends regarding rheumatoid arthritis treatment to patients in counseling and education materials [9].
- Perioperative biologic disease-modifying antirheumatic drug continuation was not associated with significant increases in risks of wound healing failures or surgical site infections among patients with rheumatoid arthritis undergoing elective hand surgery [10].
- Patient-reported functional outcomes at 6 months after total elbow arthroplasty were significantly lower in the fracture group compared to osteoarthritis and rheumatoid arthritis groups [12].
- The Kudo type-5 prosthesis demonstrated satisfactory results in patients with rheumatoid arthritis over a minimum 10-year follow-up period [14].
- Failures of the Kudo type-5 prosthesis occurred to some extent over a long-term follow-up period in patients with rheumatoid arthritis [14].
- Radiolunate arthrodesis in patients with rheumatoid arthritis maintained good clinical results and corrected alignment during long-term follow-up [19].
- Total wrist arthroplasty using the semiconstrained arthroplasty system achieves favorable clinical outcomes with no serious complications requiring revision for 10 years after surgery in patients with rheumatoid arthritis [22].

Key Evidence

- [L3] Despite comparable complication rates between RA and non-RA cohorts, further investigation into the underlying mechanisms of increased revision rates in RA patients is warranted. [1] ([10.1016/j.jse.2024.12.032](#))
- [L1] Denosumab demonstrates promising efficacy in maintaining bone health and preventing joint damage in rheumatoid arthritis patients with coexisting osteoporosis. [2] ([10.1186/s12891-025-08688-8](#))
- [L3] This provides important evidence for selecting surgical methods in rheumatoid osteoarthritis. [3] ([10.1186/s13018-026-06703-9](#))
- [L3] Following TSA, RA patients should be considered at higher risk of systemic and joint-related complications compared to patients with primary OA. [4] ([10.5397/cise.2024.00374](#))
- [L3] Although patients with rheumatoid arthritis may be at an increased risk of complications and revision surgery, patients can expect reduced pain and improved functional outcomes similar to those with osteoarthritis following primary THA. [5] ([10.5435/jaaos-d-24-00656](#))

- [L3] In the largest single-institution study to date, patients with RA reported poorer PRO scores compared with the OA and posttraumatic arthritis groups but experienced functional outcome improvement from the preoperative baseline. [6] ([10.2106/jbjs.24.00048](#))
- [L3] Inflammatory arthritis represents a distinctly morbid risk profile compared to osteoarthritis patients with multiple increased surgical and postoperative medical complications in patients undergoing aTSA and rTSA. [7] ([10.1016/j.jse.2023.09.014](#))
- [L3] Total knee arthroplasty in patients who have RA yields significant improvement in physician- and patient-reported outcomes. [8] ([10.1016/j.arth.2026.03.021](#))
- [L4] Physicians should provide such information to patients with RA in the counseling and education materials. [9] ([10.1371/journal.pone.0285869](#))
- [L2] Among patients with RA undergoing elective hand surgery, perioperative bDMARD continuation was not associated with significant increases in risks of wound healing failures or SSIs. [10] ([10.1016/j.jhsa.2026.03.003](#))
- [L3] Shoulder arthroplasty in patients with rheumatoid arthritis reduces pain and improves function. [11] ([10.1186/s13018-025-06109-z](#))
- [L3] Patient-reported functional outcomes at 6 months were significantly lower in the fracture group compared to osteoarthritis and rheumatoid arthritis groups. [12] ([10.1016/j.jse.2026.01.019](#))
- [L3] In particular, both PsC and PsA were associated with higher rates of infections and all-cause revisions. [13] ([10.1016/j.arth.2026.03.054](#))
- [L4] Although the Kudo type-5 prosthesis demonstrated satisfactory results in patients with RA, failures occurred to some extent over a long-term follow-up period. [14] ([10.1016/j.jse.2024.10.025](#))
- [L5] Tectochrysin may be a novel RA therapeutic agent, likely acting via macrophage JAK/STAT pathway inhibition, with promising clinical potential. [15] ([10.1186/s13018-025-06481-w](#))
- [L1] There is preclinical evidence for an antioxidant, anti-inflammatory, antinociceptive, cartilage- and bone-protective effect of CT in RA and OA. [16] ([10.1530/eor-23-0133](#))
- [L4] In chronic non-specific tenosynovitis with effusion localized at the ankle, symptoms may be intermittent and the true nature of the condition may remain unrecognized for months or even years. [17] ([10.2106/jbjs.25.00400](#))
- [L3] HandScan is able to reliably identify US-defined remission in RA at the joint level, with a good sensitivity and high PPV, while at the patient level, DAS-OST can also determine US remission but with lower performance. [18] ([10.1186/s12891-024-07472-4](#))
- [L4] Radiolunate arthrodesis in patients with RA maintained good clinical results and corrected alignment, even during long-term follow-up. [19] ([10.1016/j.jhsa.2022.11.014](#))
- [L1] Additionally, it reduced joint mTSS, JSN, and BES, alleviated joint space narrowing, and inhibited bone erosion, providing maximal joint protection and maintaining joint function. [21] ([10.1186/s12891-025-09206-6](#))
- [L4] Total wrist arthroplasty using the semiconstrained arthroplasty system achieves favorable clinical outcomes with no serious complications requiring revision for 10 years after surgery. [22] ([10.1016/j.jhsa.2024.03.002](#))

References

- [1] Rates of long-term risk of revision and complications in total elbow arthroplasty in patients with rheumatoid arthritis: a propensity score-matched analysis. *Journal of Shoulder and Elbow Surgery*. 2025. DOI: 10.1016/j.jse.2024.12.032 [2] Efficacy of denosumab in treatment of osteoporosis in patients with rheumatoid arthritis: a meta-analysis of randomized controlled trial. *BMC Musculoskeletal Disorders*. 2025. DOI: 10.1186/s12891-025-08688-8 [3] Comparative outcomes of robot-assisted versus conventional TKA in rheumatoid arthritis patients. *Journal of Orthopaedic Surgery and Research*. 2026. DOI: 10.1186/s13018-026-06703-9 [4] Rheumatoid arthritis is associated with higher 90-day systemic complications compared to osteoarthritis after total shoulder arthroplasty: a cohort study. *Clinics in Shoulder and Elbow*. 2024. DOI: 10.5397/cise.2024.00374 [5] Patient-Reported Outcome Measures After Direct Anterior Total Hip Arthroplasty Are Comparable Between Patients With Rheumatoid Arthritis and Osteoarthritis: A Propensity-Matched Analysis. *Journal of the American Academy of Orthopaedic Surgeons*. 2024. DOI: 10.5435/jaaos-d-24-00656 [6] Complication Rates and Functional Outcomes After Total Ankle Arthroplasty in Patients with Rheumatoid Arthritis. *Journal of Bone and Joint Surgery*. 2025. DOI: 10.2106/jbjs.24.00048 [7] Shoulder arthroplasty for inflammatory arthritis is associated with higher rates of medical and surgical complications: a nationwide matched cohort analysis from 2016-2020. *Journal of Shoulder and Elbow Surgery*. 2024. DOI: 10.1016/j.jse.2023.09.014 [8] Patient-Reported Outcomes and Satisfaction Following Total Knee Arthroplasty in Rheumatoid Arthritis: An Observational Cohort Study. *The Journal of Arthroplasty*. 2026. DOI: 10.1016/j.arth.2026.03.021 [9] Internet search analysis on the treatment of rheumatoid arthritis: What do people ask and read online?. *PLOS ONE*. 2023. DOI: 10.1371/journal.pone.0285869 [10] Perioperative Biologic Disease-Modifying Antirheumatic Drugs, Risks of Infections, and Wound Complications in Patients With Rheumatoid Arthritis Undergoing Elective Hand Surgery. *The Journal of Hand Surgery*. 2026. DOI: 10.1016/j.jhsa.2026.03.003 [11] The moderating role of negative affect on pain in patients with rheumatoid arthritis who have undergone shoulder arthroplasty. *Journal of Orthopaedic Surgery and Research*. 2025. DOI: 10.1186/s13018-025-06109-z [12] A comparison of survivorship and functional outcomes for total elbow arthroplasty performed for distal humerus fracture, rheumatoid arthritis, and osteoarthritis, a New Zealand Joint Registry study. *Journal of Shoulder and Elbow Surgery*. 2026. DOI: 10.1016/j.jse.2026.01.019 [13] Outcomes Following Total Hip Arthroplasty in Patients with Cutaneous Psoriasis and Psoriatic Arthritis. *The Journal of Arthroplasty*. 2026. DOI: 10.1016/j.arth.2026.03.054 [14] Long-term follow-up study of Kudo type-5 elbow prosthesis in patients with rheumatoid arthritis: minimum 10-year clinical outcomes. *Journal of Shoulder and Elbow Surgery*. 2025. DOI: 10.1016/j.jse.2024.10.025 [15] Targeting macrophage JAK3/STAT3 signaling with tectochrysin: a novel therapeutic strategy to ameliorate bone erosion and synovitis in rheumatoid arthritis. *Journal of Orthopaedic Surgery and Research*. 2025. DOI: 10.1186/s13018-025-06481-w [16] Calcitonin treatment for osteoarthritis and rheumatoid arthritis – a systematic review and meta-analysis of preclinical data. *EFORT Open Reviews*. 2024. DOI: 10.1530/eor-23-0133 [17] Complication Rates and Functional Outcomes After TAA in Patients with Rheumatoid Arthritis Are Less Defined Than for Patients with Osteoarthritis. *Journal of Bone and Joint Surgery*. 2025. DOI: 10.2106/jbjs.25.00400 [18] Optical imaging (HandScan) can identify ultrasound remission in rheumatoid arthritis. *BMC Musculoskeletal Disorders*. 2024. DOI: 10.1186/s12891-024-07472-4 [19] Radiolunate Arthrodesis in the Rheumatoid Wrist: A Retrospective Clinical and Radiologic Long-Term Follow-Up. *The Journal of Hand Surgery*. 2024. DOI: 10.1016/j.jhsa.2022.11.014 [21] Efficacy and safety of denosumab in treatment of osteoporosis in patients with rheumatoid arthritis: a meta-analysis and systematic

review. *BMC Musculoskeletal Disorders*. 2025. DOI: 10.1186/s12891-025-09206-6 [22] Clinical Outcomes of Total Wrist Arthroplasty in Patients With Rheumatoid Arthritis: Minimum 10-Year Follow-Up Study. *The Journal of Hand Surgery*. 2025. DOI: 10.1016/j.jhsa.2024.03.002