2023 American College of Rheumatology (ACR) and American Association of Hip and Knee Surgeons (AAHKS) Clinical Practice Guideline for the Optimal Timing of Elective Total Hip or Knee Arthroplasty for Patients with Symptomatic Moderate to Severe Osteoarthritis or Osteonecrosis Who Have Failed Nonoperative Therapy

Guideline Summary

This guideline provides evidence-based consensus recommendations for the optimal timing of hip and knee arthroplasty on patient important outcomes including, but not limited to, pain, function, infection, hospitalization, and death at one year, for a target population of people with symptomatic, radiographic moderate to severe osteoarthritis (OA) or osteonecrosis (ON) of the hip and knee who have previously attempted nonoperative treatment and chosen to undergo elective hip or knee arthroplasty (collectively referred to as TJA). This guideline follows the ACR guideline development process, which includes the Grading of Recommendations, Assessment, Development and Evaluations (GRADE) methodology, and adheres to the Appraisal of Guidelines for REsearch & Evaluation (AGREE) criteria. A panel of rheumatologists, orthopaedic surgeons, and patients performed a systematic literature review for clinically relevant population, intervention, comparator, and outcomes (PICO) questions, and reached consensus on the following recommendations, taking into consideration available evidence, clinical experience and expertise, and patient values and preferences. Evidence for all recommendations was graded as low or very low quality, primarily due to indirectness.

Key messages:

1. The panel recommended that the decision of when to proceed with TJA should be made through a shared decision-making process between the physician and patient during which the unique risks and benefits for the individual patient are considered (guiding principle).
2. The panel conditionally recommended the following:
    a. Do not delay TJA to pursue additional nonoperative treatment including physical therapy, nonsteroidal anti-inflammatories, ambulatory aids, and injections.

b. Delay TJA in order to achieve nicotine cessation or reduction.
c. Delay TJA to improve glycemic control in patients with diabetes mellitus, but we do not recommend a specific measure or threshold based on our literature review.
d. Obesity by itself is not a reason for delaying surgery. There should be no inflexible weight or BMI target requirement for surgery, but weight loss should be strongly encouraged.
e. Do not delay surgery in patients with severe deformity, bone loss, or in patients with a neuropathic joint.

Recommendation for patients with radiographically moderate to severe OA or ON of the hip or knee using standard radiographic grading such as Kellgren-Lawrence or Tonnis, and moderate to severe pain or loss of function who have been indicated for elective TJA through a shared decision-making process with their physician and have completed one or more trials of appropriate nonoperative therapy	**Certainty of Evidence**
In our defined population, we **conditionally** recommend proceeding to TJA without delay over delaying arthroplasty three months.	Very low
In our defined population, we **conditionally** recommend proceeding to TJA without delay over delaying arthroplasty for a trial of physical therapy.	Low
In our defined population, we **conditionally** recommend proceeding to TJA without delay over delaying surgical treatment for a trial of nonsteroidal anti-inflammatory drugs (NSAIDs).	Very low
In our defined population, we **conditionally** recommend proceeding to TJA without delay iover delaying surgical treatment for a trial of braces and/or ambulatory aids.	Very low
In our defined population, we **conditionally** recommend proceeding to TJA without delay over delaying surgical treatment for a trial of intra-articular glucocorticoid injections.	Very low
In our defined population, we **conditionally** recommend proceeding to TJA without delay over delaying surgical treatment for a trial of viscosupplementation injections.	Very low
In our defined population with body mass index (BMI) > 50, we **conditionally** recommend proceeding to surgery without delay to achieve weight reduction to BMI < 50.	Very low
In our defined population with body mass index (BMI) 40 - 49, we **conditionally** recommend proceeding to surgery without delay to achieve weight reduction to BMI < 40.	Very low

In our defined population with body mass index (BMI) 35 - 39, we **conditionally** recommend proceeding to surgery without delay to achieve weight reduction to BMI < 35.	Very low
In our defined population with poorly controlled diabetes mellitus, we **conditionally** recommend delaying TJA to improve glycemic control.	Very low
In our defined population with nicotine dependence, we **conditionally** recommend delaying arthroplasty for nicotine use reduction/cessation.	Low
In our defined population with bone loss with deformity or severe ligamentous instability, we **conditionally** recommend proceeding to TJA without delay over delaying arthroplasty for optimization of non-life-threatening conditions.	There were no studies that either directly or indirectly answered our PICO question.
In our defined population with a neuropathic joint, we **conditionally** recommend proceeding to TJA without delay over delaying for optimization of non-life-threatening conditions.	There were no studies that either directly or indirectly answered our PICO question.

*This summary was approved by the ACR Board of Directors on February 22. 2023, and the AAHKS Board of Directors on March 8, 2023. These recommendations are included in a full manuscript, which was published in Arthritis & Rheumatology, Arthritis Care and Research, and the Journal of Arthroplasty September 25, 2023.**
**All recommendations are conditional, largely due to the quality of the evidence.*

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