

Washington State Health Care Authority, HTA Program**Key Questions****Knee Joint Replacement or Knee Arthroplasty****Introduction**

HTA has selected Knee Joint Replacement/Knee Arthroplasty to undergo a health technology assessment where an independent vendor will systematically review the evidence available on the safety, efficacy, and cost-effectiveness. HTA posted the topic and gathered public input on all available evidence. HTA published the Draft Key Questions to gather public input about the key questions and any additional evidence to be considered in the evidence review. Key questions guide the development of the evidence report. HTA seeks to identify the appropriate topics (e.g. population, indications, comparators, outcomes, policy considerations) to address the statutory elements of evidence on safety, efficacy, and cost effectiveness relevant to coverage determinations.

Knee joint replacement or knee arthroplasty is surgery to replace a diseased knee joint with an artificial joint. It is an elective procedure, generally indicated for patients with significant loss of cartilage to bone, experiencing pain and limited range of motion. Questions primarily center on when the procedure is most appropriate and for whom, and whether certain types of procedures produce better results.

Draft Key Questions

When used in adult patients:

1. What is the evidence of efficacy and effectiveness of using computer-navigated TKA compared with conventional TKA? Outcomes to consider:
 - a. Primary: Clinical outcomes, Revision rates
 - b. Secondary: Radiographic, other reported outcomes
2. What is the evidence of efficacy and effectiveness of partial knee arthroplasty compared with conventional TKA? Include consideration of:
 - a. Unicompartamental
 - b. Bicompartamental
 - c. Bi-unicompartamental
3. What is the evidence of the safety of computer-navigated TKA or partial knee arthroplasty compared with standard total knee arthroplasty? Including consideration of:
 - a. Adverse events type and frequency (mortality, major morbidity, other)
 - b. Deep venous thrombosis
4. What is the evidence that TKA or partial knee arthroplasty has differential efficacy or safety issues in sub populations? Including consideration of:
 - a. Gender
 - b. Age
 - c. BMI
 - d. Diagnosis, including osteoarthritis versus rheumatoid arthritis
 - e. Psychological or psychosocial co-morbidities

- f. Other patient characteristics or evidence based patient selection criteria
 - g. Provider type, setting or other provider characteristics
 - h. Payor or beneficiary type, including worker's compensation, Medicaid, state employees
 - i. Bilateral TKA (simultaneous or staged)
5. What is the evidence of cost implications and cost-effectiveness of computer-navigated TKA or partial knee arthroplasty compared with knee joint arthroplasty?

Policy Context:

Knee joint replacement or knee arthroplasty is surgery to replace a diseased knee joint with an artificial joint. It is an elective procedure, generally indicated for patients with significant loss of cartilage to bone, experiencing pain and limited range of motion. Questions primarily center on when the procedure is most appropriate and for whom, and whether certain types of procedures produce better results.

Important questions remain about appropriate patient selection; timing; and clinical indications for knee replacement, as well as information on the use of different surgical approaches; prosthesis types and materials; and its safety and effectiveness and cost effectiveness compared to alternatives.

Public Comment and Response

HTA received one timely public comment and input from the technology assessment center. HTA reviewed the public comments, consulted technology assessment centers, and gathered follow up information from the nominating agencies. A summary of the input and modification to key questions is below.

Overall topic: Primary total knee arthroplasty is a well accepted technology and a preliminary review of evidence suggests that several quality analysis can be relied upon to describe the primary procedure, its indications, and its efficacy and safety profile; thus eliminating the proposed first key question and placing such information in the context section. Remaining Key questions were re-organized to account for this and narrow the focus to comparisons of different surgical approaches and prosthesis.

One commenter requested changes to the categorization of partial knee arthroplasty to match CPT coding; and categorization of surgical approach into minimally invasive and standard approach knee arthroplasty.

The key question categories were not altered to match CPT coding. Rather, the original categorization based on the preliminary literature search is used. However, the suggested categorizations and reasoning are included in materials for the evidence vendor to review when describing the technology or findings as appropriate, and a cross reference chart can be added if deemed necessary.