

Washington State Health Care Authority, HTA Program
Final Key Questions

Hip Surgery procedures for treatment of femoroacetabular impingement

Introduction

HTA has selected hip surgery procedures for the treatment of femoroacetabular impingement (FAI) 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.

Femoroacetabular impingement is a condition where friction in the hip joint caused by the ball and socket rubbing causes wear or damage to the cartilage, which is thought to cause pain and contribute to the development of osteoarthritis. Hip surgery is a treatment aimed at correction of the abnormal hip biomechanics causing the friction in order to prevent or delay osteoarthritis and relieve pain.

Final Key Questions

When used in patients with Femoroacetabular Impingement (FAI):

1. What is the case definition of FAI, and are there measures of reliability and validity for case identification?
2. What are the expected treatment outcomes of hip surgery for FAI, and are there validated instruments and scores to measure clinically meaningful improvement?
3. What is the evidence of efficacy and effectiveness of hip surgery (open or arthroscopic) for FAI? Including consideration of short term and long term:
 - a. Development or progression of Osteoarthritis
 - b. Impact on Function, Pain, range of motion, quality of life, activities of daily living and return to work
 - c. Need for continuing and/or subsequent intervention
 - d. Other reported measures
4. What is the evidence of the safety of hip surgery for FAI? Including consideration of:
 - a. Adverse events type and frequency (peri-operative, cartilage damage, fractures, nerve damage, mortality, other major morbidity)
 - b. Revision/re-operation rates (if not addressed in efficacy)

5. What is the evidence that hip surgery for FAI has differential efficacy or safety issues in sub populations? Including consideration of:
 - a. Gender
 - b. Age
 - c. Psychological or psychosocial co-morbidities
 - d. Baseline functional status: e.g. type of deformity, extent of osteoarthritis or cartilage damage
 - e. Other patient characteristics or evidence based patient selection criteria, especially comorbidities of diabetes and high BMI
 - f. Provider type, setting or other provider characteristics
 - g. Payor/ beneficiary type: including worker's compensation, Medicaid, state employees

6. What evidence of cost implications and cost-effectiveness of hip surgery for FAI? Including consideration of:
 - a. Costs (direct and indirect) and cost effectiveness
 - b. Short term and long term

Policy Context:

Osteoarthritis (OA) is very common, and affects some 27 million Americans; and is characterized by the breakdown of cartilage – the part of a joint that cushions the ends of the bones and allows easy movement. As cartilage deteriorates, bones begin to rub against one another. OA can also damage ligaments, menisci, and muscles and may cause bone outgrowths. Symptoms of OA vary greatly: some patients have minor to debilitating pain, swelling and stiffness. Other patients have few symptoms in spite of significant degeneration. The causes of hip pain and OA, and factors for progression and impact are not fully understood. OA is thought to be primarily related to aging (Primary OA) or severe congenital or developmental deformities (Secondary OA); though repetitive use; injury; weight; and heredity may play a role. There is no treatment to stop cartilage degeneration or repair damaged cartilage. The goal of treatment for patients with symptoms is to reduce joint pain and inflammation while improving and maintaining joint function.

Femoroacetabular impingement (FAI) syndrome is a recently recognized diagnosis in primarily younger individuals where relatively minor abnormalities in the joint (orientation or morphology) are thought to cause friction/impingement and pain. It is theorized that FAI starts the breakdown of cartilage, leading to OA. There are two types of FAI: cam impingement (most common in young athletic males) and pincer impingement (most common in middle-aged women). Proponents believe that surgical correction of the impinging deformities will alleviate the symptoms and retard the progression of OA degeneration.

Technology Description:

Hip surgery is an invasive procedure to correct FAI using either an open surgery or arthroscopic approach. The surgeon cuts off abnormal outgrowths of bone, removes damaged cartilage, and reshapes the femoral neck to ensure that there is sufficient clearance between the rim of the joint socket and the neck of the femur. After

corrective surgery, avoidance of weight bearing for several weeks to months and rehabilitation is required.

Issues:

The causes of hip pain, the natural history of FAI and its relationship to osteoarthritis are unclear; case definition and the selection criterion of patients for this procedure is uncertain.

Significant questions remain about the safety, efficacy and effectiveness and cost effectiveness of hip arthroplasty for FAI. Effectiveness questions particularly center on whether the potential beneficial outcomes of long term pain and functional improvement, and prevention of a total hip replacement due to OA deterioration occur with this surgical intervention; the risks of the intervention, and how often complications arise.