

FEP 7.01.118 Surgical Treatment of Femoroacetabular Impingement

Effective Date: July 15, 2018

Related Policies:
7.01.80 Hip Resurfacing

Surgical Treatment of Femoroacetabular Impingement

Description

Femoroacetabular impingement (FAI) results from localized compression in the joint due to an anatomic mismatch between the head of the femur and the acetabulum. Symptoms of impingement typically occur in young to middle-aged adults before the onset of osteoarthritis (OA) but may be present in younger patients with developmental hip disorders. The objective of surgical treatment of FAI is to provide symptom relief and reduce further joint damage.

FDA REGULATORY STATUS

Surgery for treatment of FAI is a procedure and, as such, is not subject to regulation by the U.S. Food and Drug Administration.

POLICY STATEMENT

Open or arthroscopic treatment of femoroacetabular impingement (FAI) may be **medically necessary** when all of the following conditions have been met:

Age

- Candidates should be skeletally mature with documented closure of growth plates (eg, ≥ 15 years of age).

Symptoms

- Moderate-to-severe hip pain worsened by flexion activities (eg, squatting or prolonged sitting) that significantly limits activities; AND
- Unresponsive to conservative therapy for at least 3 months (including activity modifications, restriction of athletic pursuits, and avoidance of symptomatic motion); AND
- Positive impingement sign on clinical examination (pain elicited with 90° of flexion and internal rotation and adduction of the femur).

Imaging

- Morphology indicative of cam or pincer FAI (eg, pistol-grip deformity, femoral head-neck offset with an alpha angle $> 50^\circ$, a positive wall sign, acetabular retroversion [overcoverage with crossover sign]), coxa profunda or protrusion, or damage of the acetabular rim; AND

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- High probability of a causal association between the FAI morphology and damage (eg, a pistol-grip deformity with a tear of the acetabular labrum and articular cartilage damage in the anterosuperior quadrant); AND
- No evidence of advanced osteoarthritis, defined as Tonnis grade 2 or 3, or joint space of less than 2 mm; AND
- No evidence of severe (Outerbridge grade IV) chondral damage.

Treatment of FAI is considered **investigational** in all other situations.

POLICY GUIDELINES

If femoroacetabular impingement (FAI) morphology is identified, patients should be advised not to play aggressive sports. No more frequent than annual follow-up with magnetic resonance arthrography may be indicated for FAI morphology to evaluate cartilage changes before damage becomes severe. It should be noted that current imaging techniques limit the early identification of cartilage defects, whereas delay in the surgical correction of bony abnormalities may lead to disease progression to the point at which joint preservation is no longer appropriate. Confirmation of subtle FAI morphology may require 3-dimensional computed tomography. Some clinicians may also use local anesthetic injection into the joint to assist in confirming FAI pathology.

Treatment of FAI should be restricted to centers experienced in treating this condition and staffed by surgeons adequately trained in techniques addressing FAI. Because of the differing benefits and risks of open and arthroscopic approaches, patients should make an informed choice between the procedures.

Some patients may require a revision procedure if symptoms recur or persist. Published studies have indicated that all sources of impingement might not have been identified before surgery, and those that had might not have been adequately treated. The risk of additional surgical procedures can be reduced by intraoperative assessment of impingement after bone debridement and reshaping.

BENEFIT APPLICATION

Experimental or investigational procedures, treatments, drugs, or devices are not covered (See General Exclusion Section of brochure).

RATIONALE

Summary of Evidence

For individuals who are adults with asymptomatic FAI who receive FAI surgery, there is no direct evidence that the surgical treatment will prevent the development of OA. Relevant outcomes are symptoms, functional outcomes, health status measures, quality of life, and change in disease status. Indirect evidence consists of observational studies. In retrospective studies of patients with OA, the relevant outcomes were radiographic evidence of hip joint malformations. In prospective studies of patients with FAI, the relevant outcome is a progression to OA. Several large observational studies (>1000 patients), as well as smaller studies, have shown radiographic evidence of relationships between abnormal hip morphology and the development of OA. There have been no studies in which FAI surgery was performed on patients with FAI morphology but no symptoms. The evidence is insufficient to determine the effects of the technology on health outcomes.

For individuals who are adults with symptomatic FAI who receive FAI surgery, the evidence includes systematic reviews of large and small observational studies and a small randomized controlled trial. The relevant outcomes are symptoms, functional outcomes, health status measures, quality of life, and change in disease status. Open hip dislocation surgery and arthroscopic surgery are the most common

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surgical techniques performed on patients with FAI. Systematic reviews have evaluated open hip dislocation surgery and arthroscopic surgery, compared with no comparator, nonsurgical management, and other surgical techniques. Compared with nonsurgical management, all types of surgical techniques have resulted in significant improvements in functional outcomes, pain, and radiographic measurements. The reviews were limited when comparing surgical techniques with each other because patient characteristics and outcome measurements were heterogeneous among studies. The evidence is sufficient to determine the technology results in a meaningful improvement in the net health outcome.

For individuals who are children 15 years of age or younger with symptomatic FAI who receive FAI surgery, the evidence includes systematic reviews evaluating small observational studies and case series. Relevant outcomes are symptoms, functional outcomes, health status measures, quality of life, and change in disease status. While the studies reported reductions in pain and improvements in functional outcomes, the sample sizes were relatively small, with an average of 54 patients per study. The evidence is insufficient to determine the effects of the technology on health outcomes.

For individuals who are children 15 years of age or younger with slipped capital femoral epiphysis-associated FAI who receive FAI surgery, the evidence includes small observational studies (range, 19-51 patients). Relevant outcomes are symptoms, functional outcomes, health status measures, quality of life, and change in disease status. While most patients experienced symptom relief following FAI surgery, surgery-related complications (eg, nonunions) were reported. The evidence is insufficient to determine the effects of the technology on health outcomes.

For individuals who have residual FAI symptoms following a primary surgery who receive revision arthroscopic surgery, the evidence includes systematic reviews of observational studies (>400 patients). Relevant outcomes are symptoms, functional outcomes, health status measures, quality of life, and change in disease status. Though the studies were of low quality, consistent improvements in functional outcomes, pain relief, and patient satisfaction were reported, in some cases beyond three years. The evidence is sufficient to determine the technology results in a meaningful improvement in the net health outcome.

SUPPLEMENTAL INFORMATION

Practice Guidelines and Position Statements

National Institute for Health and Care Excellence

In 2011, the NICE issued guidance on arthroscopic femoroacetabular surgery for hip impingement syndrome.⁵⁰ NICE considered the evidence on the efficacy of arthroscopic femoroacetabular surgery for hip impingement syndrome to be adequate for symptom relief in the short and medium term.

NICE's 2011 guidance on open femoroacetabular surgery for hip impingement syndrome indicated that evidence for this procedure was adequate for symptom relief in the short and medium term.⁵¹ This guidance replaced IPG203.

U.S. Preventive Services Task Force Recommendations

Not applicable.

Medicare National Coverage

There is no national coverage determination (NCD). In the absence of an NCD, coverage decisions are left to the discretion of local Medicare carriers.

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POLICY HISTORY

Date	Action	Description
December 2011	New Policy	
December 2012	Update Policy	Policy updated and references added with literature review, policy statements unchanged.
September 2013	Update Policy	Policy updated with literature review, references added and reordered; age restriction on older adults removed; age restriction on pediatric patients clarified.
September 2014	Update Policy	Policy updated with literature review; references 13, 18, 40, 41 added; policy statements unchanged.
September 2015	Update Policy	Policy updated with literature review; references 4, 14, and 34 added. Policy statements unchanged
June 2017	Update Policy	Policy updated with literature review through February 23, 2017; references 1, 16, 27-28, 34, 38, 42, and 44 were added. Rationale section reorganized. Policy statements unchanged.
June 2018	Update Policy	Policy updated with literature review through March 8, 2018; references 18-19, 42, and 49 added. Minor edits to the Policy section; statements unchanged.

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