MASSACHUSETTS

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Medical Policy

Surgical Treatment of Femoroacetabular Impingement

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Policy Number: 145

BCBSA Reference Number: 7.01.118
NCD/LCD: N/A

Related Policies

- Hip Resurfacing, #046
- Surgery for Groin Pain in Athletes, #695

Policy

Commercial Members: Managed Care (HMO and POS), PPO, and Indemnity Medicare HMO Blue[SM] and Medicare PPO Blue[SM] Members

Open or arthroscopic treatment of femoroacetabular impingement (FAI) may be **MEDICALLY NECESSARY** when **ALL** the age, symptom and imaging conditions below have been met:

Age

- Candidates should be skeletally mature with documented closure of growth plates (e.g., 15 years or older).

Symptoms

- Moderate-to-severe hip pain that is worsened by flexion activities (e.g., 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 degrees of flexion and internal rotation and adduction of the femur).

Imaging

- Morphology indicative of cam or pincer-type FAI, e.g., pistol-grip deformity, femoral head-neck offset with an alpha angle greater than 50 degrees, a positive wall sign, acetabular retroversion (overcoverage with crossover sign), coxa profunda or protrusion, or damage of the acetabular rim, AND

- High probability of a causal association between the FAI morphology and damage, e.g., 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 II or III, or joint space of less than 2 mm, AND
- No evidence of severe (Outerbridge grade IV) chondral damage.

Treatment of femoroacetabular impingement in all other situations is **INVESTIGATIONAL.**

Prior Authorization Information

Inpatient

- For services described in this policy, precertification/preauthorization **IS REQUIRED** for all products if the procedure is performed **inpatient**.

Outpatient

- For services described in this policy, see below for products where prior authorization **might be required** if the procedure is performed **outpatient**.

	Outpatient
Commercial Managed Care (HMO and POS)	Prior authorization is **not required**.
Commercial PPO and Indemnity	Prior authorization is **not required**.
Medicare HMO Blue℠	Prior authorization is **not required**.
Medicare PPO Blue℠	Prior authorization is **not required**.

CPT Codes / HCPCS Codes / ICD Codes

Inclusion or exclusion of a code does not constitute or imply member coverage or provider reimbursement. Please refer to the member's contract benefits in effect at the time of service to determine coverage or non-coverage as it applies to an individual member.

Providers should report all services using the most up-to-date industry-standard procedure, revenue, and diagnosis codes, including modifiers where applicable.

CPT Codes

CPT codes:	Code Description
29914	Arthroscopy, hip, surgical; with femoroplasty (ie, treatment of cam lesion)
29915	Arthroscopy, hip, surgical; with acetabuloplasty (ie, treatment of pincer lesion)
29916	Arthroscopy, hip, surgical; with labral repair

Description

Femoroacetabular Impingement

Femoroacetabular impingement arises from an anatomic mismatch between the head of the femur and the acetabulum, causing compression of the labrum or articular cartilage during flexion. The mismatch can arise from subtle morphologic alterations in the anatomy or orientation of the ball-and-socket components (eg, a bony prominence at the head-neck junction or acetabular overcoverage), with articular cartilage damage initially occurring from abutment of the femoral neck against the acetabular rim, typically at the anterosuperior aspect of the acetabulum. Although hip joints can possess the morphologic features of femoroacetabular impingement without symptoms, femoroacetabular impingement may become pathologic with repetitive movement and/or increased force on the hip joint. High-demand activities may also result in pathologic impingement in hips with normal morphology.

Two types of impingement, cam, and pincer, may occur alone or, more frequently, together. Cam impingement is associated with an asymmetric or nonspherical contour of the head or neck of the femur jamming against the acetabulum, resulting in cartilage damage and delamination (detachment from the subchondral bone). Deformity of the head/neck junction that looks like a pistol-grip on radiographs is

associated with damage to the anterosuperior area of the acetabulum. Symptomatic cam impingement is found most frequently in young male athletes. Pincer impingement is associated with overcoverage of the acetabulum and pinching of the labrum, with pain more typically beginning in women of middle age. In cases of isolated pincer impingement, the damage may be limited to a narrow strip of the acetabular cartilage.

Epidemiologic and radiographic studies have found correlations between hip osteoarthritis and femoroacetabular impingement lesions, supporting the theory that prolonged contact between the anatomically mismatched acetabulum and femur may lead not only to cam and pincer lesions but also to further cartilage damage and subsequent joint deterioration. It is believed that osteoplasty of the impinging bone is needed to protect the cartilage from further damage and to preserve the natural joint. Therefore, if femoroacetabular impingement morphology is shown to be an etiology of osteoarthritis, a strategy to reduce the occurrence of idiopathic hip osteoarthritis could be early recognition and treatment of femoroacetabular impingement before cartilage damage and joint deterioration occurs.

An association between femoroacetabular impingement and athletic pubalgia, sometimes called sports hernia, has been proposed. Athletic pubalgia is an umbrella term for a large variety of musculoskeletal injuries involving attachments and/or soft tissue support structures of the pubis (see medical policy #695, Surgery for Groin Pain in Athletes).

Treatment

A technique for hip dislocation with open osteochondroplasty that preserved the femoral blood supply was reported by Ganz. Visualization of the entire joint with this procedure led to the identification and acceptance of femoroacetabular impingement as an etiology of cartilage damage and the possibility of correcting the abnormal femoroacetabular morphology. Open osteochondroplasty of bony abnormalities and treatment of the symptomatic cartilage defect is considered the criterion standard for complex bony abnormalities. However, open osteochondroplasty is invasive, requiring transection of the greater trochanter (separation of the femoral head from the femoral shaft) and dislocation of the hip joint to provide full access to the femoral head and acetabulum. In addition to the general adverse events of open surgical procedures, open osteochondroplasty with dislocation has been associated with nonunion and neurologic and soft tissue lesions.

Less invasive hip arthroscopy and an arthroscopy-assisted mini-approach were developed by 2004. Arthroscopy requires specially designed instruments and is considered technically more difficult due to reduced visibility and limited access to the joint space. Advanced imaging techniques, including computed tomography and fluoroscopy, have been used to improve visualization of the 3-dimensional head/neck morphology during arthroscopy.

Femoroacetabular impingement can also be a source of hip pain and decreased hip internal rotation in the pediatric population. When nonoperative management of femoroacetabular impingement in children and adolescents is ineffective, surgical procedures may be indicated. Surgical techniques include arthroscopy, open hip dislocation, limited open with arthroscopy, and osteotomy.

Slipped Capital Femoral Epiphysis

Patients with slipped capital femoral epiphysis have a displaced femoral head in relation to the femoral neck within the confines of the acetabulum, which can result in hip pain, thigh pain, knee pain, and the onset of a limp. Slipped capital femoral epiphysis occurs most frequently in children between the ages of 10 to 16. Upon reaching skeletal maturity patients diagnosed with slipped capital femoral epiphysis, 32% were found to have clinical signs of impingement. It is not uncommon for patients with slipped capital femoral epiphysis to develop premature osteoarthritis and require total hip arthroplasty within 20 years.

Treatment

The standard treatment for slipped capital femoral epiphysis is stabilization across the physis by in situ pinning. Alternative treatments proposed for pediatric patients with slipped capital femoral epiphysis related femoroacetabular impingement include osteoplasty without dislocation, or with the open dislocation technique described by Ganz. The Ganz technique (capital realignment with open dislocation)

is technically demanding, with a steep learning curve and a high-risk of complications, including avascular necrosis. Therefore, early treatment to decrease impingement must be weighed against the increased risk of adverse events.

Summary

Femoroacetabular impingement results from localized compression within the joint as a result of 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 but may be present in younger patients with developmental hip disorders. The objective of surgical treatment of femoroacetabular impingement is to provide symptom relief and reduce further joint damage.

For individuals who are adults with asymptomatic femoroacetabular impingement who receive femoroacetabular impingement surgery, there is no direct evidence that the surgical treatment will prevent the development of osteoarthritis. 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 osteoarthritis, the relevant outcomes were radiographic evidence of hip joint malformations. In prospective studies of patients with femoroacetabular impingement, the relevant outcome is progression to osteoarthritis. 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 osteoarthritis. There have been no studies in which femoroacetabular impingement surgery was performed on patients with femoroacetabular impingement 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 femoroacetabular impingement who receive femoroacetabular impingement surgery, the evidence includes systematic reviews of large and small observational studies and a small randomized controlled trial. 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 surgical techniques performed on patients with femoroacetabular impingement. 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 femoroacetabular impingement who receive femoroacetabular impingement 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 femoroacetabular impingement who receive femoroacetabular impingement 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 femoroacetabular impingement surgery, the surgery is invasive and complications (eg, nonunions) were reported. The evidence is insufficient to determine the effects of the technology on health outcomes.

For individuals who have residual femoroacetabular impingement 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.

Policy History

Date	Action
6/2020	BCBSA National medical policy review. Description, summary and references updated. Policy statements unchanged.
5/2019	BCBSA National medical policy review. Description, summary and references updated. Policy statements unchanged.
5/2018	New references added from BCBSA National medical policy. Background and summary clarified.
5/2017	New references added from BCBSA National medical policy.
7/2015	New references added from BCBSA National medical policy.
9/2014	New references added from BCBSA National medical policy.
11/1/2013	BCBSA National medical policy review. Age restriction on older adults removed; age restriction on pediatric patients clarified. Effective 11/1/2013.
11/2011-4/2012	Medical policy ICD 10 remediation: Formatting, editing and coding updates. No changes to policy statements.
6/2011	Medical Policy Group - Orthopedics, Rehabilitation and Rheumatology. No changes to policy statements.
7/2010	Medical Policy Group - Orthopedics, Rehabilitation Medicine and Rheumatology. No changes to policy statements.
12/1/09	Medical Policy 145 effective 12/1/09.

Information Pertaining to All Blue Cross Blue Shield Medical Policies

Click on any of the following terms to access the relevant information:
Medical Policy Terms of Use
Managed Care Guidelines
Indemnity/PPO Guidelines
Clinical Exception Process
Medical Technology Assessment Guidelines

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