

Policy terminated because Medicaid covers codes in the same manner as Health Choice. There has been no utilization of this service.

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1.0 Description of the Procedure, Product, or Service

Femoroacetabular impingement (FAI), a condition that has been recently recognized, is an anatomical mismatch between the head of the femur and the acetabulum resulting in 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 (for example, 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 FAI without symptoms, FAI 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, known as cam impingement and pincer impingement 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. It has been proposed that impingement with damage to the labrum and/or acetabulum is a causative factor in the development of hip osteoarthritis, and that as many as half of cases currently categorized as primary osteoarthritis may have an etiology of FAI.

Previously, access to the joint space was limited and treatment consisted primarily of debridement and/or labral reattachment. A technique for hip dislocation with open osteochondroplasty that preserved the femoral blood supply was reported by Ganz and colleagues in 2001. Visualization of the entire joint with this procedure led to the identification and acceptance of FAI as an etiology of cartilage damage (the association between abnormal femoral head/neck morphology and early-age-onset osteoarthritis had been described earlier by others) and the possibility of correcting the abnormal femoroacetabular morphology. Open osteochondroplasty of bony abnormalities and treatment of the symptomatic cartilage defect is considered the gold 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 effects of open surgical procedures, open osteochondroplasty with dislocation has been associated with non-union, and neurologic and soft tissue lesions. Less invasive hip arthroscopy and an arthroscopy-assisted mini-approach were adapted from the open approach by 2004. Arthroscopy requires specially designed instruments and is considered to be more technically difficult due to reduced visibility and limited access to the joint space. Advanced imaging techniques, including computed tomography and fluoroscopy, have been utilized to improve visualization of the 3-dimensional head/neck morphology during arthroscopy.

It is known that surgical treatment of FAI pathology is less effective for pain reduction in recipients with late stage osteoarthritis. In addition, delay in the surgical correction of bony abnormalities may lead to disease progression to the point where joint preservation is no longer appropriate. It is believed that osteoplasty of the impinging bone is needed to protect the cartilage from further damage and preserve the natural joint. If FAI morphology is shown to be an etiology of osteoarthritis, a future strategy to reduce the occurrence of idiopathic hip osteoarthritis could be early recognition and treatment of FAI before cartilage damage occurs.

2.0 Eligible Recipients

2.1 General Provisions

To be eligible, NCHC recipients must be enrolled on the date of service.

3.0 When the Procedure, Product, or Service Is Covered

3.1 General Criteria

NCHC covers procedures, products, and services related to this policy when they are medically necessary and

- a. the procedure, product, or service is individualized, specific, and consistent with symptoms or confirmed diagnosis of the illness or injury under treatment, and not in excess of the recipient's needs;
- b. the procedure, product, or service can be safely furnished, and no equally effective and more conservative or less costly treatment is available; **AND**
- c. the procedure, product, or service is furnished in a manner not primarily intended for the convenience of the recipient, the recipient's caretaker, or the provider.

3.2 Specific Criteria

Open or arthroscopic treatment of femoroacetabular impingement is covered under the NC Health Choice Program when it is determined to be medically necessary because all of the following conditions have been met:

- a. Age
 1. Adolescent recipients should be skeletally mature with documented closure of growth plates (e.g., 15 years or older).
 2. Adult recipients should be too young to be considered an appropriate candidate for total hip arthroplasty or other reconstructive hip surgery (e.g., younger than 55 years).
- b. Symptoms
 1. Moderate-to-severe hip pain that is worsened by flexion activities (e.g., squatting or prolonged sitting) that significantly limits activities;
 2. Unresponsive to conservative therapy for at least 3 months (including activity modifications, restriction of athletic pursuits and avoidance of symptomatic motion); **AND**

3. Positive impingement sign on clinical examination (pain elicited with 90 degrees of flexion and internal rotation and adduction of the femur).

c. Imaging

1. 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**
2. 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**
3. No evidence of advanced osteoarthritis, defined as Tonnis grade II or III, or joint space of less than 2 mm; **AND**
4. No evidence of severe (Outerbridge grade IV) chondral damage.

3.3 Policy Guidelines

If femoroacetabular impingement (FAI) morphology is identified, recipients should be advised not to play aggressive sports. No more frequent than annual follow-up with magnetic resonance (MR) 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-D 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, recipients should make an informed choice between the procedures.

The arthroscopic procedure was developed around 2004, therefore long-term follow-up is limited.

What can be ascertained from the current literature:

- a. Not all patients with FAI morphology will have FAI pathology.
- b. There is a high association between FAI pathology and idiopathic osteoarthritis, but this may represent a small proportion of the total cases of hip osteoarthritis.
- c. Patients may present with hip pain that can be diagnosed as FAI by a combination of clinical evaluation, radiographs, and MR arthrography.
- d. In cases in which there is a positive impingement test result, anterosuperior labral or acetabular damage identified on MR arthrography and a pistol-grip morphology identified on imaging, there is a very high probability that the acetabular damage is caused by impingement of the femoral head-neck junction against the acetabular rim. FAI can be verified intraoperatively.
- e. Repair of the labrum alone can improve symptoms in the short term. It is reasonable to expect that debridement/osteoplasty of the bump or bone spur would reduce

continued abrasion in the long term. Some studies, albeit of low quality, support this view.

- f. Treatment of FAI is most effective in younger patients without osteoarthritis (Tonnis grade 0 or I) or severe cartilage damage. Although osteoarthritis can be identified with plain film radiographs, articular damage is not always identified with current imaging techniques.
- g. There is a high probability that symptoms in recipients with osteoarthritis (Tonnis grade II or III, or joint space of less than 2 mm) or severe cartilage damage (Outerbridge grade IV) will not improve following osteoplasty. These recipients may require THA for progressing pain within 5 years.
- h. In large case series, arthroscopic treatment of FAI in young to middle-age recipients without osteoarthritis and showing mild to moderate cartilage damage results in 75% to 85% of recipients improved.
- i. Smaller case series suggest that open treatment of FAI in young to middle-age recipients with moderate to severe cartilage damage results in 50% to 70% of recipients improved. Non-union has been reported to occur in 27% of recipients following the transection of the great trochanter with hip dislocation.

What cannot be ascertained from the literature:

- a. It is not known whether arthroscopic or open approaches result in better net health outcomes when patients are matched for severity of FAI morphology and articular cartilage damage.
- b. It is not known whether patients with FAI morphology are more likely to have osteoarthritis than those without FAI morphology.
- c. It is not known which patients with FAI morphology are most likely to progress to osteoarthritis. The progression of pincer impingement with damage initially restricted to the labrum may follow a different time course than cam-type impingement.
- d. It is not known whether treatment of FAI will reduce the occurrence of osteoarthritis.

Based on 1) the intraoperatively established relationship between FAI morphology and damage to the acetabulum; 2) the consistent improvement in symptoms reported in large prospective case series; and 3) the potential for continued and irreparable cartilage damage if FAI pathology is not addressed, it may be considered medically necessary to debride the bone at the same time that the labrum and/or articular cartilage is being repaired when specific criteria are met. This conclusion is supported by clinical input from physician specialty societies and academic medical centers. Because of the differing benefits and risks of open and arthroscopic approaches, patients should make an informed choice. Also, treatment of FAI should be restricted to centers experienced in treating this condition and staffed by surgeons adequately trained to techniques addressing FAI.

4.0 When the Procedure, Product, or Service Is Not Covered

4.1 General Criteria

Procedures, products, and services related to this policy are not covered when

- a. the recipient does not meet the eligibility requirements listed in **Section 2.0**;
- b. the recipient does not meet the medical necessity criteria listed in **Section 3.0**;

- c. the procedure, product, or service unnecessarily duplicates another provider's procedure, product, or service; or
- d. the procedure, product, or service is experimental or investigational.

4.2 Specific Criteria

Arthroscopic surgery for femoroacetabular impingement is considered investigational in all other situations.

5.0 Requirements for and Limitations on Coverage

5.1 Prior Approval

Prior approval is not required for arthroscopic surgery for femoroacetabular impingement.

6.0 Providers Eligible to Bill for the Procedure, Product, or Service

To be eligible to bill for procedures, products, and services related to this policy, providers shall

- a. meet NCHC qualifications for participation;
- b. be currently enrolled with NCHC; **AND**
- c. bill only for procedures, products, and services that are within the scope of their clinical practice, as defined by the appropriate licensing entity.

7.0 Additional Requirements

7.1 Compliance

Providers must comply with all applicable federal, state, and local laws and regulations, including the Health Insurance Portability and Accountability Act (HIPAA) and record retention requirements.

8.0 Policy Implementation/Revision Information

Original Effective Date: July 1, 2010

Revision Information:

Date	Section Revised	Change
July 1, 2010	Throughout	Policy Conversion: Implementation of Session Law 2009-451, Section 10.32 "NC HEALTH CHOICE/PROCEDURES FOR CHANGING MEDICAL POLICY."
February 29, 2012	Throughout	Policy Termination

Attachment A: Claims-Related Information

Reimbursement requires compliance with all NCHC guidelines.

A. Claim Type

Professional (CMS-1500/837P transaction)

Institutional (UB-04/837I transaction)

B. Diagnosis Codes

Providers must bill the ICD-9-CM diagnosis codes(s) to the highest level of specificity that supports medical necessity.

C. Procedure Code(s)

No specific code.

This service may be submitted in the form of an unlisted procedure code(s) such as 27299 or 29999. Codes such as 29861, 29862, 29863 and 27151 may also be used.

Claims submitted will suspend for medical review.

D. Modifiers

Providers are required to follow applicable modifier guidelines.

E. Billing Units

The appropriate procedure code(s) used determines the billing unit(s).

F. Place of Service

Inpatient Hospital, Outpatient Hospital and Ambulatory Surgical Center

G. Co-payments

Co-payment(s) may apply to covered prescription drugs and services.

H. Reimbursement

Providers must bill their usual and customary charges.