*National Imaging Associates, Inc.	
Clinical guidelines: **HIP ARTHROSCOPY**	**Original Date: November 2015**
CPT Codes:** - **Femoroacetabular Impingement (FAI) Hip Surgery: 29914, 29915, 29916** - **Hip Surgery – Other: 29860, 29861, 29862, 29863** ***See UM Matrix for allowable billed groupings and additional covered codes*	**Last Revised Date: December~~May~~ 2023**
Guideline Number: NIA_CG_314	**Implementation Date: July~~anuary~~ 2024**

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GENERAL INFORMATION

It is an expectation that all patients receive care/services from a licensed clinician. All appropriate supporting documentation, including recent pertinent office visit notes, laboratory data, and results of any special testing must be provided. If applicable: All prior relevant imaging results and the reason that alternative imaging cannot be performed must be included in the documentation submitted.

STATEMENT

Purpose

This guideline addresses the following elective, non-emergent, arthroscopic hip repair procedures, including, diagnostic arthroscopy, femoroacetabular impingement (FAI), labral repair only; CAM, pincer, CAM & pincer combined; synovectomy, biopsy, or removal of loose or foreign body.

Scope

Open, non-arthroplasty hip repair surgeries are performed as dictated by the type and severity of injury and/or disease.

Surgical indications are based on relevant clinical symptoms, physical exam, radiologic findings, and response to non-operative, conservative management when medically appropriate.

See Legislative Requirements for specific mandates for the State of Washington

General Requirements

Elective arthroscopic surgery of the hip may be considered if the following general criteria are met:

- There is clinical correlation of the individual's subjective complaints with objective exam findings and/or imaging (when applicable)
- Individual has limited function (age-appropriate activities of daily living [ADLs], occupational, athletic)
- ~~Individual is medically stable with no uncontrolled comorbidities~~ Individual is medically stable and optimized for surgery, and any treatable comorbidities are adequately medically managed such as diabetes, nicotine addiction, or an excessively high BMI. There should also be a shared decision between the patient and physician to proceed with arthroscopic hip surgery when comorbidities exist as it pertains to the increased risk of complications.
- Individual does not have an active local or systemic infection

- Individual does not have active, untreated drug dependency (including but not limited to narcotics, opioids, muscle relaxants) unless engaged in treatment program

Clinical notes should address:

- Symptom onset, duration, and severity
- Loss of function and/or limitations
- Type and duration of non-operative management modalities (where applicable).

Non-operative management must include **TWO** or more of the following, unless otherwise specified:

- Physical therapy or properly instructed home exercise program
- Rest or activity modification
- Ice/Heat
- Protected weight bearing
- Pharmacologic treatment: oral/topical NSAIDS, acetaminophen, analgesics
- Brace/orthosis
- Weight optimization
- Corticosteroid injections

INDICATIONS

Diagnostic or operative arthroscopy of the hip may be medically necessary when performed in conjunction with **periacetabular osteotomy (PAO)** [1, 2, 3]~~1, 2~~

OR

As indicated in the following sections:

Diagnostic Hip Arthroscopy

All requests for diagnostic hip arthroscopy will be considered and decided on a case-by-case basis and are rarely deemed medically necessary.

Diagnostic hip arthroscopy may be medically necessary when **ALL** of the following criteria are met:

- At least 6 months of hip pain with documented loss of function
- Failure of at least 12 weeks of non-operative treatment, including at least **two** of the following:
    - Rest or activity modifications/limitations
    - Ice/heat
    - Protected weight bearing

    - Pharmacologic treatment: oral/topical NSAIDS, acetaminophen, analgesics, tramadol
    - Brace/orthosis
    - Physical therapy or properly instructed home exercise program
    - Weight optimization
    - Corticosteroid injection
- Indeterminate radiographs **AND** MRI findings

Individual must have **no radiographic findings of any of the following**:

- Significant arthritis (joint space less than 2 mm on X-ray or subchondral edema on MRI)
- Femoroacetabular impingement (non-spherical femoral head or prominent head-neck junction (pistol-grip deformity), alpha angle > 50 degrees, overhang of the anterolateral rim of the acetabulum, posterior wall sign, prominent ischial spine sign, acetabular protrusion, or retroversion with a center edge (CE) angle > 35° and/or cross-over sign) [4]
- Hip dysplasia (lateral center edge angle < 20 degrees, anterior center edge angle < 20 degrees, Tönnis angle > 15 degrees or femoral head extrusion index > 25%), unless combined with concomitant periacetabular osteotomy [1, 2]~~1, 2~~
- Fractures of the femoral head or acetabulum
- Labral tear (on MRI or MR arthrogram)
- Pigmented villonodular synovitis (PVNS) or synovial chondromatosis
- Intra-articular loose body
- Adductor tear or hamstring tear
- Pubic edema or osteitis pubis
- Gluteus medius or minimus tear
- Ischiofemoral impingement (narrowed ischiofemoral and quadratus femoris spaces)

Labral Tears and Femoroacetabular Impingement (FAI)

Labral Repair

Arthroscopic labral repair may be medically necessary when **ALL** of the following criteria are met: [4, 5, 1]

- Hip or groin pain in positions of flexion and rotation that may be associated with mechanical symptoms of locking, popping, or catching
- Positive provocative test on physical exam with pain at the hip joint with flexion, adduction, and internal rotation (FADIR test)
- Acetabular labral tear on MRI, with or without intra-articular contrast
- Failure of at least 6 weeks of non-operative treatment, including at least **two** of the following:

- Physical therapy or properly instructed home exercise program
- Rest or activity modification
- Ice/heat
- Protected weight bearing
- Pharmacologic treatment: oral/topical NSAIDS, acetaminophen, analgesics
- Weight optimization
- Corticosteroid injection

- No evidence of significant hip joint arthritis, defined as joint space narrowing 2 mm or less[3-6] or Tönnis grade 3[7-11] [see Grading Appendix]. Weight-bearing X-rays are not required[12].

NOTE: Arthroscopy of the hip for labral repair is considered not medically necessary in the presence of significant hip joint arthritis (joint space narrowing 2 mm or less[3-5] or a Tönnis grade 3) [see Grading Appendix], [5, 13, 14] or dysplasia [see Grading Appendix] unless combined with concomitant periacetabular osteotomy. [4, 1, 5] [1, 2]

CAM, Pincer, Combined CAM & Pincer Repair

Arthroscopic CAM, pincer or combined CAM and pincer repair may be medically necessary when **ALL** of the following criteria are met: [4, 1, 5, 6]

- Positional hip pain
- Failure of at least 6 weeks of non-operative treatment, including **at least two** of the following[15-17]: [7]
  - Physical therapy or properly instructed home exercise program
  - Rest or activity modification
  - Ice/heat
  - Protected weight bearing
  - Pharmacologic treatment: oral/topical NSAIDS, acetaminophen, analgesics
  - Weight optimization
  - Corticosteroid injection
- Positive impingement sign on physical exam (hip or groin pain with flexion, adduction, and internal rotation (FADIR test) [8][18]
- **ANY** of the following radiograph, CT and/or MRI findings of FAI:
  - Non-spherical femoral head or prominent head-neck junction (pistol-grip deformity) with alpha angle > 50 degrees indicating CAM impingement [see radiographic measurement appendix][19, 20]
  - Overhang of the anterolateral rim of the acetabulum, posterior wall sign, prominent ischial spine sign, acetabular protrusion, or retroversion with a center edge (CE) angle > 35° and/or cross-over sign indicating pincer deformity [see radiographic measurement appendix]
  - Combination of CAM and pincer criteria

- No evidence of significant hip joint arthritis, defined as joint space narrowing 2 mm or less[3-6] or a Tönnis Grade 3 [see Grading Appendix] [9][5, 7, 8, 13, 14, 21]
- Skeletally mature patient [partial or complete closure of the proximal femoral physis][22]
- BMI < 40* [10][23, 24]
- Radiographic images show no evidence of severe or advanced hip dysplasia [see Grading Appendix] unless combined with concomitant periacetabular osteotomy**[1, 2]

*Individuals with a BMI > 40 will be reviewed on a case-by-case basis.

Additional Notes:

There is no evidence to support hip arthroscopy for FAI and/or labral tear in an asymptomatic individual and there is a high prevalence of abnormal radiographs found in asymptomatic individuals [11][26-28]: 33% of asymptomatic hips have a cam lesion, 66% of asymptomatic hips have a pincer lesion, and 68% of asymptomatic hips have a labral tear. [4, 3]

**Even though hip dysplasia, as well as symptomatic FAI and labral tears are believed to be precursors to hip arthritis,[29] arthroscopy is not indicated solely for the treatment of osteoarthritis of the hip[5, 13, 14] and rarely indicated for severe dysplasia, unless combined with concomitant periacetabular osteotomy.[1, 2] However, individuals with borderline dysplasia (lateral center-edge angle [LCEA], 18° to 25°)[30], that require arthroscopic procedures appear to do as well as those with no evidence of dysplasia. [4, 2, 5][30-32]

Recent literature has demonstrated that individuals who undergo hip arthroscopy for femoroacetabular impingement syndrome and have an unrepaired capsule have lower functional outcome scores, achievement of meaningful outcomes, success rates, as well as greater failure rates and reported pain when compared with individuals who have complete capsular closure. [12, 13][33-35]

Arthroscopy for Synovectomy, Biopsy, or Removal of Loose or Foreign Body

Arthroscopic synovectomy, biopsy, removal of loose or foreign body, or a combination of these procedures may be medically necessary when the following criteria are met: [1]

- X-ray, MRI, or CT evidence of acute post-traumatic intra-articular foreign body or displaced fracture fragment[36, 37];

OR

- When **ALL** of the following criteria are met:

- Hip pain associated with grinding, catching, locking, or popping
- Physical examination demonstrates painful range of motion of the hip
- Failure of at least 12 weeks of non-operative treatment, including at least **two** of the following:
  - Physical therapy or properly instructed home exercise program
  - Rest or activity modification
  - Ice/heat
  - Protected weight bearing
  - Pharmacologic treatment: oral/topical NSAIDS, acetaminophen, analgesics
  - Weight optimization
  - Corticosteroid injection
- Radiographs, CT, and/or MRI demonstrate synovial proliferation, calcifications, nodularity, inflammation, pannus, or a loose body.

LEGISLATIVE REQUIREMENTS

State of Washington

- **Washington State Health Care Authority Technology Assessment 20191122B – Hip surgery for femoroacetabular impingement syndrome** [14]
  - **HTCC Coverage Determination**
    - **Hip surgery for femoroacetabular impingement syndrome is not a covered benefit**
  - **HTCC Reimbursement Determination**
    - **Limitations of Coverage**
      - **Not applicable**
    - **Non-Covered Indicators**
      - **Hip surgery for femoroacetabular impingement syndrome**

BACKGROUND

~~This guideline addresses the following elective, non-emergent, arthroscopic hip repair procedures, including, diagnostic arthroscopy, femoroacetabular impingement (FAI), labral repair only; CAM, pincer, CAM & pincer combined; synovectomy, biopsy, or removal of loose or foreign body.~~

~~Arthroscopy introduces a fiber-optic camera into the hip joint through a small incision for diagnostic visualization purposes. This camera may also be used in the surrounding extra-~~

~~articular areas, in a procedure called endoscopy. Other instruments may then be introduced to remove, repair, or reconstruct joint pathology.~~

~~Open, non-arthroplasty hip repair surgeries are performed as dictated by the type and severity of injury and/or disease.~~

~~Surgical indications are based on relevant clinical symptoms, physical exam, radiologic findings, and response to non-operative, conservative management when medically appropriate.~~

~~**OVERVIEW**~~

Femoroacetabular Impingement (FAI)[~~5, 14, 38-43~~]

FAI is a condition characterized by a mechanical impingement between the proximal femur/femoral head (cam) and/or the acetabulum (pincer) that may result in labral injury (labral tear) or articular cartilage injury (chondral defect, arthritis). Up to 95% of labral tears are observed in the presence of FAI and "isolated" labral tears are very uncommon (as are labral tears caused by trauma). [15][~~44, 45~~] Labral repair (compared with labral debridement) and capsular closure (compared with unrepaired capsulotomy) are associated with a lower risk of conversion to arthroplasty. [13][~~33-35~~]

CAM, Pincer, Combined CAM & Pincer Repair

Technically not a repair, this procedure involves bony decompression, shaving, osteoplasty, femoroplasty, acetabuloplasty, and/or osteochondroplasty. Greater than 95% of labral repairs should be performed with at least a femoral osteoplasty or an acetabuloplasty. For persistent symptoms, FAI surgery appears to be more successful than physical therapy and activity modification [16][~~46~~] and has been shown to be effective in returning athletes to their sport. [~~47, 48~~]

Grading Appendix

Tönnis Classification of Osteoarthritis by Radiographic Changes [17]

Grade	Description
0	No signs of osteoarthritis
1	Mild: Increased sclerosis, slight narrowing of the joint space, no or slight loss of head sphericity
2	Moderate: Small cysts, moderate narrowing of the joint space moderate loss of head sphericity
3	Severe: Large cysts, severe narrowing or obliteration of the joint space, severe deformity of the head

Hip Dysplasia

Defined as any of the following criteria: [4, 2, 5]

- Lateral center edge angle < 20 degrees
- Anterior center edge angle < 20 degrees
- Tönnis angle > 15 degrees
- Femoral head extrusion index > 25%
- Borderline dysplasia (lateral center-edge angle [LCEA], 18° to 25°)

Radiographic Measurement Appendix [18]~~49~~

Alpha Angle

- Alpha angle was measured on the AP pelvis and Dunn 45° radiographs. First, a Mose circle was placed around the circumference of the femoral head. A line was drawn from the center of the femoral head down the center of the femoral neck. A line was then drawn connecting the center of the femoral head to the point of the Mose circle where the head goes out of round. The angle bisecting these two lines was the alpha angle
    - An alpha angle of 55° (Dunn 45°) or greater or an alpha angle of 50° (AP pelvis) was defined as cam morphology

Femoral Head Extrusion

- Femoral head extrusion index was measured as the proportion (%) of laterally uncovered femoral head versus the femoral head (horizontal distance)
    - A femoral head extrusion index greater than 25% defined dysplasia

Global Acetabular Retroversion

- Global acetabular retroversion was defined by the presence of a prominent ischial spine sign or posterior wall sign
    - Prominent ischial spine sign: Visible ischial spine medial to the iliopectineal line on AP pelvis radiograph
    - Posterior wall sign: Center of the femoral head lateral to the posterior wall of the acetabulum

Lateral Center Edge Angle

- Lateral center edge angle was measured after multiple lines were drawn on the AP pelvis radiograph. First, a Moses circle was placed around the circumference of the

femoral head. Next, a line was drawn connecting the ischial tuberosities. A perpendicular line was then drawn up through the center of the femoral head from the ischial tuberosity line. Then, a line was drawn from the center of the femoral head to the most lateral aspect of the sourcil. The angle bisecting the latter two lines was the lateral center edge angle

- A lateral center edge angle less than 20° defines dysplasia, 20 to 25° borderline dysplasia, 26 to 39° normal, and greater than 40° lateral over coverage pincer impingement
- Lateral over coverage was defined as a lateral center edge angle greater than 40°.

POLICY HISTORY

Date	Summary
December 2023	• Legislative Requirements added for the State of Washington • Added table of contents • Reduced background section • Updated references
May 2023	• Updated references for Femoroacetabular Impingement (FAI)
May 2022	• Updated references • Removal of sections pertaining to extra-articular (Endoscopic) and articular cartilage restoration procedures (CPT codes have not been assigned to these procedures that currently use unlisted procedure codes). • Clarified: Significant arthritis (joint space less than 2 mm *on X-ray* or subchondral edema *on MRI*) • Replaced “patient” with “individual” where appropriate

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ADDITIONAL RESOURCES

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