CLINICAL APPROPRIATENESS GUIDELINES

MUSCULOSKELETAL PROGRAM

Appropriate Use Criteria: Joint Surgery

ARCHIVED JANUARY 1, 2021 for Commercial and Medicare members

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Proprietary

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Description and Application of the Guidelines

The AIM Clinical Appropriateness Guidelines (hereinafter "the AIM Clinical Appropriateness Guidelines" or the "Guidelines") are designed to assist providers in making the most appropriate treatment decision for a specific clinical condition for an individual. As used by AIM, the Guidelines establish objective and evidence-based criteria for medical necessity determinations where possible. In the process, multiple functions are accomplished:

- To establish criteria for when services are medically necessary
- To assist the practitioner as an educational tool
- To encourage standardization of medical practice patterns
- To curtail the performance of inappropriate and/or duplicate services
- To advocate for patient safety concerns
- To enhance the quality of health care
- To promote the most efficient and cost-effective use of services

The AIM guideline development process complies with applicable accreditation standards, including the requirement that the Guidelines be developed with involvement from appropriate providers with current clinical expertise relevant to the Guidelines under review and be based on the most up-to-date clinical principles and best practices. Relevant citations are included in the References section attached to each Guideline. AIM reviews all of its Guidelines at least annually.

AIM makes its Guidelines publicly available on its website twenty-four hours a day, seven days a week. Copies of the AIM Clinical Appropriateness Guidelines are also available upon oral or written request. Although the Guidelines are publicly-available, AIM considers the Guidelines to be important, proprietary information of AIM, which cannot be sold, assigned, leased, licensed, reproduced or distributed without the written consent of AIM.

AIM applies objective and evidence-based criteria, and takes individual circumstances and the local delivery system into account when determining the medical appropriateness of health care services. The AIM Guidelines are just guidelines for the provision of specialty health services. These criteria are designed to guide both providers and reviewers to the most appropriate services based on a patient's unique circumstances. In all cases, clinical judgment consistent with the standards of good medical practice should be used when applying the Guidelines. Guideline determinations are made based on the information provided at the time of the request. It is expected that medical necessity decisions may change as new information is provided or based on unique aspects of the patient's condition. The treating clinician has final authority and responsibility for treatment decisions regarding the care of the patient and for justifying and demonstrating the existence of medical necessity for the requested service. The Guidelines are not a substitute for the experience and judgment of a physician or other health care professionals. Any clinician seeking to apply or consult the Guidelines is expected to use independent medical judgment in the context of individual clinical circumstances to determine any patient's care or treatment.

The Guidelines do not address coverage, benefit or other plan specific issues. Applicable federal and state coverage mandates take precedence over these clinical guidelines. If requested by a health plan, AIM will review requests based on health plan medical policy/guidelines in lieu of the AIM Guidelines.

The Guidelines may also be used by the health plan or by AIM for purposes of provider education, or to review the medical necessity of services by any provider who has been notified of the need for medical necessity review, due to billing practices or claims that are not consistent with other providers in terms of frequency or some other manner.

General Clinical Guideline

Clinical Appropriateness Framework

Critical to any finding of clinical appropriateness under the guidelines for a specific diagnostic or therapeutic intervention are the following elements:

- Prior to any intervention, it is essential that the clinician confirm the diagnosis or establish its pretest likelihood based on a complete evaluation of the patient. This includes a history and physical examination and, where applicable, a review of relevant laboratory studies, diagnostic testing, and response to prior therapeutic intervention.
- The anticipated benefit of the recommended intervention should outweigh any potential harms that may result (net benefit).
- Current literature and/or standards of medical practice should support that the recommended intervention offers the greatest net benefit among competing alternatives.
- Based on the clinical evaluation, current literature, and standards of medical practice, there exists a reasonable likelihood that the intervention will change management and/or lead to an improved outcome for the patient.

If these elements are not established with respect to a given request, the determination of appropriateness will most likely require a peer-to-peer conversation to understand the individual and unique facts that would supersede the requirements set forth above. During the peer-to-peer conversation, factors such as patient acuity and setting of service may also be taken into account.

Simultaneous Ordering of Multiple Diagnostic or Therapeutic Interventions

Requests for multiple diagnostic or therapeutic interventions at the same time will often require a peer-to-peer conversation to understand the individual circumstances that support the medical necessity of performing all interventions simultaneously. This is based on the fact that appropriateness of additional intervention is often dependent on the outcome of the initial intervention.

Additionally, either of the following may apply:

- Current literature and/or standards of medical practice support that one of the requested diagnostic or therapeutic interventions is more appropriate in the clinical situation presented; or
- One of the diagnostic or therapeutic interventions requested is more likely to improve patient outcomes based on current literature and/or standards of medical practice.

Repeat Diagnostic Intervention

In general, repeated testing of the same anatomic location for the same indication should be limited to evaluation following an intervention, or when there is a change in clinical status such that additional testing is required to determine next steps in management. At times, it may be necessary to repeat a test using different techniques or protocols to clarify a finding or result of the original study.

Repeated testing for the same indication using the same or similar technology may be subject to additional review or require peer-to-peer conversation in the following scenarios:

- Repeated diagnostic testing at the same facility due to technical issues
- Repeated diagnostic testing requested at a different facility due to provider preference or quality concerns
- Repeated diagnostic testing of the same anatomic area based on persistent symptoms with no clinical change, treatment, or intervention since the previous study
- Repeated diagnostic testing of the same anatomic area by different providers for the same member over a short period of time

Repeat Therapeutic Intervention

In general, repeated therapeutic intervention in the same anatomic area is considered appropriate when the prior intervention proved effective or beneficial and the expected duration of relief has lapsed. A repeat intervention requested prior to the expected duration of relief is not appropriate unless it can be confirmed that the prior intervention was never administered.

Shoulder Arthroplasty (Total/Partial/Revision Shoulder Replacement)

Description and Scope

Shoulder arthroplasty includes several procedures to replace components of the shoulder joint, in part or in total, with the goal of improving function and reducing pain. Prosthetic replacement of the humeral head and the glenoid (total arthroplasty) is most commonly performed for joint damage due to osteoarthritis. Total shoulder arthroplasty requires an intact medial glenoid to support the glenoid prosthesis.

Reverse shoulder arthroplasty is similar in that both components of the joint are replaced but ball and socket portions of the joint are reversed, allowing the deltoid muscle to assume partial function of the rotator cuff. This procedure is typically utilized when there is concomitant rotator cuff disease.

When the medial glenoid is damaged by erosions such that a glenoid prosthesis cannot be adequately supported, then hemiarthroplasty is typically the procedure of choice. Here, only the humeral head is replaced with an artificial component. This procedure requires that the glenoid fossa be relatively free of disease.

This guideline addresses shoulder arthroplasty when performed as an **elective, non-emergent** procedure and not as part of the care of a congenital condition, acute or traumatic event such as fracture (excluding fracture of implant and periprosthetic fracture).

Clinical Indications

The following general requirements apply to all indications except where they differ from the specific requirements. The specific requirements take precedence over any stated general requirement.

General Requirements

Documentation supporting medical necessity should be submitted at the time of the request and must include the following components:

Clinical notes describing symptom duration and severity, specific functional limitations related to symptoms, and type and duration of all therapeutic measures provided. If conservative management is not appropriate, the reason must be clearly documented.

Conservative management should include a combination of strategies to reduce inflammation, alleviate pain, and improve function, including requirements for physical therapy AND at least one complementary conservative management strategy.

Physical therapy requirement includes ANY of the following:

- Physical therapy
- Physician or physical therapist-supervised home treatment program which may include flexibility and muscle strengthening exercises
- Exception to the physical therapy requirement in unusual circumstances (for instance, intractable pain so severe that physical therapy is not possible) when clearly documented in the medical record

Complementary conservative management requirement includes ANY of the following:

- Complementary alternative medicine including, but not limited to, chiropractic care, acupuncture, cognitive behavioral or massage therapy
- Anti-inflammatory medications and analgesics
- Intraarticular corticosteroid injection(s)

Documentation of compliance with a plan of therapy that includes elements from these areas is required where conservative management is appropriate.

Reporting of symptom severity – Severity of pain and its associated impact on activities of daily living (ADLs) and instrumental ADLs (IADLs) are key factors in determining the need for intervention. For purposes of this guideline, significant pain and functional impairment refer to pain that is at least 3 out of 10 in intensity and is associated with inability to perform at least two (2) ADLs and/or IADLs.

Reports of imaging studies obtained within the past 12 months describing the degree of cartilage damage as determined by EITHER or BOTH of the following methods:

- X-ray report that utilizes or can be correlated with the Kellgren-Lawrence grading system of osteoarthritis
- MRI report from a radiologist that utilizes or can be correlated with the modified Outerbridge or similar classification system related to articular cartilage injury and osteoarthritis

*See **Appendix** for a description of these grading systems.*

The provider shall submit a detailed and specific imaging report that correlates with clinical findings of the requested procedure. In the absence of the detailed report, the provider will be required to submit a report from an independent radiologist. The results of all imaging studies should correlate with the clinical findings in support of the requested procedure.

Imaging reports should be thorough and describe the presence or absence of subchondral cysts, subchondral sclerosis, periarticular osteophytes, joint subluxation, avascular necrosis or bone on bone articulations. The degree of joint space narrowing should also be noted.

Tobacco cessation – Adherence to a tobacco-cessation program resulting in abstinence from tobacco for at least 6 weeks prior to surgery is recommended.

Diabetes – It is recommended that a patient with history of diabetes maintain a hemoglobin A1C of 8% or less prior to any joint replacement surgery.

Body mass index (BMI) – It is recommended that any patient with a BMI equal to or greater than 40 attempt weight reduction prior to surgery.

Specific Requirements

ALL of the following conditions must be present, regardless of the indication for which the procedure is being performed:

- Anticipated level of function should place limited demands on the shoulder joint
- Deltoid muscle must be intact
- Shoulder joint must be anatomically and structurally suited to receive selected implants (i.e., adequate bone stock to allow for firm fixation of implant)

Total Shoulder Arthroplasty or Hemiarthroplasty

Total shoulder arthroplasty or hemiarthroplasty may be considered medically necessary for EITHER of the following indications:

- Malignancy involving the glenohumeral joint or surrounding soft tissue
- Advanced joint disease of the shoulder due to osteoarthritis, rheumatoid arthritis, avascular necrosis, or post-traumatic arthritis when ALL of the following requirements are met:
    - Limited range of motion or crepitus of the glenohumeral joint on physical examination
    - Pain and loss of function of at least 6 months' duration that interferes with daily activities
    - Radiographic evidence of destructive degenerative joint disease as evidenced by 2 or more of the following:
        - Irregular joint surfaces
        - Glenoid sclerosis

        - Osteophyte changes
        - Flattened glenoid
        - Cystic changes in the humeral head
        - Joint space narrowing
    - Failure of conservative management of at least 6 weeks' duration

Hemiarthroplasty

Hemiarthroplasty may be considered as an option for EITHER of the following indications:

- Proximal humerus fracture not amenable to internal fixation
- Advanced joint disease of the shoulder when criteria are met for total shoulder arthroplasty AND at least one of the following conditions is present:
    - Osteonecrosis of the humeral head without glenoid involvement
    - Advanced joint disease due to rotator cuff tear arthropathy
    - Glenoid bone stock inadequate to support a glenoid prosthesis

Reverse Shoulder Arthroplasty

Reverse shoulder arthroplasty may be considered medically necessary for the following indications:

- Reconstruction after a tumor resection
- Glenohumeral osteoarthritis with irreparable rotator cuff tear
- Failed hemiarthroplasty
- Failed total shoulder arthroplasty with non-repairable rotator cuff
- Shoulder fracture that is not repairable or cannot be reconstructed with other techniques
- Advanced joint disease of the shoulder when criteria are met for total shoulder arthroplasty AND the following condition is present:
    - Deficient rotator cuff and limited ability to actively flex the upper extremity to 90 degrees against gravity

Revision or Replacement of a Shoulder Prosthesis

Revision or replacement of a shoulder prosthesis may be considered medically necessary for ANY of the following conditions, when associated with pain and functional impairment:

- Aseptic loosening of one or more prosthetic components confirmed by imaging
- Fracture of one or more components of the prosthesis confirmed by imaging
- Periprosthetic infection confirmed by gram stain and culture
- Instability of the glenoid or humeral components
- Migration of the humeral head

Contraindications

(All arthroplasty procedures)

- Active infection of the joint
- Active systemic bacteremia

- Active skin infection (exception recurrent cutaneous staph infections) or open wound within the planned surgical site of the shoulder
- Rapidly progressive neurologic disease
- Intraarticular corticosteroid injection within the past 6 weeks in the joint being replaced

Exclusions

(For total shoulder arthroplasty or hemiarthroplasty)

Indications other than those addressed in this guideline are considered **not medically necessary** including, but not limited to, the following:

- Glenohumeral osteoarthritis with irreparable rotator cuff tear (see **Reverse Arthroplasty** indications)
- Total shoulder arthroplasty or hemiarthroplasty under conditions which would result in excessive stress on the implant, including but not limited to Charcot joint and paralytic conditions of the shoulder

Selected References

1. American Academy of Orthopedic Surgeons, The treatment of glenohumeral joint osteoarthritis, (2009) Rosemont IL, 201 pgs.
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4. Rasmussen JV. Outcome and risk of revision following shoulder replacement in patients with glenohumeral osteoarthritis. Acta orthopaedica Supplementum. 2014;85(355):1-23.
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Codes

The following code list may not be all-inclusive. Specific CPT codes for services should be used when available. Nonspecific or not otherwise classified codes may be subject to additional documentation requirements and review.

CPT/HCPCS

23470 .....Arthroplasty, glenohumeral joint; hemiarthroplasty

23472 .....Arthroplasty, glenohumeral joint; total shoulder (glenoid and proximal humeral replacement (e.g., total shoulder))

23473 .....Revision of total shoulder arthroplasty, including allograft when performed; humeral or glenoid component

23474 .....Revision of total shoulder arthroplasty, including allograft when performed; humeral and glenoid component

Shoulder Arthroscopy and Open Procedures

Description and Scope

Arthroscopy is a surgical procedure in which a small fiberoptic camera is inserted into the joint through a small incision. In addition to allowing the surgeon to visualize the joint, arthroscopy may also be utilized for treatment of a variety of conditions involving the joint structures.

This guideline addresses shoulder arthroscopy and open procedures when performed as an **elective, non-emergent procedure** and not as part of the care of an acute fracture.

Clinical Indications

The following general requirements apply to all indications except where they differ from the specific requirements. The specific requirements take precedence over any stated general requirement.

General Requirements

Documentation supporting medical necessity should be submitted at the time of the request and must include the following components:

Imaging report – The provider shall submit a detailed and specific imaging report that correlates with clinical findings of the requested procedure. In the absence of the detailed report, the provider will be required to submit a report from an independent radiologist. The results of all imaging studies should correlate with the clinical findings in support of the requested procedure.

Conservative management – In the majority of cases, a period of conservative management is appropriate prior to intervention. Conservative management should include a combination of strategies to reduce inflammation, alleviate pain, and improve function, including requirements for physical therapy AND at least one complementary conservative management strategy.

Physical therapy requirement includes ANY of the following:

- Physical therapy
- Physician or physical therapist-supervised home treatment program which may include flexibility and muscle strengthening exercises
- Exception to the physical therapy requirement in unusual circumstances (for instance, intractable pain so severe that physical therapy is not possible) when clearly documented in the medical record

Complementary conservative management requirement includes ANY of the following:

- Complementary alternative medicine including, but not limited to, chiropractic care, acupuncture, cognitive behavioral or massage therapy
- Anti-inflammatory medications and analgesics
- Intraarticular corticosteroid injection(s)

Documentation of compliance with a plan of therapy that includes elements from these areas is required where conservative management is appropriate.

Reporting of symptom severity – Severity of pain and its associated impact on activities of daily living (ADLs) and instrumental ADLs (IADLs) are key factors in determining the need for intervention. For purposes of this guideline, significant pain and functional impairment refer to pain that is at least 3 out of 10 in intensity and is associated with inability to perform at least two (2) ADLs and/or IADLs.

Rotator Cuff Repair

Note: For primary rotator cuff repair, adherence to a tobacco-cessation program resulting in abstinence from tobacco for at least 6 weeks prior to surgery is recommended.

Acute full thickness tear

ALL of the following are required:

- Traumatic injury within the preceding 3 months with no preexisting shoulder pain
- Shoulder pain ≥ 4 on the VAS scale exacerbated by movement
- Weakness of rotator cuff muscle(s) (less than grade 4/5 on manual muscle testing)
- Physical exam demonstrating a positive response to at least ONE of the following tests:
  - Neer impingement test
  - Drop arm test
  - Painful arc test full/empty can test
  - Weakness of external rotation
- Advanced imaging confirms features of an acute full thickness tear

Chronic or degenerative full thickness tear

ALL of the following are required:

- Gradual onset of shoulder pain, without a significant traumatic event
- Pain ≥ 4 on the VAS scale which interferes with age-appropriate activities of daily living
- Weakness of rotator cuff muscle(s) (less than grade 4/5 on manual muscle testing)
- Physical exam demonstrating a positive response to at least ONE of the following tests:
  - Neer impingement test
  - Drop arm test
  - Hawkins Kennedy impingement test
  - Painful arc test full/empty can test
  - Weakness of external rotation
- Recent advanced imaging confirms features of a degenerative full thickness tear
- Failure of at least 6 weeks of conservative management

Partial thickness tear

ALL of the following are required:

- Pain ≥ 4 on the VAS scale which interferes with age-appropriate activities of daily living
- Weakness of rotator cuff muscle(s) (less than grade 4/5 on manual muscle testing)
- Physical exam demonstrating a positive response to at least ONE of the following tests:
  - Neer impingement test
  - Drop arm test
  - Hawkins Kennedy impingement test
  - Painful arc test full/empty can test
- Recent advanced imaging confirming a partial thickness tear

- Symptoms present for at least 3 months
- Failure of at least 6 weeks of conservative management

Revision Rotator Cuff Repair

Note: For revision rotator cuff repair, adherence to a tobacco-cessation program resulting in abstinence from tobacco for at least 6 weeks prior to surgery is required.

ALL of the following are required:

- Documentation of nicotine-free status for at least 6 weeks prior to surgery
- Shoulder pain ≥ 4 on the VAS scale exacerbated by movement
- Weakness of rotator cuff muscle(s) (less than grade 4/5 on manual muscle testing)
- Recent advanced imaging confirming a full thickness tear
- Failure of at least 12 weeks of conservative management

Revision rotator cuff repair is **contraindicated** when a massive tear is present, as evidenced by ANY of the following:

- Presence rotator cuff arthropathy defined as combination of arthritis and lack of rotator cuff
- Prior history of a revision surgery
- Active infection of the joint
- Active systemic bacteremia
- Active skin infection (exception recurrent cutaneous staph infections) or open wound within the planned surgical site of the shoulder
- Rapidly progressive neurological disease
- Wheelchair bound and/or assistive device dependent

Exclusions (all rotator cuff repair procedures)

Indications other than those addressed in this guideline are considered **not medically necessary** including, but not limited to, the following:

- Treatment of asymptomatic, full thickness rotator cuff tear
- Active infection of the joint
- Active systemic bacteremia
- Active skin infection (exception recurrent cutaneous staph infections) or open wound within the planned surgical site of the shoulder
- Rapidly progressive neurological disease
- Deltoid or rotator cuff paralysis
- Use of xenografts or biologic scaffold for augmentation or bridging reconstruction
- Use of platelet rich plasma or other biologics
- Concomitant subacromial decompression/acromioplasty

Labrum Repair

Labral tear including superior labral anterior-posterior (SLAP) tears

ALL of the following are required:

- Shoulder pain ≥ 4 on the VAS scale which interferes with age-appropriate activities of daily living

- Symptoms aggravated by heavy lifting, pushing, and overhead motion
- Physical exam demonstrating a positive response to at least ONE of the following tests:
  - O'Brien (active compression) test
  - Anterior slide test
  - Biceps load test (I and II)
  - Pain provocation test
  - Crank test
  - Jobe relocation test
  - Forced shoulder abduction and elbow flexion test
  - Resisted supination – external rotation test
- MRI demonstrating a traumatic non-anatomic SLAP lesion consistent with subjective and objective findings
- Failure of at least 12 weeks of conservative management

Other Arthroscopic and Open Procedures

Acromioclavicular arthritis

Partial claviculectomy (includes Mumford procedure) may be considered medically necessary when ALL of the following criteria are met:

- Pain at the acromioclavicular (AC) joint aggravated by shoulder motion
- Positive cross-arm adduction test
- Tenderness over the acromioclavicular joint
- Imaging findings (x-ray or MRI) consistent with acromioclavicular joint arthritis
  - Moderate to severe degenerative joint disease of the acromioclavicular joint, distal clavicle edema, or osteolysis of the distal clavicle on MRI
  - Moderate to severe acromioclavicular joint arthritis on x-ray
- Failure of at least 12 weeks of conservative management

Adhesive capsulitis

Arthroscopic capsular release

ALL of the following are required:

- History of trauma or post-operative contracture
- Shoulder pain ≥ 4 on the VAS scale which interferes with age-appropriate activities of daily living
- Reduced passive range of motion of the affected glenohumeral joint by at least 50% compared to unaffected shoulder
- Failure of at least 12 weeks of conservative management

Manipulation under anesthesia (MUA)

ALL of the following are required:

- Shoulder pain ≥ 4 on the VAS scale which interferes with age-appropriate activities of daily living
- Reduced passive range of motion of the affected glenohumeral joint by at least 50% compared to unaffected shoulder

- Failure of at least 12 weeks of conservative management

Chronic shoulder instability/laxity

Capsulorrhaphy (Bankart procedure) may be considered medically necessary when ALL of the following criteria are met:

- History of a shoulder dislocation
- Positive apprehension/relocation test
- Shoulder pain and/or instability which interferes with age-appropriate activities of daily living
- MRI demonstrates at least ONE of the following:
  - Bankart/labral lesion
  - Hill-Sachs lesion
  - Capsular tear
- Failure of at least 12 weeks of conservative management (unless has multiple dislocations during management)*

**Early surgery may be considered for patients with large bone defects or patients under age 35.*

Subacromial impingement syndrome

Subacromial decompression/acromioplasty is considered **not medically necessary** for all indications.

Synovectomy/debridement

- Infection
- Inflammatory synovitis, e.g., rheumatoid, pigmented villonodular synovitis (PVNS)
- Removal of foreign body
- Synovial chondromatosis

Exclusion: Synovectomy performed solely for visualization or approach

Tendinopathy of the long head of the biceps

Biceps tenodesis or tenotomy may be considered medically necessary for shoulder pain when ONE of the following criteria is met:

- Clinical exam is consistent with long head of biceps pathology (at least 2 of the following: anterior shoulder pain, weakness, tenderness over the biceps groove, pain in the anterior shoulder during resisted supination of the forearm [Yergason's test], positive Speed's test)
- Features consistent with biceps tendinopathy on MRI in a symptomatic patient
- AIM criteria for SLAP tear are met
- AIM criteria for rotator cuff tear are met

AND

- Failure of at least 12 weeks of conservative management OR at least 6 weeks when AIM criteria for rotator cuff tear are met

Selected References

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11. Li Y, Zhao L, Zhu L, et al. Internal fixation versus nonoperative treatment for displaced 3-part or 4-part proximal humeral fractures in elderly patients: a meta-analysis of randomized controlled trials. PLoS ONE. 2013;8(9):e75464.
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15. Sun Z, Fu W, Tang X, et al. Systematic review and Meta-analysis on acromioplasty in arthroscopic repair of full-thickness rotator cuff tears. Acta Orthop Belg. 2018;84(1):54-61.
16. University of New South Wales HK, Clinical practice guidelines for the management of rotator cuff syndrome in the workplace, (2013) Port Macquarie Australia, 80.
17. Vandvik PO, Lahdeoja T, Ardern C, et al. Subacromial decompression surgery for adults with shoulder pain: a clinical practice guideline. Bmj. 2019;364:l294.
18. Washington State Department of Labor and Industries, Shoulder Conditions Diagnosis and Treatment Guideline, (2013) Olympia WA, 28 pgs.

Codes

The following code list may not be all-inclusive. Specific CPT codes for services should be used when available. Nonspecific or not otherwise classified codes may be subject to additional documentation requirements and review.

CPT/HCPCS

23105 .....Arthrotomy; glenohumeral joint, with synovectomy, with or without biopsy

23107 .....Arthrotomy, glenohumeral joint, with joint exploration, with or without removal of loose or foreign body

23120 .....Claviculectomy; partial

23130 .....Acromioplasty or acromionectomy, partial, with or without coracoacromial ligament release

23410 .....Repair of ruptured musculotendinous cuff (e.g., rotator cuff) open; acute

23412 .....Repair of ruptured musculotendinous cuff (e.g., rotator cuff) open; chronic

23415 .....Coracoacromial ligament release, with or without acromioplasty

23420 .....Reconstruction of complete shoulder (rotator) cuff avulsion, chronic (includes acromioplasty)

23430 .....Tenodesis of long tendon of biceps
23440 .....Resection or transplantation of long tendon of biceps
23450 .....Capsulorrhaphy, anterior; Putti-Platt procedure or Magnuson-type operation
23455 .....Capsulorrhaphy, anterior; with labral repair (e.g., Bankart procedure)
23460 .....Capsulorrhaphy, anterior, any type; with bone block
23462 .....Capsulorrhaphy, anterior, any type; with coracoid process transfer
23465 .....Capsulorrhaphy, glenohumeral joint, posterior, with or without bone block
23466 .....Capsulorrhaphy, glenohumeral joint, any type multi-directional instability
23700 .....Manipulation under anesthesia, shoulder joint, including application of fixation apparatus (dislocation excluded)
29805 .....Arthroscopy, shoulder, diagnostic, with or without synovial biopsy (separate procedure)
29806 .....Arthroscopy, shoulder, surgical; capsulorrhaphy
29807 .....Arthroscopy, shoulder, surgical; repair of SLAP lesion
29819 .....Arthroscopy, shoulder, surgical; with removal of loose body or foreign body
29820 .....Arthroscopy, shoulder, surgical; synovectomy, partial
29821 .....Arthroscopy, shoulder, surgical; synovectomy, complete
29822 .....Arthroscopy, shoulder, surgical; debridement, limited
29823 .....Arthroscopy, shoulder, surgical; debridement, extensive
29824 .....Arthroscopy, shoulder, surgical; distal claviculectomy including distal articular surface
29825 .....Arthroscopy, shoulder, surgical; with lysis and resection of adhesions, with or without manipulation
29826 .....Arthroscopy, shoulder, surgical; decompression of subacromial space with partial acromioplasty, with coracoacromial ligament (i.e., arch) release, when performed (list separately in addition to code for primary procedure)
29827 .....Arthroscopy, shoulder, surgical; with rotator cuff repair
29828 .....Arthroscopy, shoulder, surgical; biceps tenodesis

Hip Arthroplasty (Total/Partial/Revision Hip Replacement)

Description and Scope

Total hip arthroplasty (THA), also referred to as total hip replacement (THR), involves removal of the femoral head and acetabulum and placement of a prosthesis anchored to the bone. Numerous implants composed of various biomaterials have been approved by the U.S. Food and Drug Administration (FDA) for use in hip arthroplasty. The goal of the procedure is long-term pain relief and restoration of function.

Degenerative joint disease, or osteoarthritis, is the most common condition leading to the need for total hip arthroplasty. Other conditions that may also cause significant hip joint damage include neoplasm, femoral fracture, avascular necrosis (osteonecrosis), inflammatory arthritis (e.g., rheumatoid arthritis) and developmental hip dysplasia.

This guideline addresses hip arthroplasty when performed as an **elective, non-emergent** procedure and not as part of the care of an acute fracture (excluding fracture of implant and periprosthetic fracture).

Clinical Indications

The following general requirements apply to all indications except where they differ from the specific requirements. The specific requirements take precedence over any stated general requirement.

General Requirements

Documentation supporting medical necessity should be submitted at the time of the request and must include the following components:

Clinical notes describing symptom duration and severity, specific functional limitations related to symptoms, and type and duration of all therapeutic measures provided. If conservative management is not appropriate, the reason must be clearly documented.

Conservative management should include a combination of strategies to reduce inflammation, alleviate pain, and improve function, including requirements for physical therapy AND at least one complementary conservative management strategy.

Physical therapy requirement includes ANY of the following:

- Physical therapy
- Physician or physical therapist-supervised home treatment program which may include flexibility and muscle strengthening exercises
- Exception to the physical therapy requirement in unusual circumstances (for instance, intractable pain so severe that physical therapy is not possible) when clearly documented in the medical record

Complementary conservative management requirement includes ANY of the following:

- Complementary alternative medicine including, but not limited to, chiropractic care, acupuncture, cognitive behavioral or massage therapy
- Anti-inflammatory medications and analgesics
- Intraarticular corticosteroid injection(s)

Documentation of compliance with a plan of therapy that includes elements from these areas is required where conservative management is appropriate.

Reporting of symptom severity – Severity of pain and its associated impact on activities of daily living (ADLs) and instrumental ADLs (IADLs) are key factors in determining the need for intervention. For purposes of this

guideline, significant pain and functional impairment refer to pain that is at least 3 out of 10 in intensity and is associated with inability to perform at least two (2) ADLs and/or IADLs.

Reports of imaging studies obtained within the past 12 months describing the degree of cartilage damage as determined by EITHER or BOTH of the following methods:

- X-ray report that utilizes or can be correlated with the Kellgren-Lawrence grading system of osteoarthritis
- MRI report from a radiologist that utilizes or can be correlated with the modified Outerbridge or similar classification system related to articular cartilage injury and osteoarthritis

*See **Appendix** for a description of these grading systems.*

The provider shall submit a detailed and specific imaging report that correlates with clinical findings of the requested procedure. In the absence of the detailed report, the provider will be required to submit a report from an independent radiologist. The results of all imaging studies should correlate with the clinical findings in support of the requested procedure.

Imaging reports should be thorough and describe the presence or absence of subchondral cysts, subchondral sclerosis, periarticular osteophytes, joint subluxation, avascular necrosis or bone on bone articulations. The degree of joint space narrowing should also be noted.

Tobacco cessation – Adherence to a tobacco-cessation program resulting in abstinence from tobacco for at least 6 weeks prior to surgery is recommended.

Diabetes – It is recommended that a patient with history of diabetes maintain a hemoglobin A1C of 8% or less prior to any joint replacement surgery.

Body mass index (BMI) – It is recommended that any patient with a BMI equal to or greater than 40 attempt weight reduction prior to surgery.

Primary Total Hip Arthroplasty

Primary total hip arthroplasty may be considered medically necessary for ANY of the following indications:

- Primary and secondary tumors of the proximal femur
- Hip fracture or complications including malunion, nonunion or failed prior fixation
- Failed previous hip fracture fixation
- Avascular necrosis (osteonecrosis) with unresponsive severe pain
- Revision of hip arthrodesis
- Joint damage or destruction due to osteoarthritis, inflammatory disease or other chronic condition when ALL of the following requirements have been met:
    - Imaging evidence of significant joint destruction and cartilage loss, defined as Tönnis grade 3, modified Outerbridge grade III - IV, or Kellgren-Lawrence grade 3 - 4
    - Limited range of motion, antalgic gait and disabling pain of at least 3 months' duration
    - Pain with passive internal or external rotation
    - Failure of at least 3 months of non-surgical conservative management
    - Functional limitation secondary to hip pathology which interferes with the ability to carry out age-appropriate daily activities

Revision Total Hip Arthroplasty

Revision total hip arthroplasty may be considered medically necessary when at least ONE of the following conditions is present:

- Aseptic loosening

- Substantial osteolysis of the weight bearing surface
- Progressive soft tissue or bone reaction including symptomatic synovitis
- Component instability, failure, or recall
- Displaced periprosthetic fracture or irreducible dislocation
- Previous removal of prosthesis due to infection or catastrophic failure
- Recurrent disabling pain or significant functional disability that persists despite at least 3 months of conservative management in conjunction with ANY of the following:
  - Antalgic or Trendelenburg gait
  - Abnormal findings confirmed by plain radiography or imaging studies such as implant malposition or impingement
  - Leg length inequality
  - Audible noise

Resection Arthroplasty of the Hip

Resection arthroplasty of the hip, femoral head ostectomy, or Girdlestone resection arthroplasty may be considered medically necessary when at least ONE of the following conditions is present:

- Painful stiff hip after infection (tuberculosis of the hip or otherwise)
- Peri-prosthetic infection
- Aseptic loosening of the hip
- Recurrent dislocation of the hip
- Failed internal fixation of a femoral neck fracture
- Unsalvageable failed hip replacement

Contraindications

Total hip arthroplasty is contraindicated when ANY of the following are present:

- Presence of a skin infection at the surgical site
- Presence of a systemic infection
- Rapidly progressive neurological disease
- Neuropathic joint
- Intraarticular corticosteroid injection within the past 6 weeks in the joint being replaced

Total hip arthroplasty is considered **not medically necessary** when the above indications are not met.

Selected References

1. American Academy of Orthopaedic Surgeons, Management of Osteoarthritis of the hip - evidence-based clinical practice guideline, (2017) Rosemont IL, 850.
2. Arbab D, Konig DP. Atraumatic Femoral Head Necrosis in Adults. Dtsch Arztebl Int. 2016;113(3):31-8.
3. Department of Veterans Affairs DoDN-SMoHaKOWG, VA/DoD clinical practice guideline for the non-surgical management of hip and knee osteoarthritis., (2014) Washington DC, 126.
4. Goyal N, Chen AF, Padgett SE, et al. Otto Aufranc Award: A Multicenter, Randomized Study of Outpatient versus Inpatient Total Hip Arthroplasty. Clinical orthopaedics and related research. 2017;475(2):364-72.
5. Hagel A, Siekmann H, Delank KS. Periprosthetic femoral fracture - an interdisciplinary challenge. Dtsch Arztebl Int. 2014;111(39):658-64.

6. Kort NP, Bemelmans YF, van der Kuy PH, et al. Patient selection criteria for outpatient joint arthroplasty. Knee Surg Sports Traumatol Arthrosc. 2016.
7. National Institute for Health and Care Excellence, Hip fracture: management, (2011)
8. Nelson AE, Allen KD, Golightly YM, et al. A systematic review of recommendations and guidelines for the management of osteoarthritis: The chronic osteoarthritis management initiative of the U.S. bone and joint initiative. Seminars in arthritis and rheumatism. 2014;43(6):701-12.
9. Nelson SJ, Webb ML, Lukasiewicz AM, et al. Is Outpatient Total Hip Arthroplasty Safe? The Journal of arthroplasty. 2017;32(5):1439-42.
10. Oliver D, Griffiths R, Roche J, et al. Hip fracture. BMJ clinical evidence. 2010;2010.
11. Scottish Intercollegiate Guidelines Network, Management of hip fracture in older people: A national clinical guideline, (2009)

Codes

The following code list may not be all-inclusive. Specific CPT codes for services should be used when available. Nonspecific or not otherwise classified codes may be subject to additional documentation requirements and review.

CPT/HCPCS

27120 .....Acetabuloplasty; (eg, Whitman, Colonna, Haygroves, or cup type)

27122 .....Acetabuloplasty; resection, femoral head (eg, Girdlestone procedure)

27125 .....Hemiarthroplasty, hip, partial (eg, femoral stem prosthesis, bipolar arthroplasty)

27130 .....Arthroplasty, acetabular and proximal femoral prosthetic replacement (total hip arthroplasty), with or without autograft or allograft

27132 .....Conversion of previous hip surgery to total hip arthroplasty, with or without autograft or allograft

27134 .....Revision of total hip arthroplasty; both components, with or without autograft or allograft

27137 .....Revision of total hip arthroplasty; acetabular component only, with or without autograft or allograft

27138 .....Revision of total hip arthroplasty; femoral component only, with or without allograft

Hip Arthroscopy

Description and Scope

Hip arthroscopy is most often utilized in diagnosing and treating conditions of the joint space which impede normal function and result in pain and disability. A more recent application of this procedure is treatment of femoroacetabular impingement syndrome (FAIS), a condition of the hip in which the acetabular rim of the pelvis articulates abnormally with the femoral head. Over time, contact may result in damage to joint cartilage, potentially leading to degenerative joint disease.

Surgical treatment of FAIS may involve an open approach, arthroscopic surgery, or a combination of the two. Components of FAIS surgery include the following:

- Capsular plication
- Capsular repair
- Labral reconstruction
- Iliotibial band windowing
- Trochanteric bursectomy
- Abductor muscle repair
- Iliopsoas tenotomy
- Acetabuloplasty
- Femoroplasty

This guideline addresses hip arthroscopy when performed as an **elective, non-emergent** procedure and not as part of the care of an acute fracture.

Clinical Indications

General Requirements

Documentation supporting medical necessity should be submitted at the time of the request and must include the following components:

Imaging report – The provider shall submit a detailed and specific imaging report that correlates with clinical findings of the requested procedure. In the absence of the detailed report, the provider will be required to submit a report from an independent radiologist. The results of all imaging studies should correlate with the clinical findings in support of the requested procedure.

Conservative management – In the majority of cases, a period of conservative management is appropriate prior to intervention. Conservative management should include a combination of strategies to reduce inflammation, alleviate pain, and improve function, including requirements for physical therapy AND at least one complementary conservative management strategy.

Physical therapy requirement includes ANY of the following:

- Physical therapy
- Physician or physical therapist-supervised home treatment program which may include flexibility and muscle strengthening exercises
- Exception to the physical therapy requirement in unusual circumstances (for instance, intractable pain so severe that physical therapy is not possible) when clearly documented in the medical record

Complementary conservative management requirement includes ANY of the following:

- Complementary alternative medicine including, but not limited to, chiropractic care, acupuncture, cognitive behavioral or massage therapy
- Anti-inflammatory medications and analgesics
- Intraarticular corticosteroid injection(s)

Documentation of compliance with a plan of therapy that includes elements from these areas is required where conservative management is appropriate.

Reporting of symptom severity – Severity of pain and its associated impact on activities of daily living (ADLs) and instrumental ADLs (IADLs) are key factors in determining the need for intervention. For purposes of this guideline, significant pain and functional impairment refer to pain that is at least 3 out of 10 in intensity and is associated with inability to perform at least two (2) ADLs and/or IADLs.

Hip Arthroscopy

Synovectomy/biopsy/removal of loose or foreign body

Any combination of these procedures may be considered medically necessary when EITHER of the following requirements are met:

- Radiographic evidence of acute, post-traumatic, intra-articular foreign body or displaced fracture fragment
- Hip pain associated with grinding, catching, locking or popping, and ALL of the following:
  - Failure of least 3 months of conservative management
  - Exam findings confirming pain with limited range of motion
  - Imaging (X-ray, CT or MRI) which shows synovial proliferation, calcifications, nodularity, inflammation, pannus, or loose body

Arthroscopic treatment of femoroacetabular impingement syndrome (FAIS)

ALL of the following are required:

- Moderate to severe hip pain (primarily in the groin) worsened by flexion activities (e.g., squatting or prolonged sitting) that interferes with activities of daily living, which is not explained by another diagnosis.
- Positive impingement sign on clinical examination, defined as pain elicited with 90 degrees of flexion and internal rotation and adduction of the femur, or extension and external rotation)
- Imaging studies (radiographs, MRI or 3D computed tomography) suggesting a diagnosis of FAIS, including cam impingement and/or pincer impingement as evidenced by ONE or more of the following:
  - Pistol-grip deformity
  - Femoral head-neck offset with an alpha angle greater than 50 degrees
  - Positive posterior wall sign
  - Acetabular retroversion (over coverage with crossover sign)
  - Coxa profunda or protrusion
  - Damage of the acetabular rim
- Failure of conservative management for a duration of at least 3 months, including avoidance of hip stretching or any activity that elicits or aggravates symptoms
- High probability of a causal association between the femoroacetabular impingement morphology and damage, e.g., a pistol-grip deformity with a tear of the acetabular labrum and articular cartilage damage in the anterosuperior quadrant
- No evidence of advanced osteoarthritis, defined as Tönnis grade 2 or 3, or joint space of less than 2 mm
- No evidence of severe (Outerbridge grade IV) chondral damage

Labral tear

ALL of the following are required:

- Moderate to severe hip pain (primarily in the groin) worsened by flexion activities (e.g., squatting or prolonged sitting) that interferes with activities of daily living, which is not explained by another diagnosis
- Positive impingement sign on clinical examination, defined as pain elicited with 90 degrees of flexion and internal rotation and adduction of the femur, or extension and external rotation
- MRI suggests a labral tear
- Failure of conservative management for a duration of at least 3 months, including avoidance of hip stretching or any activity that elicits or aggravates symptoms
- No evidence of advanced osteoarthritis, defined as Tönnis grade 2 or 3, or joint space of less than 2 mm
- No evidence of severe (Outerbridge grade IV) chondral damage

Exclusions

Indications other than those addressed in this guideline are considered **not medically necessary** including, but not limited to, the following:

- Shaving or debridement of articular cartilage (chondroplasty), and/or abrasion arthroplasty when not performed in conjunction with FAIS repair
- The use of capsular plication as the sole treatment of FAIS
- Capsular plication, capsular repair, labral reconstruction, iliotibial band windowing, trochanteric bursectomy, abductor muscle repair, and/or iliopsoas tenotomy, when performed at the time of any FAIS surgery, would be considered a component of and incidental to the FAIS procedure.
- Treatment of FAIS in a patient over age 60

Treatment of femoroacetabular impingement is considered **not medically necessary** when the above indications are not met.

Selected References

1. Bedi A, Kelly BT. Femoroacetabular impingement. The Journal of bone and joint surgery American volume. 2013;95(1):82-92.
2. DeSa D, Phillips M, Philippon MJ, et al. Ligamentum teres injuries of the hip: a systematic review examining surgical indications, treatment options, and outcomes. Arthroscopy. 2014;30(12):1634-41.
3. Kroger EW, Griesser MJ, Kolovich GP, et al. Efficacy of surgery for internal snapping hip. International journal of sports medicine. 2013;34(10):851-5.
4. Lustenberger DP, Ng VY, Best TM, et al. Efficacy of treatment of trochanteric bursitis: a systematic review. Clin J Sport Med. 2011;21(5):447-53.
5. Nelson SJ, Webb ML, Lukasiewicz AM, et al. Is Outpatient Total Hip Arthroplasty Safe? The Journal of arthroplasty. 2017;32(5):1439-42.
6. Oliver D, Griffiths R, Roche J, et al. Hip fracture. BMJ clinical evidence. 2010;2010.
7. Saadat E, Martin SD, Thornhill TS, et al. Factors Associated With the Failure of Surgical Treatment for Femoroacetabular Impingement: Review of the Literature. Am J Sports Med. 2014;42(6):1487-95.

Codes

The following code list may not be all-inclusive. Specific CPT codes for services should be used when available. Nonspecific or not otherwise classified codes may be subject to additional documentation requirements and review.

CPT/HCPCS

29860 .....Arthroscopy, hip, diagnostic with or without synovial biopsy (separate procedure)

29861 .....Arthroscopy, hip, surgical; with removal of loose body or foreign body

29862 .....Arthroscopy, hip, surgical; with debridement/shaving of articular cartilage (chondroplasty), abrasion arthroplasty, and/or resection of labrum

29863 .....Arthroscopy, hip, surgical; with synovectomy

29914 .....Arthroscopy, hip, surgical; with femoroplasty (i.e., treatment of cam lesion)

29915 .....Arthroscopy, hip, surgical; with acetabuloplasty (i.e., treatment of pincer lesion)

29916 .....Arthroscopy, hip, surgical; with labral repair [when repair of the labral tear is associated with FAIS]

Knee Arthroplasty (Total/Partial/Revision Knee Replacement)

Description and Scope

Total knee arthroplasty (TKA), also referred to as total knee replacement (TKR), involves removal of diseased articular surfaces of the knee, followed by resurfacing with metal and polyethylene prosthetic components. Numerous implants composed of various biomaterials have been approved by the U.S. Food and Drug Administration (FDA) for use in TKA procedures. The goal of the procedure is long-term pain relief and restoration of function.

This guideline addresses TKA, revision TKA, and unicompartmental knee arthroplasty (UKA) performed as **elective, non-emergent** procedures and not as part of the care of a congenital condition, acute or traumatic event such as fracture (excluding periprosthetic fracture).

Clinical Indications

The following general requirements apply to all indications except where they differ from the specific requirements. The specific requirements take precedence over any stated general requirement.

General Requirements

Documentation supporting medical necessity should be submitted at the time of the request and must include the following components:

Clinical notes describing symptom duration and severity, specific functional limitations related to symptoms, and type and duration of all therapeutic measures provided. If conservative management is not appropriate, the reason must be clearly documented.

Conservative management should include a combination of strategies to reduce inflammation, alleviate pain, and improve function, including requirements for physical therapy AND at least one complementary conservative management strategy.

Physical therapy requirement includes ANY of the following:

- Physical therapy
- Physician or physical therapist-supervised home treatment program which may include flexibility and muscle strengthening exercises
- Exception to the physical therapy requirement in unusual circumstances (for instance, intractable pain so severe that physical therapy is not possible) when clearly documented in the medical record

Complementary conservative management requirement includes ANY of the following:

- Complementary alternative medicine including, but not limited to, chiropractic care, acupuncture, cognitive behavioral or massage therapy
- Anti-inflammatory medications and analgesics
- Intraarticular corticosteroid injection(s)

Documentation of compliance with a plan of therapy that includes elements from these areas is required where conservative management is appropriate.

Reporting of symptom severity – Severity of pain and its associated impact on activities of daily living (ADLs) and instrumental ADLs (IADLs) are key factors in determining the need for intervention. For purposes of this guideline, significant pain and functional impairment refer to pain that is at least 3 out of 10 in intensity and is associated with inability to perform at least two (2) ADLs and/or IADLs.

Reports of imaging studies obtained within the past 12 months describing the degree of cartilage damage as determined by EITHER or BOTH of the following methods:

- X-ray report that utilizes or can be correlated with the Kellgren-Lawrence grading system of osteoarthritis
- MRI report from a radiologist that utilizes or can be correlated with the modified Outerbridge or similar classification system related to articular cartilage injury and osteoarthritis

*See **Appendix** for a description of these grading systems.*

The provider shall submit a detailed and specific imaging report that correlates with clinical findings of the requested procedure. In the absence of the detailed report, the provider will be required to submit a report from an independent radiologist. The results of all imaging studies should correlate with the clinical findings in support of the requested procedure.

Imaging reports should be thorough and describe the presence or absence of subchondral cysts, subchondral sclerosis, periarticular osteophytes, joint subluxation, avascular necrosis or bone on bone articulations. The degree of joint space narrowing should also be noted.

Tobacco cessation – Adherence to a tobacco-cessation program resulting in abstinence from tobacco for at least 6 weeks prior to surgery is recommended.

Diabetes – It is recommended that a patient with history of diabetes maintain a hemoglobin A1C of 8% or less prior to any joint replacement surgery.

Body mass index (BMI) – It is recommended that any patient with a BMI equal to or greater than 40 attempt weight reduction prior to surgery.

Total Knee Arthroplasty

Elective total knee arthroplasty may be considered medically necessary for EITHER of the following indications:

- Primary or metastatic tumor with limb salvage surgery
- Bicompartmental or tricompartmental joint damage or destruction due to osteoarthritis, inflammatory disease or other chronic conditions when ALL of the following requirements have been met:
  - Imaging evidence of significant joint destruction and cartilage loss, defined as modified Outerbridge grade III - IV or Kellgren-Lawrence grade 3 - 4
  - Knee arc of motion greater than 50 degrees
  - Failure of at least 3 months of non-surgical conservative therapy
  - Functional limitation secondary to knee pathology which interferes with the ability to carry out age-appropriate daily activities

Unicompartmental Knee Arthroplasty/Partial Knee Replacement

Elective medial or lateral unicompartmental knee arthroplasty (UKA)/partial knee replacement (PKA) may be considered medically necessary when ALL of the following requirements are met:

- Osteoarthritis isolated to the medial or lateral knee compartment with no degenerative changes in the opposite compartment
- Intact anterior cruciate ligament
- Less than 15 degrees of correctable varus deformity in both knees

Medial or lateral unicompartmental knee arthroplasty is **contraindicated** when ANY of the following conditions are present:

- Inflammatory arthritis
- Anterior cruciate ligament deficiency

- Flexion contracture greater than 15 degrees
- Fixed varus deformity greater than 10 degrees
- Fixed valgus deformity greater than 15 degrees
- Flexion less than 110 degrees
- Previous meniscectomy in other compartment

Patellofemoral Arthroplasty

Elective patellofemoral arthroplasty may be considered medically necessary when ALL of the following requirements are met:

- ONE of the following disease states:
  - Advanced symptomatic primary or secondary isolated patellofemoral osteoarthritis (PFOA)
  - Failed extensor mechanism unloading procedures (e.g., lateral retinacular release, reconstruction of the medal patellar femoral ligament, quadricepsplasty, and bony procedures for realignment involving the tibial tuberosity)
  - Symptomatic patellofemoral cartilage defects greater than 4 cm2 after a failed cartilage repair procedure, such as autologous chondrocyte implantation (ACI)
- Failure of at least 3 months of non-surgical conservative therapy
- Functional limitation secondary to knee pathology which interferes with the ability to carry out age-appropriate daily activities

Patellofemoral arthroplasty is **contraindicated** when ANY of the following conditions are present:

- Tibiofemoral osteoarthritis
- Inflammatory arthritis
- Patellofemoral malalignment
- Knee instability (ligaments and/or menisci injuries)
- Limb malalignment (valgus deformity greater than 8 degrees or varus deformity greater than 5 degrees)
- Fixed flexion contracture greater than 10 degrees

Primary Hinge Arthroplasty

Primary hinge arthroplasty may be considered medically necessary when ONE of the following requirements are met:

- Global ligament instability
- Severe bone loss or deformity
- Absence or deficit of muscular control
- Tumoral surgery (bone block resection with ligamentous insertions needed)
- Congenital dislocation of knee
- Ankylosis with severe instability after surgical exposition

Revision of Prior Knee Arthroplasty

Revision of prior knee arthroplasty is considered medically necessary when ONE or more of the following conditions are present:

- Aseptic loosening
- Substantial osteolysis of the distal femur, proximal tibia, or patella

- Progressive soft tissue or bone reaction including bearing surface wear or symptomatic synovitis
- Component instability, malalignment, failure, or recall
- Displaced periprosthetic fracture or irreducible dislocation
- Previous removal of knee prosthesis due to infection or catastrophic failure
- Recurrent disabling pain or significant functional disability that persists despite at least 3 months of conservative therapy in conjunction with ANY of the following:
    - Antalgic gait
    - Abnormal findings confirmed by plain radiography or imaging studies such as implant malposition or impingement
    - Knee stiffness

Contraindications

(All procedures listed)

- Skin infection at the surgical site
- Systemic infection
- Rapidly progressive neurologic disease
- Extensor mechanism deficiency, not amendable to surgical correction
- Neuropathic joint
- Intraarticular corticosteroid injection within the past 6 weeks in the joint being replaced

Exclusions

Indications other than those addressed in this guideline are considered **not medically necessary** including, but not limited to, the following:

- Bi-unicompartmental knee arthroplasty (medial and lateral tibiofemoral compartments with absence of patellofemoral osteoarthritis)
- Bicompartmental arthroplasty (medial and patellofemoral compartments of the knee)
- Focal resurfacing of a single knee joint defect
- Unicompartmental free-floating (unfixed) interpositional device

Selected References

1. American Academy of Orthopaedic Surgeons, Surgical Management of Osteoarthritis of the Knee, (2015) Rosemont IL, 661 pgs.
2. Davis AM, MacKay C. Osteoarthritis year in review: outcome of rehabilitation. Osteoarthritis and cartilage. 2013;21(10):1414-24.
3. Department of Veterans Affairs DoDN-SMoHaKOWG, VA/DoD clinical practice guideline for the non-surgical management of hip and knee osteoarthritis., (2014) Washington DC, 126.
4. Nelson AE, Allen KD, Golightly YM, et al. A systematic review of recommendations and guidelines for the management of osteoarthritis: The chronic osteoarthritis management initiative of the U.S. bone and joint initiative. Seminars in arthritis and rheumatism. 2014;43(6):701-12.

Codes

The following code list may not be all-inclusive. Specific CPT codes for services should be used when available. Nonspecific or not otherwise classified codes may be subject to additional documentation requirements and review.

CPT/HCPCS

27437 .....Arthroplasty, patella; without prosthesis

27438 .....Arthroplasty, patella; with prosthesis

27440 .....Arthroplasty, knee; tibial plateau

27441 .....Arthroplasty, knee, tibial plateau; with debridement and partial synovectomy

27442 .....Arthroplasty, femoral condyles or tibial plateau(s), knee

27443 .....Arthroplasty, femoral condyles or tibial plateau(s), knee; with debridement and partial synovectomy

27445 .....Arthroplasty, knee, hinge prosthesis (eg, Walldius type)

27446 .....Arthroplasty, knee, condyle and plateau; medial OR lateral compartment

27447 .....Arthroplasty, knee, condyle and plateau; medial AND lateral compartments with or without patella resurfacing (total knee arthroplasty)

27486 .....Revision of total knee arthroplasty, with or without allograft; 1 component

27487 .....Revision of total knee arthroplasty, with or without allograft; femoral and entire tibial component

27488 .....Removal of prosthesis, including total knee prosthesis, methylmethacrylate with or without insertion of spacer, knee

27570 .....Manipulation of knee joint under general anesthesia (includes application of traction or other fixation devices)

Knee Arthroscopy and Open Procedures

Description and Scope

Knee arthroscopy is a surgical procedure in which a fiberoptic camera is inserted into the knee joint through a small incision. In addition to allowing the surgeon to visualize the joint, arthroscopy may also be utilized for treatment of a variety of conditions involving the joint structures.

This guideline addresses knee arthroscopy when performed as an **elective, non-emergent** procedure and not as part of the care of an acute fracture.

Clinical Indications

The following general requirements apply to all indications except where they differ from the specific requirements. The specific requirements take precedence over any stated general requirement.

General Requirements

Documentation supporting medical necessity should be submitted at the time of the request and must include the following components:

Imaging report – The provider shall submit a detailed and specific imaging report that correlates with clinical findings of the requested procedure. In the absence of the detailed report, the provider will be required to submit a report from an independent radiologist. The results of all imaging studies should correlate with the clinical findings in support of the requested procedure.

Conservative management – In the majority of cases, a period of conservative management is appropriate prior to intervention. Conservative management should include a combination of strategies to reduce inflammation, alleviate pain, and improve function, including requirements for physical therapy AND at least one complementary conservative management strategy.

Physical therapy requirement includes ANY of the following:

- Physical therapy
- Physician or physical therapist-supervised home treatment program which may include flexibility and muscle strengthening exercises
- Exception to the physical therapy requirement in unusual circumstances (for instance, intractable pain so severe that physical therapy is not possible) when clearly documented in the medical record

Complementary conservative management requirement includes ANY of the following:

- Complementary alternative medicine including, but not limited to, chiropractic care, acupuncture, cognitive behavioral or massage therapy
- Anti-inflammatory medications and analgesics
- Intraarticular corticosteroid injection(s)

Documentation of compliance with a plan of therapy that includes elements from these areas is required where conservative management is appropriate.

Reporting of symptom severity – Severity of pain and its associated impact on activities of daily living (ADLs) and instrumental ADLs (IADLs) are key factors in determining the need for intervention. For purposes of this guideline, significant pain and functional impairment refer to pain that is at least 3 out of 10 in intensity and is associated with inability to perform at least two (2) ADLs and/or IADLs.

Knee Arthroscopy

Diagnosis of intraarticular joint pathology

Diagnosis of intraarticular joint pathology when at least ONE of the following is present:

- Functional impairment (locked knee or knee giving way)
- Confirmed loose or foreign body in joint with mechanical symptoms

Meniscal repair or meniscectomy

Meniscal repair or meniscectomy may be indicated for acute traumatic meniscal tear (sudden onset of joint-line pain associated with significant knee injury) without imaging findings of osteoarthritis, when ALL of the following requirements are met:

- Moderate to severe pain associated with functional limitation, which interferes with the ability to carry out age-appropriate daily activities
- Symptoms of catching, locking, or instability
- Physical exam findings of at least 2 of the following:
  - Joint swelling or effusion
  - Positive McMurray or Apley test
  - Joint line tenderness
  - Reduced range of motion
- Imaging confirms features of an acute meniscal tear (e.g., root avulsion, longitudinal vertical, radial, flap, posterolateral root, bucket handle, posterior horn, and complex tears, or displaced meniscal fragment)

Partial meniscectomy may be medically necessary for symptomatic tears not amenable to repair, especially when the peripheral meniscal rim is intact.

Meniscal repair may be medically necessary for symptomatic reducible tears that are peripheral (e.g., near the capsular attachment) and horizontal or longitudinal in nature.

- Meniscal tear (without any history of significant acute trauma) with mild to moderate osteoarthritis (no greater than Kellgren-Lawrence grade 1 - 2, or modified Outerbridge grade I - III) when ALL of the following are present:
  - Acute onset of knee swelling
  - Persistent or frequent mechanical symptoms of catching, locking, or instability or failed conservative therapy for at least 3 months
  - Imaging demonstrating a meniscal tear consistent with the clinical presentation
  - X-ray findings demonstrating less than 50% joint space reduction

Meniscal repair or partial meniscectomy is considered **not medically necessary** when the above indications are not met.

Meniscal repair or partial meniscectomy is considered **not medically necessary** when meniscal tear is associated with Kellgren-Lawrence grade ≥ 3 or modified Outerbridge grade > III osteoarthritis of the knee. (Exception may be granted for patients under age 40).

Partial menisectomy is considered **not medically necessary** for degenerative tears (horizontal cleavage, intrameniscal linear MRI signal penetrating one or both surfaces of the meniscus) with no associated mechanical symptoms.

Chondroplasty/debridement

Chondroplasty/debridement when ALL of the following criteria are met:

- Pain or mechanical symptoms
- Unstable chondral lesion documented by MRI
- Failure to respond to at least a 6 week course of conservative management
- Radiographic imaging consistent with Kellgren and Lawrence grade 2 or lower

Debridement/drainage/lavage

Debridement/drainage/lavage for ANY of the following conditions:

- Rheumatoid arthritis with failure of medical management (DMARDs)
- Septic joint or osteomyelitis
- Septic prosthetic joint
- Postoperative arthrofibrosis, with limited range of motion and failure of at least 8 weeks of conservative treatment

Arthroscopically assisted lysis of adhesions

Arthroscopically assisted lysis of adhesions may be medically necessary when ALL of the following criteria are met:

- Physical exam demonstrates limited range of motion of the knee, defined as less than 105 degrees of flexion or a flexion contracture greater than 10 degrees;
- Range of motion of the knee has failed to improve despite 6 weeks of conservative management
- Failure of prior manipulation under anesthesia or manipulation under anesthesia is planned concurrently

Manipulation under anesthesia (MUA)

Manipulation under anesthesia (MUA) may be medically necessary when ALL of the following criteria are met:

- Physical exam demonstrates limited range of motion of the knee defined as less than 105 degrees of flexion or a flexion contracture greater than 10 degrees
- Range of motion of the knee has failed to improve despite 6 weeks of conservative management
- Ligamentous or joint reconstruction has been performed within the last 12 weeks

Anterior cruciate ligament (ACL) reconstruction

BOTH of the following are required:

- A diagnosis of ACL tear as established by EITHER of the following:
  - Exam findings of a positive anterior drawer sign, pivot shift test or Lachman test
  - Report of CT or MRI which demonstrates an ACL tear
- At least ONE of the following scenarios is present:
  - ACL tear occurring in conjunction with a meniscal tear or ligamentous injury (i.e., medial or posterior collateral ligament, posterior cruciate ligament, or posterolateral corner ligamentous injury)
  - The patient is involved in a physically demanding occupation (e.g., firefighter, law enforcement, construction), or regularly engages in activities which include cutting, jumping, and/or pivoting (e.g., skiing, basketball, football)
  - Two (2) weeks of conservative care has been tried and failed (e.g., physical therapy, activity modification, oral analgesics)

Posterior cruciate ligament (PCL) repair or reconstruction

BOTH of the following are required:

- A diagnosis of PCL tear as established by EITHER of the following:
  - Exam findings of a positive posterior drawer sign, reversed pivot shift test, or posterior sag sign
  - CT or MRI performed within the past 12 months demonstrating a PCL tear
- Associated ligamentous injuries (i.e., injury to posterolateral corner of the knee, medial collateral ligament tear, ACL tear, avulsion fracture of fibular head or avulsion of the tibia distal to the lateral plateau)

Patellar compression syndrome (lateral patellofemoral impingement)

Lateral retinacular release may be medically necessary when ALL of the following criteria are met:

- Positive lateral patellar tilt established on imaging (axial view)
- Failure of at least 6 months of conservative management
- Radiographic imaging consistent with Kellgren and Lawrence grade 2 or lower patellofemoral osteoarthirits
- At least ONE of the following is present:
  - Positive patella glide test
  - Positive patella tilt test
  - Lateral femoral trochlear or lateral patella facet cartilage lesion confirmed by imaging within the past 12 months, when symptoms are consistent with a cartilage defect

Exclusion: Central or medial tracking of the patella

Excision of popliteal cyst

- Posterior knee pain ≥ 4 on the VAS scale of at least 8 weeks' duration

Synovectomy

Synovectomy for ANY of the following conditions:

- Rheumatoid arthritis or other chronic inflammatory arthropathies with failure of conservative management
- Hemophilic joint disease
- Localized pigmented villonodular synovitis

Repair of osteochondral defect

*See **Treatment of Osteochondral Defects** guideline.*

Exclusions

Indications other than those addressed in this guideline are considered **not medically necessary** including, but not limited to, the following:

- Arthroscopic debridement or lavage for isolated primary diagnosis of osteoarthritis of the knee
- In-Office Diagnostic Arthroscopy (e.g., mi-eye 2™)

Selected References

1. American Academy of Orthopaedic Surgeons, Surgical Management of Osteoarthritis of the Knee, (2015) Rosemont IL, 661 pgs.

2. American Academy of Orthopaedic Surgeons, Appropriate use criteria for the treatment of anterior cruciate ligament injuries, (2015) Rosemont IL, 35 pgs.
3. Beaufils P, Hulet C, Dhenain M, et al. Clinical practice guidelines for the management of meniscal lesions and isolated lesions of the anterior cruciate ligament of the knee in adults. Orthopaedics & traumatology, surgery & research : OTSR. 2009;95(6):437-42.
4. Health Quality Ontario. Arthroscopic Debridement of the Knee: An Evidence Update. Ont Health Technol Assess Ser. 2014;14(13):1-43.
5. Katz JN, Wright J, Spindler KP, et al. Predictors and Outcomes of Crossover to Surgery from Physical Therapy for Meniscal Tear and Osteoarthritis: A Randomized Trial Comparing Physical Therapy and Surgery. J Bone Joint Surg Am. 2016;98(22):1890-6.
6. Khan M, Evaniew N, Bedi A, et al. Arthroscopic surgery for degenerative tears of the meniscus: a systematic review and meta-analysis. Cmaj. 2014;186(14):1057-64.
7. Monk AP, Davies LJ, Hopewell S, et al. Surgical versus conservative interventions for treating anterior cruciate ligament injuries. Cochrane Database Syst Rev. 2016;4:CD011166.
8. Osteras H. A 12-week medical exercise therapy program leads to significant improvement in knee function after degenerative meniscectomy: a randomized controlled trial with one year follow-up. J Bodywork Mov Ther. 2014;18(3):374-82.
9. Papalia R, Osti L, Del Buono A, et al. Management of combined ACL-MCL tears: a systematic review. Br Med Bull. 2010;93:201-15.
10. Petersen W, Achtnich A, Lattermann C, et al. The Treatment of Non-Traumatic Meniscus Lesions. Dtsch. 2015;112(42):705-13.
11. Smith TO, Postle K, Penny F, et al. Is reconstruction the best management strategy for anterior cruciate ligament rupture? A systematic review and meta-analysis comparing anterior cruciate ligament reconstruction versus non-operative treatment. Knee. 2014;21(2):462-70.

Codes

The following code list may not be all-inclusive. Specific CPT codes for services should be used when available. Nonspecific or not otherwise classified codes may be subject to additional documentation requirements and review.

CPT/HCPCS

27331 .....Arthrotomy, knee; including joint exploration, biopsy, or removal of loose or foreign bodies
27332 .....Arthrotomy, with excision of semilunar cartilage (meniscectomy) knee; medial OR lateral
27333 .....Arthrotomy, with excision of semilunar cartilage (meniscectomy) knee; medial AND lateral
27334 .....Arthrotomy, with synovectomy, knee; anterior OR posterior
27335 .....Arthrotomy, with synovectomy, knee; anterior AND posterior including popliteal area
27403 .....Arthrotomy with meniscus repair, knee
27405 .....Repair, primary, torn ligament and/or capsule, knee; collateral
27407 .....Repair, primary, torn ligament and/or capsule, knee; cruciate
27409 .....Repair, primary, torn ligament and/or capsule, knee; collateral and cruciate ligaments
27425 .....Lateral retinacular release, open
27427 .....Ligamentous reconstruction (augmentation), knee; extra-articular
27428 .....Ligamentous reconstruction (augmentation), knee; intra-articular (open)
27429 .....Ligamentous reconstruction (augmentation), knee; intra-articular (open) and extra-articular
27570 .....Manipulation of knee joint under general anesthesia (includes application of traction or other fixation devices)
29870 .....Arthroscopy, knee, diagnostic, with or without synovial biopsy (separate procedure)
29871 .....Arthroscopy, knee, surgical; for infection, lavage and drainage
29873 .....Arthroscopy, knee, surgical; with lateral release

29874 .....Arthroscopy, knee, surgical; for removal of loose body or foreign body (e.g., osteochondritis dissecans fragmentation, chondral fragmentation)

29875 .....Arthroscopy, knee, surgical; synovectomy, limited (e.g., plica or shelf resection) (separate procedure)

29876 .....Arthroscopy, knee, surgical; synovectomy, major, 2 or more compartments (e.g., medial or lateral)

29877 .....Arthroscopy, knee, surgical; debridement/shaving of articular cartilage (chondroplasty)

29879 .....Arthroscopy, knee, surgical; abrasion arthroplasty (includes chondroplasty where necessary) or multiple drilling or microfracture

29880 .....Arthroscopy, knee, surgical; with meniscectomy (medial AND lateral, including any meniscal shaving) including debridement/shaving of articular cartilage (chondroplasty), same or separate compartment(s), when performed

29881 .....Arthroscopy, knee, surgical; with meniscectomy (medial OR lateral, including any meniscal shaving) including debridement/shaving of articular cartilage (chondroplasty), same or separate compartment(s), when performed

29882 .....Arthroscopy, knee, surgical; with meniscus repair (medial OR lateral)

29883 .....Arthroscopy, knee, surgical; with meniscus repair (medial AND lateral)

29884 .....Arthroscopy, knee, surgical; with lysis of adhesions, with or without manipulation (separate procedure)

29885 .....Arthroscopy, knee, surgical; drilling for osteochondritis dissecans with bone grafting, with or without internal fixation (including debridement of base of lesion)

29886 .....Arthroscopy, knee, surgical; drilling for intact osteochondritis dissecans lesion

29887 .....Arthroscopy, knee, surgical; drilling for intact osteochondritis dissecans lesion with internal fixation

29888 .....Arthroscopically aided anterior cruciate ligament repair/augmentation or reconstruction

29889 .....Arthroscopically aided posterior cruciate ligament repair/augmentation or reconstruction

G0289 .....Arthroscopy, knee, surgical, for removal of loose body, foreign body, debridement/shaving of articular cartilage (chondroplasty) at the time of other surgical knee arthroscopy in a different compartment of the same knee

Meniscal Allograft Transplantation of the Knee

Description

Meniscal allograft transplantation of the knee is a surgical procedure used to restore normal meniscal function by replacing a damaged or absent meniscus with donor cadaver allograft cartilage. The procedure is an option for a subset of patients who have pain or disability attributed to insufficient cushioning and lubrication of the joint.

A significant subset of these patients have undergone one or more procedures to remove portions of the meniscus due to tears or other injury. The goal of the procedure is reduction in pain, prevention of degenerative changes to the cartilage and subchondral bone, and restoration of the mechanical properties of the knee joint.

Clinical Indications

The following general requirements apply to all indications except where they differ from the specific requirements. The specific requirements take precedence over any stated general requirement.

General Requirements

Documentation supporting medical necessity should be submitted at the time of the request and must include the following components:

Operative report of a prior arthroscopic procedure and/or MRI of the knee performed within the past 12 months – The provider shall submit a detailed and specific imaging report that correlates with clinical findings of the requested procedure. In the absence of the detailed report, the provider will be required to submit a report from an independent radiologist. The results of all imaging studies should correlate with the clinical findings in support of the requested procedure.

Conservative management should include a combination of strategies to reduce inflammation, alleviate pain, and improve function, including requirements for physical therapy AND at least one complementary conservative management strategy.

Physical therapy requirement includes ANY of the following:

- Physical therapy
- Physician or physical therapist-supervised therapeutic home exercise program which includes flexibility and muscle strengthening exercises
- Exception to the physical therapy requirement in unusual circumstances (for instance intractable pain so severe that physical therapy is not possible) when clearly documented in the medical record

Complementary conservative management requirement includes ANY of the following:

- Complementary alternative medicine including, but not limited to, chiropractic care, acupuncture, cognitive behavioral or massage therapy
- Anti-inflammatory medications and analgesics
- Intraarticular corticosteroid injection(s)

Documentation of compliance with a plan of therapy that includes elements from these areas is required where conservative management is appropriate.

Reporting of symptom severity – Severity of pain and its associated impact on activities of daily living (ADLs) and instrumental ADLs (IADLs) are key factors in determining the need for intervention. For purposes of this guideline, significant pain and functional impairment refer to pain that is at least 3 out of 10 in intensity and is associated with inability to perform at least two (2) ADLs and/or IADLs.

Meniscal Allograft Transplantation of the Knee

Meniscal allograft transplantation of the knee may be considered medically necessary as a treatment for individuals with significant partial (more than 50%) or complete loss of the meniscus, as documented by previous operative reports, MRI, or diagnostic arthroscopy, when ALL of the following criteria are met:

- Age 55 or younger and skeletally mature
- Knee pain refractory to conservative treatment
- Ligamentous stability either prior to surgery or achieved concurrently with meniscal transplantation
- Normal alignment without varus or valgus deformities
- Mild to moderate articular damage (Outerbridge grade II or less)

Exclusions

Indications other than those addressed in this guideline are considered **not medically necessary** including, but not limited to, the following:

- Treatment for asymptomatic individuals with partial or complete loss of the meniscus
- Use of other meniscal implants incorporating materials such as collagen and polyurethane

Selected References

1. American Academy of Orthopaedic Surgeons, Appropriate use criteria for the treatment of anterior cruciate ligament injuries, (2015) Rosemont IL, 35 pgs.
2. Beaufils P, Hulet C, Dhenain M, et al. Clinical practice guidelines for the management of meniscal lesions and isolated lesions of the anterior cruciate ligament of the knee in adults. Orthopaedics & traumatology, surgery & research : OTSR. 2009;95(6):437-42.

Codes

The following code list may not be all-inclusive. Specific CPT codes for services should be used when available. Nonspecific or not otherwise classified codes may be subject to additional documentation requirements and review.

CPT/HCPCS

29868 .....Arthroscopy, knee, surgical; meniscal transplantation (includes arthrotomy for meniscal insertion), medial or lateral

G0428 .....Collagen meniscus implant procedure for filling meniscal defects (e.g., CMI, collagen scaffold, Menaflex)

Treatment of Osteochondral Defects

Description and Scope

Articular cartilage lesions in weight-bearing joints often fail to heal spontaneously and may be associated with pain, loss of function, and long-term complications such as osteoarthritis. A number of surgical techniques have been developed to treat these lesions, but an established therapy with long-term efficacy remains elusive.

The most widely used are bone marrow stimulation techniques to induce an influx of mesenchymal stem cells into the defect. Other techniques involve transplantation of osteochondral tissue from non-weight bearing sites, autologous chrondrocyte transplant, and use of synthetic bone filler material or scaffolds.

This guideline addresses treatment of osteochondral defects of the knee, ankle, and other joints using the following procedures or devices:

- Autologous chondrocyte transplant (ACT)
- Minced cartilage repair
- Osteochondral allograft
- Osteochondral autograft (OATS/mosaicplasty)
- Resorbable synthetic bone filler materials
- Microfracture

Clinical Indications

The following general requirements apply to all indications except where they differ from the specific requirements. The specific requirements take precedence over any stated general requirement.

General Requirements

Documentation supporting medical necessity should be submitted at the time of the request and must include the following components:

Operative report of a prior arthroscopic procedure and/or MRI of the knee performed within the past 12 months – The provider shall submit a detailed and specific imaging report that correlates with clinical findings of the requested procedure. In the absence of the detailed report, the provider will be required to submit a report from an independent radiologist. The results of all imaging studies should correlate with the clinical findings in support of the requested procedure.

Conservative management should include a combination of strategies to reduce inflammation, alleviate pain, and improve function, including requirements for physical therapy AND at least one complementary conservative management strategy.

Physical therapy requirement includes ANY of the following:

- Physical therapy
- Physician or physical therapist-supervised home treatment program which may include flexibility and muscle strengthening exercises
- Exception to the physical therapy requirement in unusual circumstances (for instance, intractable pain so severe that physical therapy is not possible) when clearly documented in the medical record

Complementary conservative management requirement includes ANY of the following:

- Complementary alternative medicine including, but not limited to, chiropractic care, acupuncture, cognitive behavioral or massage therapy
- Anti-inflammatory medications and analgesics

- Intraarticular corticosteroid injection(s)

Documentation of compliance with a plan of therapy that includes elements from these areas is required where conservative management is appropriate.

Reporting of symptom severity – Severity of pain and its associated impact on activities of daily living (ADLs) and instrumental ADLs (IADLs) are key factors in determining the need for intervention. For purposes of this guideline, significant pain and functional impairment refer to pain that is at least 3 out of 10 in intensity and is associated with inability to perform at least two (2) ADLs and/or IADLs.

Patient Selection Requirements

Candidates for procedures included in this guideline must meet ALL of the following requirements:

- Skeletal maturity as documented by closure of growth plates
- Disabling localized knee pain for at least 3 months, which has failed to respond to conservative treatment
- Body Mass Index (BMI) less than or equal to 35
- Absence of localized or systemic infection
- No history of cancer in the bones, cartilage, fat or muscle of the affected limb
- Willingness and ability to comply with post-operative weight-bearing restrictions and rehabilitation

Lesion and joint characteristics must include ALL of the following:

- The lesion must be discrete, single, and involve only one side of the joint.
- The lesion is largely contained with near normal surrounding articular cartilage and articulating cartilage.
- The joint space is normal, without evidence of inflammation or degenerative changes.
- The knee is stable, with functionally intact menisci and ligaments and normal alignment.

Corrective procedures (e.g., ligament or tendon repair, osteotomy for realignment, meniscal allograft transplant or repair) may be performed in combination with, or prior to, transplantation.

Osteochondral Allograft Transplantation

Cartilaginous defects of the knee

Osteochondral allograft transplantation to treat cartilaginous defects of the knee may be considered medically necessary when BOTH of the following criteria are met:

- Size of the cartilage defect is greater than or equal to 2 cm^2 in total area, as documented by MRI or arthroscopy
- Condition involves a focal, full thickness, (grade III or IV) isolated defect of the weight-bearing surface of the medial or lateral femoral condyles or trochlear region (trochlear groove of the femur)

Cartilaginous defects of the talus

Osteochondral allograft transplantation to treat cartilaginous defects of the talus may be considered medically necessary when EITHER of the following criteria are met:

- Large (area > 1.5 cm^2) or cystic (volume > 3.0 cm^3) osteochondral lesions of the talus when autografting would be inadequate due to lesion size, depth, or location
- Revision surgery after failed prior marrow stimulation for large (area > 1.5 cm^2) or cystic (volume > 3.0 cm^3) osteochondral lesions of the talus when autografting would be inadequate due to lesion size, depth, or location

Osteochondral Autograft Transplantation or Microfracture

Cartilaginous defects of the knee

Osteochondral autograft transplantation or microfracture, either osteochondral autograft transplant (OAT) or autologous mosaicplasty, to treat cartilaginous defects of the knee may be considered medically necessary when ALL of the following criteria are met:

- Size of the cartilage defect is between 1.0 cm and 2.5 cm^2 in total area, as documented by MRI or arthroscopy
- Condition involves a focal, full thickness, (grade III or IV) isolated defect of the knee involving the weight bearing surface of the medial or lateral femoral condyles or trochlear region (trochlear groove of the femur)
- Absence of "kissing" knee lesions (lesion must be single and involve only one side of the joint)

Cartilaginous defects of the talus

Osteochondral autograft transplantation or microfracture, either osteochondral autograft transplant (OAT) or autologous mosaicplasty, to treat cartilaginous defects of the talus may be considered medically necessary when EITHER of the following criteria is met:

- Large (area > 1.5 cm^2) or cystic (volume > 3.0 cm^3) osteochondral lesions of the talus
- Revision surgery after failed marrow stimulation for osteochondral lesions of the talus

Autologous Chondrocyte Implantation

Cartilaginous defects of the knee

Autologous chondrocyte implantation (ACI) to treat cartilaginous defects of the knee may be considered medically necessary when ALL of the following criteria are met:

- There has been an inadequate response to prior surgical therapy to correct the defect
- Size of the cartilage defect is greater than or equal to 1.5 cm^2 in total area, as documented by MRI or arthroscopy
- Condition involves a focal, full thickness, (grade III or IV) isolated defect of the knee involving the weight bearing surface of the medial or lateral femoral condyles or patellofemoral region (includes trochlear region, trochlear groove, and patella)
- The defect involves only the cartilage and not the subchondral bone*

  ***Exception to this requirement**: the treatment of osteochondritis dissecans (OCD) associated with a bony defect of 10 mm or less in depth, which has failed prior conservative treatment. OCD lesions associated with a bony lesion greater than 10 mm in depth must also undergo corrective bone grafting).*

Contraindications

(All procedures listed)

- Known allergy to gentamicin
- Known sensitivity to bovine cultures

Exclusions

Indications other than those addressed in this guideline are considered **not medically necessary** including, but not limited to, the following:

- Use of non-autologous mosaicplasty using resorbable synthetic bone filler materials, including but not limited to plugs and granules, to repair osteochondral defects of the knee or ankle
- Use of minced articular cartilage (whether synthetic, allograft or autograft) to repair osteochondral defects of the knee or ankle
- Use of decellularized osteochondral allograft plugs (e.g., Chondrofix®) or reduced osteochondral allograft discs (e.g., ProChondrix®, Cartiform®) to repair osteochondral defects of the knee or ankle

Codes

The following code list may not be all-inclusive. Specific CPT codes for services should be used when available. Nonspecific or not otherwise classified codes may be subject to additional documentation requirements and review.

CPT/HCPCS

27412 .....Autologous chondrocyte implantation, knee

27415 .....Osteochondral allograft, knee, open [when specified as osteochondral allograft]

27416 .....Osteochondral autograft(s), knee, open (e.g., mosaicplasty) includes harvesting of autograft[s])

28446 .....Open osteochondral autograft, talus (includes obtaining graft[s])

29866 .....Arthroscopy, knee, surgical; osteochondral autograft(s) (e.g., mosaicplasty) (includes harvesting of the autograft)

29867 .....Arthroscopy, knee, surgical; osteochondral allograft (e.g., mosaicplasty)

29879 .....Arthroscopy, knee, surgical; abrasion arthroplasty (includes chondroplasty where necessary) or multiple drilling or microfracture

29892 .....Arthroscopically aided repair of large osteochondritis disssecans lesion, talar dome fracture, or tibial plafond fracture, with or without internal fixation (includes arthoscopy)

J7330 .....Autologous cultured chondrocytes, implant

S2112.....Arthroscopy, knee, surgical for harvesting of cartilage (chondrocyte cells)

Appendix

Kellgren-Lawrence grading system for radiographic assessment of cartilage damage

Grade	Description
0	Normal
1	Doubtful narrowing of joint space and possible osteophytic lipping
2	Definite osteophytes, definite narrowing of joint space
3	Moderate multiple osteophytes, definite narrowing of joint space, some sclerosis and possible deformity of bone contour
4	Large osteophytes, marked narrowing of joint space, severe sclerosis and definite deformity of bone contour

Modified Outerbridge grading system for MRI assessment of cartilage damage

Grade	Description
0	Normal
I	Signal intensity alterations with an intact surface of the articular cartilage compared with the surrounding normal cartilage
II	Partial-thickness defect with fissures on the surface that do not reach subchondral bone or exceed 1.5 cm in diameter
III	Fissuring to the level of subchondral bone in an area with a diameter more than 1.5 cm
IV	Exposed subchondral bone head

Tönnis grading system for radiographic assessment of osteoarthritis

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, and moderate loss of head sphericity
3	Severe: large cysts, severe narrowing or obliteration of the joint space, severe deformity of the head

History

Status	Review Date	Effective Date	Action
Archived	–	01/01/2021	Archived for Commercial and Medicare members.
Revised	08/12/2019	05/17/2020	Independent Multispecialty Physician Panel (IMPP) review. Added steroid injection within the past 6 weeks as a contraindication for shoulder and hip arthrosplasty. For shoulder arthroscopy, added exclusions for xenografts, platelet rich plasma, and subacromial decompression, and removed indication for subacromial impingement with rotator cuff tear. Added new labral tear indication for hip arthroscopy. For knee arthroscopy, added new chondroplasty indication, narrowed use of lateral release to lateral compression as a cause for anterior knee pain or chondromalacia patella, added conservative management and advanced osteoarthritis exclusion for patellar compression syndrome. Added CPT codes 27425 and 27570.
Revised	11/28/2018	06/29/2019	IMPP review. All sections: Clarified conservative management options and removed nicotine-free documentation requirement. For shoulder arthroscopy, updated criteria for subacromial impingement syndrome and tendinopathy of the long head of the biceps. New indication for synovectomy/debridement. Added steroid injection exclusion for shoulder, hip, and knee arthrosplasty. Updated criteria for primary and revision total hip arthroplasty; new guideline for resection arthroplasty. For hip arthroscopy, expanded appropriate techniques for FAI surgery to include acetabuloplasty and femoroplasty, added radiographic and clinical criteria to include FAIS-related symptoms. New guideline for elective patellofemoral arthroplasty, and added clinical scenarios for revision of prior knee arthroplasty. For knee arthroscopy, changes to meniscal repair/meniscectomy, and new guideline for arthroscopically assisted lysis of adhesions and manipulation under anesthesia. Meniscal allograft transplantation: Added exclusion for collagen meniscal implants. New criteria for talar osteochondral defects, allow patellar surface autologous chondrocyte implantation, and exclude use of decellularized osteochondral allograft plugs and reduced osteochondral allograft discs to repair osteochondral defects. Added CPT codes 27120, 27122, 27437, 27445, 27488, 28446, 29871, and 29892. Added HCPCS code G0428.
Revised	07/11/2018	03/09/2019	IMPP review. Added the General Clinical Guideline.
Revised	–	01/01/2019	2019 Annual CPT and HCPCS code updates: added 23700, G0289, G0428, J7330, and S2112.
Created	07/17/2017	11/01/2017	IMPP review. Original effective date.