Cohere Medicare Advantage Policy - Knee Arthroscopy

Clinical Guidelines for Medical Necessity Review

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Important Notices

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Other Notices:

Guideline Information:

Specialty Area: Disorders of the Musculoskeletal System
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Type: [**X**] Adult (18+ yo) | [_] Pediatric (0-17 yo)

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Medical Necessity Criteria

Service: Knee Arthroscopy

Benefit Category

Incident to a physician's professional Service
Inpatient Hospital Services
Physicians' Services

Please Note: This may not be an exhaustive list of all applicable Medicare benefit categories for this item or service.

Related CMS Documents

Please refer to the CMS Medicare Coverage Database for the most current applicable CMS National Coverage.[1]

- National Coverage Determination. Arthroscopic Lavage and Arthroscopic Debridement for the Osteoarthritic Knee. (150.9)

Recommended Clinical Approach

Knee arthroscopy is a minimally invasive method of visualizing and treating the knee joint. It is the standard treatment for the removal of inflamed synovial tissue, loose fragments of bone or cartilage, and resecting the damaged meniscus. The procedure may also be performed to trim or reconstruct damaged articular cartilage, as well as to reconstruct a torn anterior cruciate ligament (ACL) or posterior cruciate ligament (PCL). Knee arthroscopy is additionally performed to treat knee sepsis and issues related to the patella, such as chondromalacia patella. Osteochondritis dissecans, a condition in which a portion of bone and the cartilage covering it begins to separate from the joint, may be treated and evaluated arthroscopically. As an alternative to more invasive open procedures, knee arthroscopy is well-tolerated, safe, and leads to improved quality of life and function.[2-8]

Evaluation of Clinical Harms and Benefits

Cohere Health uses the criteria below to ensure consistency in reviewing the conditions to be met for coverage of knee arthroscopy. This process helps to

prevent both incorrect denials and inappropriate approvals of medically necessary services. Specifically, limiting incorrect approvals reduces the risks associated with unnecessary procedures, such as complications from surgery, infections, and prolonged recovery times.

The potential clinical harms of using these criteria may include:

- Inadequate management of knee pathology which may ultimately result in progression of degenerative joint disease, worsening pain, and impaired mobility. Decreased mobility is associated with medical comorbidities. Certain injuries, including acute meniscus tears, can lead to knee instability if untreated or undertreated, which may increase fall risk.[2,9]
- Risks with inappropriate surgical procedures include infection, bleeding, injury to neurovascular structures, injury to the articular cartilage, implant (anchor) migration, anesthetic risk, and the need for repeat or additional procedures. Other risks include iatrogenic injury due to intraoperative traction, damage due to misplaced anchors, fluid extravasation, adhesions, and pyogenic arthritis. If a patient has an inappropriate knee arthroscopy, this can lead to additional complications, necessitating further invasive management; therefore, careful patient selection is in the patient's best interest.[2,9]
- Increased healthcare costs and complications from the inappropriate use of emergency services and additional treatments.

The potential clinical benefits of using these criteria include:

- Improved patient outcomes by ensuring timely and appropriate access to care for conditions that are optimally treated with knee arthroscopy. Adequate treatment of a meniscus tear, for example, can result in decreased pain, improved mobility, and prevention of early degenerative changes. Many patients are able to return to their prior level of activity and/or participation in sport after proper, timely treatment of acute knee injury or other pathology that is optimally managed arthroscopically.[2,9]
- Reduction in adverse effects of non-indicated, unnecessary procedures. It is crucial to avoid unnecessary surgery, as in the future, it may result in additional invasive management. Knee arthroscopy can result in damage to the articular cartilage, thus worsening degenerative changes in the knee.[2,9]

- Appropriate management of acute trauma and acute infection. Early arthroscopic intervention is indicated for specific traumatic injuries and infections with limited self-healing capacity in order to optimize patient outcomes. These criteria allow for approval of patients with certain acute trauma or infection of the knee joint without requiring any additional treatment so as to expedite their treatment.[2,9]
- Enhanced overall patient satisfaction and healthcare experience. Positive patient-reported outcomes include reduced pain, better function, and improved quality of life.

This policy includes provisions for expedited reviews and flexibility in urgent cases to mitigate risks of delayed access. Evidence-based criteria are employed to prevent inappropriate denials, ensuring that patients receive medically necessary care. The criteria aim to balance the need for effective treatment with the minimization of potential harms, providing numerous clinical benefits in helping avoid unnecessary complications from inappropriate care.

In addition, the use of these criteria is likely to decrease inappropriate denials by creating a consistent set of review criteria, thereby supporting optimal patient outcomes and efficient healthcare utilization.

Medical Necessity Criteria

Indications

➔ **Knee arthroscopy** is considered appropriate if **ANY** of the following is **TRUE**:

- ◆ **Intraarticular joint pathology evaluation, lateral retinacular release,** or **synovectomy/plica resection** when **ALL** of the following are **TRUE**[9-13]:
  - **ANY** of the following
    - Chronic knee pain and **ALL** of the following are **TRUE**:
      - ◆ Unknown etiology of symptoms; **AND**
      - ◆ Imaging does not yield definitive results; **AND**
      - ◆ Diagnostic arthrocentesis with synovial fluid analysis when **ANY** of the following is **TRUE**:
        - Nondiagnostic; **OR**
        - Not indicated; **OR**
    - Symptoms of locking, catching, and giving way; **OR**

    - A loose body on imaging; **OR**
    - Patellofemoral instability; **OR**
    - Abnormal patellar tracking; **OR**
    - Patellar compression syndrome; **OR**
    - Inflammatory (e.g., rheumatoid arthritis, psoriatic arthritis, Lyme arthritis) arthritis; **OR**
    - Benign tumor/neoplastic disorders (osteochondromatosis, tenosynovial giant cell tumor [pigmented villonodular synovitis - PVNS], synovial hemangioma, and recurrent hemarthrosis)[14]; **OR**
    - Recurrent effusion[15]; **OR**
    - Plica syndrome[15]; **OR**
    - Hemophilic joint disease[16]; **OR**
    - Lipoma arborescens (synovial lipomatosis)[15]; **AND**
- **ANY** of the following:
    - Conservative management does not apply - tenosynovial giant cell tumor (pigmented villonodular synovitis [PVNS]) or other pathologic synovial processes; **OR**
    - Failure of conservative management for greater than 3 months, including **ALL** of the following:
        - Anti-inflammatory medications, non-opioid analgesics, or prescription medications (e.g., oral steroids, neuropathic pain medications) if not contraindicated; **AND**
        - Physical therapy or physician-directed exercise program; **AND**
        - Bracing if medically appropriate; **AND**
        - **ANY** of the following:
            - Corticosteroid injection if medically appropriate; **OR**
            - Documentation that corticosteroid injection is contraindicated; **OR**

◆ **Debridement, lysis, drainage, or lavage** when **ALL** of the following are **TRUE**[9]:

- **ANY** of the following:
    - Infected joint (septic arthritis)[10,11]; **OR**
    - A foreign body on imaging (e.g., hardware); **OR**

- The patient has **ANY** of the following conditions:
    - Nonoperative care does not apply (infected joint; symptoms of locking, catching, giving way); **OR**
    - Focal articular cartilage lesion (less than 4 cm^2) with **ALL** of the following[3,17,18]:
        - Symptoms that are related to chondral injury; **AND**
        - Absence of advanced osteoarthritis; **AND**
        - Nonoperative care (e.g., anti-inflammatory medications, analgesics, physical therapy, bracing) has been attempted and failed; **OR**
    - Arthrofibrosis (e.g., after prior surgical procedure or trauma), as indicated by **ALL** of the following[8]:
        - Loss of range of motion; **AND**
        - Nonoperative care (e.g., physical therapy, manipulation under anesthesia) has been attempted and failed for at least 6 weeks; **OR**

- **Ligament injury (ACL, PCL, LCL)** when **ALL** of the following are **TRUE**[9,19-23]:
    - Absence of advanced arthritis; **AND**
    - Limited activities of daily living (ADLs) due to pain and instability; **AND**
    - **ANY** of the following:
        - Presence of anterior cruciate ligament (ACL) tear; **OR**
        - Presence of posterior cruciate ligament (PCL) tear; **OR**
        - Presence of lateral collateral (fibular) ligament (LCL) tear; **OR**
        - Presence of posterolateral corner (PLC) of the knee is injured; **AND**
    - **ANY** of the following:
        - Decrease in swelling with improvement in range of motion since initial injury; **OR**
        - Clinically urgent injury for which ROM restoration would not be feasible prior to surgery; **AND**
    - Treatment is indicated for **ANY** of the following reasons:
        - Acute tear or injury; **OR**
        - Chronic injury associated with meniscal tear; **OR**
        - Concurrent with injury of **ANY** of the following:

        - Concomitant MCL/PCL/ACL/PLC/LCL injury; **OR**
        - Concomitant avulsion fracture; **OR**
        - Posterolateral corner of the knee is injured; **OR**
        - Tibial displacement of more than 8mm is demonstrated on stress radiographs; **OR**
        - Anterolateral ligament injury in conjunction with ACL injury; **OR**
    - Chronic injury with **ANY** of the following:
        - Failure of conservative management for greater than 3 months, including **ALL** of the following:
            - Anti-inflammatory medications, non-opioid analgesics, or prescription medications (e.g., oral steroids, neuropathic pain medications) if not contraindicated; **AND**
            - Physical therapy or physician-directed exercise program; **AND**
            - **ANY** of the following:
                - Corticosteroid injection if medically appropriate; **OR**
                - Documentation that corticosteroid injection is contraindicated; **OR**
        - Persistent instability such that surgical treatment recommended; **OR**
- **Treatment of osteochondral defect (e.g., osteochondritis dissecans)** when **ALL** of the following are **TRUE**[24,25]:
    - Plain radiograph or advanced imaging demonstrates an osteochondral defect; **AND**
    - Patient has **ANY** of the following:
        - Symptoms attributable to the osteochondral defect; **OR**
        - Acute traumatic injury resulting in osteochondral defect; **OR**
- **Autologous chondrocyte implantation (ACI)** when **ALL** of the following are **TRUE**[4,9]:
    - The patient has knee symptoms (e.g. pain, swelling, mechanical) or functional compromise; **AND**

- Chondral lesion between 2 cm and 4 cm; **AND**
- 12 years or older; **OR**

◆ **Treatment of torn meniscus** when **ANY** of the following is **TRUE**[2,26-34]:

- **Partial meniscectomy** when **ANY** of the following is **TRUE**:
  - The tear is an acute tear due to injury or trauma, or a recurrent or failed prior repair, and **ALL** of the following are **TRUE**:
    - ◆ Advanced imaging demonstrates a meniscal tear; **AND**
    - ◆ Acute, painful knee with exam consistent with MRI finding of tear; **AND**
    - ◆ Persistent mechanical symptoms; **OR**
  - The tear is a chronic (degenerative) tear and **ALL** of the following are **TRUE**:
    - ◆ Advanced imaging demonstrates a meniscal tear; **AND**
    - ◆ Persistent mechanical symptoms; **AND**
    - ◆ Knee pain with exam consistent with MRI finding of meniscal tear; **AND**
    - ◆ Failure of conservative management for greater than 3 months with degenerative tears and minimal osteoarthritis, including **ALL** of the following:
      - Anti-inflammatory medications, non-opioid analgesics, or prescription medications (e.g., oral steroids, neuropathic pain medications) if not contraindicated; **AND**
      - Physical therapy or physician-directed exercise program; **AND**
      - Activity modification; **AND**
      - **ANY** of the following:
        - Corticosteroid injection if medically appropriate; **OR**
        - Documentation that corticosteroid injection is contraindicated; **OR**
- **Meniscus repair** when **ALL** of the following are **TRUE**:

        - The patient has mechanical symptoms following an acute injury; **AND**
        - The patient has a meniscal tear on advanced imaging findings or a failed prior repair; **OR**
    - **Meniscus allograft transplantation** is considered appropriate if **ALL** of the following are **TRUE**[9]:
        - Significant portion of the meniscus is absent due to either prior meniscectomy or prior injury; **AND**
        - Persistent pain or impaired function with activity; **AND**
        - Age 50 years or younger; **AND**
        - Symptoms are localized to the tibiofemoral compartment; **AND**
        - No evidence of advanced arthrosis; **AND**
        - Over 50% joint space remaining; **OR**
- **Arthroscopic management of fractures** when **ANY** of the following are **TRUE**[9]:
    - Fracture of the anterior intercondylar eminence of the tibia; **OR**
    - Other fracture pattern that would benefit from arthroscopically-assisted fracture reduction.

Non-Indications

- **Knee arthroscopy** is not considered appropriate if **ANY** of the following is **TRUE**[9]:
    - Osteoarthritis of the knee that is moderate or severe (or KL [Kellgren-Lawrence] grade III or grade IV)[1,26,28,31]; **OR**
    - Active infection at the surgical site (unless arthroscopy is indicated for surgical management of infection); **OR**
    - The procedure is a meniscus allograft transplantation for **ANY** of the following:
        - Inflammatory arthropathy; **OR**
        - Malalignment or instability that is not being corrected at the time of the meniscal allograft surgery **OR**
        - Irreparable/untreatable chondral damage.

Level of Care Criteria

Inpatient or Outpatient

Procedure Codes (CPT/HCPCS)

CPT/HCPCS Code	Code Description
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
27412	Autologous chondrocyte implantation, knee
27427	Ligamentous reconstruction (augmentation), knee; extra-articular
27599	Unlisted procedure, femur or knee
29850	Arthroscopically aided treatment of intercondylar spine(s) and/or tuberosity fracture(s) of the knee, with or without manipulation; without internal or external fixation (includes arthroscopy)
29851	Arthroscopically aided treatment of intercondylar spine(s) and/or tuberosity fracture(s) of the knee, with or without manipulation; with internal or external fixation (includes arthroscopy)
29855	Arthroscopically aided treatment of tibial fracture, proximal (plateau); unicondylar, includes internal fixation, when performed (includes arthroscopy)
29856	Arthroscopically aided treatment of tibial fracture, proximal (plateau); bicondylar, includes internal fixation, when performed (includes arthroscopy)
29866	Arthroscopy, knee, surgical; osteochondral autograft(s) (e.g., mosaicplasty) (includes harvesting of autograft[s])
29867	Arthroscopy, knee, surgical; osteochondral allograft

	(e.g., mosaicplasty)
29868	Arthroscopy, knee, surgical; meniscal transplantation (includes arthrotomy for meniscal insertion), medial or lateral
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
29999	Unlisted procedure, arthroscopy
J7330	Cultured chondrocytes implant
S2112	Knee arthroscopy harvest

Disclaimer: S codes are non-covered per CMS guidelines due to their experimental or investigational nature.

Medical Evidence

In a 2022 Cochrane Review, O'Connor et al. reviewed the literature to determine the efficacy of arthroscopic knee surgery for the treatment of symptomatic knee osteoarthritis, including for degenerative meniscal tears. While current guidelines discourage the use of the procedure for these indications, it is still performed with some regularity. The review analyzed benefits and harms (e.g., debridement, partial meniscectomy, or both) when compared to non-surgical interventions (e.g., physical therapy, exercise, intra-articular glucocorticoid injections, non-arthroscopic lavage, non-steroidal anti-inflammatory drugs, hyaluronic acid injections) or placebo surgery. Sixteen trials were included, representing randomized controlled trials (RCTs) and quasi-randomized trials. A total of 2105 patients (age range 46 to 65 years; 56% women) met the inclusion criteria. The authors affirmed that arthroscopic surgery is not recommended for patients with symptomatic degenerative knee disease as the evidence does not demonstrate clinically significant improvements in pain, function, or quality of life. In addition, arthroscopy may advance the progression of knee osteoarthritis and may result in earlier or additional surgery (e.g., knee arthroplasty, osteotomy).[2]

A 2024 publication by Sonesson et al. examined the 10-year outcomes among 150 middle-aged patients with meniscal symptoms who were randomized to either nonsurgical or surgical management. At the time of follow-up, the 142 surviving patients were evaluated for radiographic presence of osteoarthritis, as well as symptoms of osteoarthritis. The authors found that patient-reported outcomes were similar between cohorts and, given the short-term benefit and lack of long-term harm of knee arthroscopy, endorsed it as a first-line treatment for meniscal pathology after a failed trial of conservative care for a minimum of three months.[35]

The Academy of Orthopaedic Surgeons (AAOS) has published four clinical guidelines to direct the management of patients with disease and damage to the knee that may be treated with arthroscopy. *Diagnosis and Treatment of Osteochondritis Dissecans* was published in 2023.[25] Therein, two recommendations, classified as limited in strength, were made regarding the surgical management of osteochondritis dissecans. The authors noted that the current body of evidence is insufficient to make a recommendation for or

against surgical intervention for both adult and pediatric patients. They cite the associated benefits and risks for nonoperative and operative treatment and ultimately opine, as a workgroup, that patients should be given the option of undergoing surgery. *Management of Acute Meniscal Pathology* was adopted in 2024, although the workgroup notes that current evidence is insufficient to establish strong recommendations.[34] Importantly, a moderate-strength recommendation is made regarding the preservation of meniscal tissue during surgical intervention in order to reduce the future risk of osteoarthritis. The authors opine that patients with a displaced acute meniscal tear or a symptomatic acute meniscal tear would benefit from early surgical intervention. Elsewhere in the guideline, the authors recommend surgical treatment of acute meniscal tears within six months of injury after failed conservative treatment, although this guidance was limited in strength and based on low-quality evidence. The workgroup advocates for future research in this area to allow for improved recommendations to be made in the future. *Management of Anterior Cruciate Ligament Injuries* was published in 2022.[20] The AAOS recommends operative treatment of ACL injuries in select patients. Early reconstruction for patients with acute isolated ACL tears is recommended due to the increased risk profile (potential chondral injury, meniscal injury) beyond 3 months. In general, ACL reconstruction was endorsed over ACL repair due to the higher risk of revision surgery after ACL repair. ACL reconstruction was characterized as the standard of care for primary ACL injury. Both recommendations were categorized as strong and were based on evidence that was rated as high-quality.[20] *Management of Osteoarthritis of the Knee (Non-Arthroplasty)* was adopted in 2021. In this guideline, the AAOS does not recommend arthroscopy with lavage and/or debridement for primary knee osteoarthritis. Among patients with meniscal tears and concomitant mild to moderate osteoarthritis, arthroscopic partial meniscectomy may be necessary when conservative treatment (e.g., physical therapy) has been unsuccessful. Both recommendations were made with moderate strength.[26]

The AAOS has also issued position statements pertaining to knee arthroscopy. Information statement 1047, published in 2016, acknowledges the increased patient safety risks conferred by tobacco use - including increased ventilatory support, myocardial infarction, cardiac arrest, cerebrovascular accident, sepsis, and death.[36] The AAOS states that patients who are active smokers may reduce these risks through cessation of smoking prior to

surgery; they also note the special role orthopaedic surgeons play in counseling patients on the benefits of reduced or eliminated tobacco use before surgery. Importantly, unconfirmed cessation is not endorsed as a hard stop to surgery; rather, the surgeon's unique role as an advocate for preoperative smoking cessation is emphasized. Statements 1040 and 1184 discuss the impact of obesity on musculoskeletal conditions.[37,38] Patients with morbid obesity (BMI of 40 or above) are encouraged to participate in a weight loss program, obtain weight reduction resources through their physician, rectify nutritional deficiencies, and consider a delay in surgical treatment if it would facilitate participation in weight loss interventions that may improve surgical outcomes. Statement 1040 notes that individuals with obesity face an increased risk for sports injuries and that when such injuries are treated arthroscopically, the procedure may be more technically difficult because of the loss of superficial landmarks.[37] Questions remain as to whether functional results are affected by obesity. Further, the authors note the risks associated with general anesthesia for patients with obesity and emphasize the importance of adequate patient positioning and padding to avoid pressure ulcers, nerve palsies, and compartment syndromes, which are more common among obese patients. In general, obesity is associated with a greater risk of premature complications and mortality during the perioperative period. The AAOS endorses compassionate, risk-informed patient counseling for obese patients who are considering surgery. Careful screening and appropriate referral to nutrition or endocrine care is also endorsed. Statement 1184 reinforces the risks associated with obesity in the setting of orthopaedic care and similarly encourages adequate patient counseling prior to surgery.[38]

Social determinants of health remain an important area of ongoing orthopaedic surgery research, with recent literature raising questions regarding the healthcare disparities that may be potentiated by care limitations based on obesity and smoking status/nicotine dependence.[39-45] Other ongoing research interrogates the impacts that biological sex, race, and socioeconomic status have on knee arthroscopy utilization and outcomes.[46-54]

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Clinical Guideline Revision History/Information

Original Date: May 24, 2024		
Review History		
Version 2	6/10/2024	• 422.101 Disclaimer added
Version 3	4/17/2025	Annual policy review & restructure: • Removed requirement for “young, active patient” for medial or lateral meniscal tears • Permitted osteochondritis dissecans to be visualized on plain radiograph per professional society guideline • Removed qualifier for “due to patient's occupation” on ACL reconstruction per professional society guidelines • Removed requirement for conservative management of greater than 3 months for ACL tear per professional society guidelines • Modified indications for meniscus allograft transplantation for clarity and to better reflect the referenced source • Removed redundant synovectomy indication for Lyme arthritis, which was already captured in prior indication • Removed redundant synovectomy indication for tenosynovial giant cell tumor, which was already captured in prior indication • Added indications for synovectomy: synovial hemangioma, degenerative synovitis, plica syndrome • Added an “out” for conservative management requirement for plica syndrome and PVNS • Adjusted chondral lesion size for optimal ACI treatment to reflect appropriate arthroscopic management versus open arthrotomy • Added minimum age of 12 for optimal ACI treatment

		• Removed requirement for grade III or grade IV osteochondral defect for optimal arthroscopic ACI treatment versus open arthrotomy • Moved debridement of articular cartilage lesion indication beneath existing indications for debridement • Removed hemangioma indication under diagnostic arthroscopy as this indication was better covered elsewhere • Added indication for arthroscopic management of certain fracture types • Removed BMI requirement for meniscus allograft as it is not an absolute contraindication • Consolidated all indications which require three months of conservative care for policy's ease of use. • Updated conservative care to current internal standard language. • Conservative care language modified to reflect non-opioid pain control. • Modified steroid injection language for clarity. • Added references. • Updated medical evidence section.
Version 4	5/22/2025	• Added CPT codes: 27405, 27407, 27409, 27427 • Slight modification to ligamentous injury indication to allow approval for lateral collateral ligament injury - changed "cruciate ligament injury" to "ligament injury" and added bullet points: presence of LCL tear, presence of PLC injury