Cohere Medical Policy - Patellofemoral Reconstruction/Realignment

Clinical Policy for Medical Necessity Review

Version: 2
Cohere Health UMC Approval Date: July 24, 2025
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Revision: Not Applicable
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Important Notices

Notices & Disclaimers:

GUIDELINES ARE SOLELY FOR COHERE'S USE IN PERFORMING MEDICAL NECESSITY REVIEWS AND ARE NOT INTENDED TO INFORM OR ALTER CLINICAL DECISION-MAKING OF END USERS.

Cohere Health, Inc. ("**Cohere**") has published these clinical guidelines to determine the medical necessity of services (the "**Guidelines**") for informational purposes only, and solely for use by Cohere's authorized "**End Users**". These Guidelines (and any attachments or linked third-party content) are not intended to be a substitute for medical advice, diagnosis, or treatment directed by an appropriately licensed healthcare professional. These Guidelines are not in any way intended to support clinical decision-making of any kind; their sole purpose and intended use is to summarize certain criteria Cohere may use when reviewing the medical necessity of any service requests submitted to Cohere by End Users. Always seek the advice of a qualified healthcare professional regarding any medical questions, treatment decisions, or other clinical guidance. The Guidelines, including any attachments or linked content, are subject to change at any time without notice.

Other Notices:

Policy Information:

Specialty Area: Musculoskeletal Care
Policy Name: Cohere Medical Policy - Patellofemoral Reconstruction/Realignment
Type: [**X**] Adult (18+ yo) | [**X**] Pediatric (0-17 yo)

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Medical Necessity Criteria

Service: Patellofemoral Reconstruction/Realignment

Cohere Health takes an evidence-based approach to reviewing imaging and procedure requests, meaning that sufficient clinical information must be provided at the time of submission to determine medical necessity. Documentation must include a recent and detailed history, physical examination related to the onset or change in symptoms, relevant lab results, prior imaging, and details of previous treatments. Advanced imaging or procedures should be requested after a clinical evaluation by the treating provider, which may include referral to a specialist.

- When a specific clinical indication is not explicitly addressed in the Cohere Health medical policy, medical necessity will be determined based on established clinical best practices, as supported by evidence-based literature, peer-reviewed sources, professional society guidelines, and state or national recommendations, unless otherwise directed by the health plan.
- Requests submitted without clinical documentation, or those that do not align with the provided clinical information—such as mismatched procedure, laterality, body part, or CPT code—may be denied for lack of medical necessity due to insufficient or inconsistent clinical information.
- When there are multiple diagnostic or therapeutic procedures requested simultaneously or within the past three months, each will be reviewed independently. Clinical documentation must clearly justify all of the following:
    - The medical necessity of each individual request
    - Why prior imaging or procedures were inconclusive, or why additional/follow-up studies are needed
    - How the results will impact patient management or treatment decisions
- Requests involving adjacent or contiguous body parts may be considered not medically necessary if the documentation demonstrates that the

patient's primary symptoms can be adequately assessed with a single study or procedure.

Description

Patellofemoral reconstruction, often called medial patellofemoral ligament (MPFL) reconstruction, is a knee surgery in which a damaged or torn MPFL is reconstructed. The damaged ligament, located on the inside of the knee, is replaced with a tendon graft, which is attached to the patella and femur.[1] Surgical technique may vary in graft choice, points of attachment, fixation method, and graft tension.[2] The goal of the procedure is to restore normal patellar tracking and improve medial stabilization to prevent excessive lateral movement of the kneecap. In patellofemoral realignment procedures, abnormal patellar tracking is surgically corrected using techniques such as tibial tubercle osteotomy and trochleoplasty.[3,4] These procedures involve reshaping or repositioning structures of the knee, including the patellar tendon, the tibial tubercle, and the trochlea, to improve alignment and stability.

Medical Necessity Criteria

Indications

Patellofemoral Reconstruction/Realignment is considered appropriate if **ALL** of the following are **TRUE**:

- The patient has **ANY** of the following:
  - Failure of conservative management for greater than 3 months, including **ALL** of the following[5-8]:
    - 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, including a home exercise program[10]; **OR**
  - The patient is experiencing a subsequent dislocation, or the first dislocation is associated with an osteochondral or chondral injury[7,9-14]; **OR**
  - There are patellar subluxation episodes after 6 months of conservative care[8]; **OR**
  - The patient has a loose body[14,15]; **OR**

    - Abnormal patellar tracking as part of or after a total knee arthroplasty[16]; **AND**
- Imaging with radiology report shows **ANY** of the following[14,17-20]:
    - The procedure is a patellofemoral realignment and the patient has abnormal patellar tracking as indicated by **ANY** of the following[31]:
        - Insall-Salvati index greater than 1.2; **OR**
        - Caton-Deschamps index greater than 1.2; **OR**
        - Patellar tilt angle greater than 15°; **OR**
        - Trochlear depth less than 3mm; **OR**
        - Trochlear sulcus angle greater than 145°; **OR**
        - TT-TG distance greater than 20mm; **OR**
    - The procedure is a patellofemoral reconstruction and **ANY** of the following:
        - Disruption or attenuation of the medial patellofemoral ligament; **OR**
        - Loose body; **OR**
        - Osteochondral or articular cartilage injury; **OR**
- Positive exam findings, including but not limited to **ANY** of the following[21-26]:
    - Patellar tracking with a J-sign; **OR**
    - Lateral glide of 3 quadrants of the patellar width accompanied by apprehension and asymmetry compared with the contralateral side; **OR**
    - Moving patellar apprehension test.

Non-Indications

Patellofemoral Reconstruction/Realignment is not considered appropriate if **ANY** of the following is **TRUE**[15,17]:

- Severe patellofemoral arthritis; **OR**
- Active joint infection.

Level of Care Criteria

Outpatient

Procedure Codes (CPT/HCPCS)

CPT/HCPCS Code	Code Description
27418	Anterior tibial tubercleplasty (eg, Maquet type procedure)
27420	Reconstruction of dislocating patella
27422	Repair, Revision, and/or Reconstruction Procedures on the Femur (Thigh Region) and Knee Joint
27424	Reconstruction for dislocating Patella with patellectomy
27427	Ligamentous reconstruction (augmentation), knee; extra-articular
27524	Open treatment of patellarfracture with insertion of hardware and/or removal of patella
27566	Open treatment of patellar dislocation, with or without partial or total patellectomy

Medical Evidence

In a 2024 systematic review of 7 studies involving 411 patients, Tedeschi et al. (2024) compared outcomes of surgical and nonsurgical treatments for first-time patellar dislocation.[27] The authors reported that surgically treated patients had lower redislocation rates compared to conservatively treated patients in all 7 studies. Knee function was less influenced by treatment type, with 3 studies favoring surgical treatment, 2 studies favoring conservative treatment, and 2 studies reporting no significant differences. Similarly, there were no consistent differences in quality of life, with 2 studies favoring surgical treatment, 2 favoring conservative treatment, and 3 showing no differences. The authors concluded that while surgical treatment appears to reduce redislocation rate, conservative management remains a viable treatment option for some patients and may be preferred for patients with low demand needs or when complication risks are high.

Yoo et al. (2023) performed a meta-analysis to compare the effectiveness of multiple treatments for primary patellar dislocation, including medial patellofemoral ligament (MPFL) reconstruction, MPFL repair, combined proximal realignment (CPR), and conservative management. The systematic literature review and meta-analysis focused on randomized controlled trials (RCTs) and prospective studies involving 626 patients. While significant differences related to functional outcomes among the treatments, MPFL reconstruction demonstrated significantly better re-dislocation rates than MPFL repair, CPR, and conservative management. The analysis suggested a lower probability of re-dislocation with MPFL reconstruction than MPFL repair. Overall, MPFL repair and reconstruction are more effective options for preventing re-dislocation in primary patellar dislocation cases.[28]

Migliorini et al. (2022) conducted a study to assess the role of allografts versus autografts in MPFL reconstruction for patients with patellofemoral instability. Twelve studies involving 474 procedures were analyzed, with a mean follow-up of 42.2 months. While autografts showed slightly better Tegner, Kujala, and Lysholm scores, autografts and allografts had similar rates of persistent instability sensation and revision. However, the allograft

group demonstrated a lower rate of re-dislocations. The findings suggest that allografts could be a viable option for MPFL reconstruction in selected patients, offering comparable patient-reported outcome measures and revision rates, with a tendency toward lower re-dislocation rates than autografts.[29]

Dall'Oca et al. (2020) performed a study that focused on the MPFL and its significance in lateral patellar dislocation injuries, which account for 3% of knee injuries. While MPFL reconstruction is a reliable procedure with varying rates of recurrent instability, the authors aimed to identify proper indications for MPFL reconstruction and highlight the critical aspects of the procedure. The research indicates that a history of multiple patellar dislocations is a significant indication for ligament reconstruction, particularly following unsuccessful conservative treatments and in cases of persistent patellofemoral instability. However, there has yet to be a clear consensus on the gold standard technique for MPFL reconstruction. The authors conclude that because there is limited literature comparing outcomes, it is challenging to determine the most appropriate technique as surgical procedures evolve.[15]

In 2018, the American Orthopedic Society for Sports Medicine (AOSSM), along with the Patellofemoral Foundation (PFF), held a workshop on patellofemoral instability, which resulted in a consensus statement that included treatment recommendations.[30] Surgical treatment was recommended after failure of nonoperative treatment, when patient history and clinical examination findings are consistent with the diagnosis, and when examination under anesthesia reveals pathologic laxity in full extension and 30° flexion.

The Pediatric Orthopaedic Society of North America (POSNA) study guide on acute patellar dislocation recommends plain radiographs (standing anterior-posterior, standing 45° flexion weight bearing, 30° lateral, and patellar Merchant views) as part of the initial evaluation after a dislocation.[14] Advanced imaging, including ultrasound and MRI, is recommended for detection of osteochondral injury, loose bodies, medial retinacular injury, or bony avulsion injuries. The society notes that MRI is the preferred imaging tool due to its superior ability to detect osteochondral injury, loose bodies, and soft tissue injury, with diagnostic sensitivity for MPFL injuries reported to be

85%-92%. Initial treatment for patellar instability should be nonsurgical and may include immobilization, rehabilitation, and in some cases, aspiration. POSNA notes that while a 3-6 week period of immobilization has traditionally been used to permit soft tissue recovery, earlier mobilization is often advocated. Currently, no published studies compare the efficacy of immobilization versus early movement, and the efficacy of stabilizing braces remains unclear. While over 80% of pediatric acute patellar dislocations may be successfully treated nonsurgically, POSNA states that surgical treatment is indicated when loose bodies are present, for fixation of osteochondral fractures, and in recurrent instability.

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Policy Revision History/Information

Original Date: May 10, 2024		
Review History		
Version 2	07/24/2025	Annual review. Added CPT codes 27418, 27427, and 27566, Added criteria for positive exam findings. Clarified imaging criteria (findings that support realignment versus reconstruction). Added imaging indications. Removed criteria for bracing. Added indication for continued subluxation episodes after 6 months of conservative care. Literature review - Medical Evidence section updated (including references).