Cohere Medicare Advantage Policy - Patellofemoral Reconstruction/Realignment

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
Guideline Name: Patellofemoral Reconstruction/Realignment

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Medical Necessity Criteria

Service: Patellofemoral Reconstruction/Realignment

Benefit Category

Not applicable.

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

Related CMS Documents

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

- There are no applicable NCDs and/or LCDs for Patellofemoral Reconstruction/Realignment.

Recommended Clinical Approach

Patellofemoral reconstruction and realignment procedures may relieve pain, instability, and loss of function in the patellofemoral joint attributable to acute or chronic patellar instability.[1] Initial treatment approaches are often nonsurgical and may include immobilization in a splint or cast and physical therapy.[2] In some cases, surgical intervention may be recommended, including when conservative care is ineffective and instability is recurrent. Several surgical approaches may address patellofemoral instability, and procedures may be combined to address specific challenges.[3]

Disruption of the medial patellofemoral ligament (MPFL) is involved in 90% of patellofemoral instability cases and may be resolved with MPFL reconstruction.[4] Other surgical procedures that may address patellar instability include MPFL repair, repair or reconstruction of other patellar structures such as the medial retinaculum, tibial tubercle distalization, trochleoplasty, tibial or femoral osteotomy, medial tensioning, reconstruction of the trochelar groove, treatment of trochelar dysplasia, lateral positioning of the tibial tubercule, and femoral rotation.[5,6] Patellar dislocation is often

accompanied by cartilage damage, fractures, and loose bodies, which may be surgically addressed simultaneously.

Clinical examinations, patient history, and imaging assist in determining the need for surgery, the precise location of tears, lesions, and abnormalities, and the presence of any bony deformations, patellar tilt, trochlear dysplasia, femoral malrotation, or lateral positioning of tibial tubercule.[4] MRI may accurately diagnose up to 95% of acute patellar dislocations.[7]

Surgeons have several options in graft source and patellar and femoral fixation techniques, with no consensus on overall superiority of any single procedure.[8,9] Patellofemoral reconstructions/realignment procedures can be performed as minimally invasive open procedures or arthroscopically through standard portals.[10,11] Crutches, flexion limitation, and physical therapy are often recommended in the postoperative period.

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 Patellofemoral Reconstruction/ Realignment. 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:

- Re-dislocations, postoperative instability, and patellar fractures are all potential risks of patellofemoral reconstruction/realignment.[6] A 2023 study reported an 8% risk of all postoperative complications.[12] Procedural variations, including differences in graft source, patellar and femoral fixation technique, and knee flexion angle during fixation, all have unique complication risks.[9,13] Postsurgical complications reported in a 2012 meta-analysis included patellar fracture, need for surgical revision, reduced knee flexion, instability, wound complications, and pain.[14] A later study also reported flexion contracture, stiffness, quadriceps atrophy, and recurrence of patellofemoral dislocation.[9]
- Though rare, postoperative patellar fracture was reported only after MPFL reconstruction procedures using single or double transverse bone

tunnels.[14] Similarly, a 2020 retrospective chart review of 384 MPFL reconstructions found a slightly increased risk of patellar fracture in patients with small oblique tunnels compared to patients with suture anchors. However, this study also reported an increased risk of subluxation or dislocation in patients with suture anchors.[8] In a 2021 review of 10,710 patients across 144 studies, the most often reported cause of failure of MPFL reconstruction was femoral tunnel malposition.[15]

- A more frequently reported surgical complication is loss of knee flexion.[14] Careful determination of the femoral point of fixation using radiographic landmarks under fluoroscopy and caution in selecting the flexion angle for fixation may reduce these risks. Additionally, hardware may not be well-tolerated, and 1.1% of patients require additional surgery to remove symptomatic hardware. A 2023 study reported that, at extended periods following surgery, a third of patients may report patellofemoral arthritis.[12]
- While realignment procedures can address primary patellar dislocation, they also carry a risk of re-dislocation higher than other treatment options.[17,18] Realignment may also lead to patient discomfort, low activity, and poorer outcomes and may be less effective in addressing instability than MPFL reconstruction, repair, and conservative care.
- Delays in surgical procedures may exacerbate the conditions underlying the instability. A 2018 meta-analysis reported that conservative management of primary patellar displacement is associated with high rates of re-dislocation and long-term immobilization.[19] Displacement may lead to stiffness and patellofemoral articular damage, further impairing long-term functional outcomes. Similarly, a 2014 meta-analysis of randomized controlled trials concluded that patients with patellar instability treated nonsurgically were more likely than patients treated surgically to experience recurrent patellar dislocations.[2]
- Increased healthcare costs and complications from the inappropriate use of emergency services and additional treatments.

The clinical benefits of using these criteria include:

- Improved knee functioning and reduced risk of recurrent dislocations. In a 2009 study, 33 patients with acute patellar dislocations were treated with conservative management or MPFL reconstruction. Recurrent patellar dislocation or subluxation in the 15-month post-treatment

follow-up period was reported in 8 of the 16 conservatively managed patients and none of the 17 surgical patients. Additionally, Kujala questionnaire scores were 22% higher in the surgical compared to the conservative management group, indicating better self-reported knee functioning and lower levels of pain and disability after surgery.[20] Similarly, a 2023 Cochrane Review and meta-analysis of 10 studies with 519 patients reported a statistically significant reduction in recurrent patellar dislocations in surgical compared to conservative care patients.[21] Moreover, a 2023 meta-analysis of 10 studies compared the long-term outcomes of conservative care, reconstruction, and realignment. The authors reported the best functional outcomes and the lowest re-dislocation rates after MPFL reconstruction.[1]

- Surgery may restore the anatomy and biomechanics of the knee joint, forestalling long-term development of osteoarthritis.[13] Recurrent patellofemoral instability may lead to cartilage degeneration, which may increase the risk of developing osteoarthritis in the knee.[22]
- Enhanced overall patient satisfaction and healthcare experience.

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

- ➔ **Patellofemoral Reconstruction/Realignment** is considered appropriate if **ALL** of the following are **TRUE**:
  - The patient has **ANY** of the following:
    - Failure of conservative management (e.g., rest, analgesics, physical therapy, oral or injectable corticosteroids) must be documented for a period of greater than 3 months.

Documentation should include detailed evidence of the measures taken, rather than solely a physician's statement[2,6,23]; **OR**

- The patient is experiencing a subsequent dislocation or the first dislocation is associated with an osteochondral or chondral injury[23-27]; **OR**
- The patient has a loose body[13]; **OR**
- Abnormal patellar tracking as part of or after a total knee arthroplasty[28]; **AND**

◆ Imaging shows **ANY** of the following [4,7,29,30]:

- Abnormal patellar tracking; **OR**
- Disruption of the medial patellofemoral ligament; **OR**
- Loose body; **OR**
- Osteochondral or articular cartilage injury; **AND**

◆ Positive exam findings, including but not limited to **ANY** of the following[19,31-35]:

- 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** may not be considered appropriate if **ANY** of the following is **TRUE**[4,13]:

◆ Severe patellofemoral arthritis; **OR**

◆ Active joint infection.

Level of Care Criteria

Outpatient

Procedure Codes (CPT/HCPCS)

CPT/HCPCS Code	Code Description
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
27524	Open treatment of knee cap fracture with insertion of hardware and/or removal of knee cap

Disclaimer: G, S, I, and N Codes are non-covered per CMS guidelines due to their experimental or investigational nature.

Medical Evidence

Patellar dislocation, when the patella moves away from its normal position in the femoral trochlear groove, may lead to further injury and loss of function, including recurrent dislocations, patellar instability, cartilage injury, pain, and patellofemoral osteoarthritis.[36]

Yoo et al. (2023) performed a meta-analysis to compare the effectiveness of various 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.[1]

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.[37]

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.[13]

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