Cohere Medical Policy - Genicular Nerve Procedures

Clinical Policy for Medical Necessity Review

Version: 3
Cohere Health UMC Approval Date: July 31, 2025
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Revision: Not Applicable
Next Annual Review: July 31, 2026

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 - Genicular Nerve Procedures
Type: [**X**] Adult (18+ yo) | [**X**] Pediatric (0-17 yo)

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Medical Necessity Criteria

Service: Genicular Nerve Procedures

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

Genicular nerves provide sensory innervation to the knee and include the (1) superolateral genicular nerve (SLGN), (2) superomedial genicular nerve (SMGN), (3) inferomedial genicular nerve (IMGN), and (4) inferolateral genicular nerve (ILGN). Physicians can safely target all these nerves for a genicular nerve block or ablation, except for the ILGN, which is too close to the peroneal nerve. A diagnostic genicular nerve block helps determine the appropriateness of an ablation procedure and may be appropriate to alleviate pain originating from the genicular nerves in the knee joint. Genicular nerve blocks may be suitable for knee pain that has not responded to conservative treatments.[1-8] Genicular nerve ablation involves using Radiofrequency Ablation (RFA) to treat pain in the knee in patients with chronic pain after knee arthroplasty or chronic, symptomatic knee osteoarthritis (Kellgren-Lawrence Grade 3 or 4) that hasn't responded to other treatment options. The Kellgren-Lawrence scale for the radiographic classification of osteoarthritis is as follows[9]:

- **Grade 0:** Normal;
- **Grade 1:** Questionable (doubtful narrowing of joint space and possible osteophytic lipping);
- **Grade 2:** Mild (definite osteophytes and possible narrowing of joint space);
- **Grade 3:** Moderate (moderate multiple osteophytes, definite narrowing of joint space, some sclerosis, and possible deformity of bone ends);
- **Grade 4:** Severe (large osteophytes, marked narrowing of joint space, severe sclerosis, and definite deformity of bone ends).

Medical Necessity Criteria

Indications

Genicular nerve procedures are considered appropriate if **ANY** of the following is **TRUE**[10,11]:

- The procedure is a genicular nerve block requested for postoperative pain relief associated with a surgical procedure; **OR**
- **ALL** 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 a physician-directed home exercise program; **AND**
        - **ANY** of the following:
            - Intraarticular corticosteroid injection if medically appropriate; **OR**
            - Intraarticular corticosteroid injection is contraindicated; **AND**
    - The patient has persistent chronic pain with pain intensity of greater than or equal to 6/10; **AND**
    - The patient's pain has been present for more than 3 months; **AND**
    - The patient has **ANY** of the following[2,12]:
        - Chronic, symptomatic knee osteoarthritis (Kellgren-Lawrence grade 3 or 4) with documentation from an orthopedic surgeon stating that the patient is not a candidate for surgery; **OR**
        - Previous knee arthroplasty surgery with documentation from an orthopedic surgeon stating that the patient is not a candidate for additional surgical procedures; **AND**
    - **ANY** of the following:
        - The procedure is a diagnostic genicular nerve block with a frequency limitation of no more than 2 genicular nerve blocks per knee; **OR**
        - The procedure is a genicular radiofrequency ablation (RFA), and **ALL** of the following:
            - **ANY** of the following:
                - At least 50% improvement in symptoms for the duration of local anesthetic used for the diagnostic block (same knee) under fluoroscopy or ultrasound guidance; **OR**
                - The patient has an improvement of at least 50% for at least 6 months from previous RFA (same knee); **AND**
            - Frequency limitation indicated of no more than 2 genicular RFA per knee in a rolling 12-month period.

Non-Indications

Genicular nerve procedures are not considered appropriate if **ANY** of the following is **TRUE**[10,13,14]:

- Active local or systemic infection; **OR**
- **ANY** of the following implanted devices (unless the provider acknowledges that the device is present and provides a statement explaining that the appropriate precautions will be taken, including following manufacturer guidelines):

    - Defibrillator; **OR**
    - Pacemaker; **OR**
    - Peripheral nerve stimulator; **OR**
- Knee joint instability; **OR**
- Recent knee trauma or injury; **OR**
- Osteoarthritis Kellgren-Lawrence grade 0-2; **OR**
- Pulsed radiofrequency ablation, cooled radiofrequency, cryoablation, laser denervation; **OR**
- Radiofrequency for acute perioperative pain relief; **OR**
- The patient is under the age of 18.

Level of Care Criteria

Inpatient or Outpatient

Procedure Codes (CPT/HCPCS)

CPT/HCPCS Code	Code Description
64454	Injection(s), anesthetic agent(s) and/or steroid; genicular nerve branches, including imaging guidance, when performed
64624	Destruction by neurolytic agent, genicular nerve branches including imaging guidance, when performed

Medical Evidence

Shanahan et al. (2023) performed a randomized control trial (RCT) that aimed to assess the effectiveness of ultrasound-guided genicular nerve block (GNB) in managing knee pain among patients with knee osteoarthritis. It conducted a 12-week parallel-group, placebo-controlled randomized trial involving 59 patients. Patients in the active group received GNB injections, while those in the placebo group received saline injections. Pain and disability were measured using various scales. The results showed that patients in the active group reported improved pain scores at 2, 4, 8, and 12 weeks compared to the placebo group. However, the effect diminished over time. The study concluded that GNB offers short-term pain relief for knee OA.[2]

Güler et al. (2023) conducted a prospective RCT to compare the effectiveness of ultrasound-guided GNB and physical therapy (PT) in treating chronic knee OA. A total of 102 patients aged 45-70 received either GNB (n=51) or PT (n=51) along with a standard home exercise program. The Visual Analogue Scale was used to measure pain level. The Western Ontario and McMaster Universities Osteoarthritis Index measured the patient's functional ability; a 6-minute walking test measured the patient's physical capacity. Evaluations were conducted pre-treatment and postoperatively at 2 and 12 weeks post-treatment. Both groups had similar demographics. Results showed that GNB significantly reduced pain levels compared to PT at 2 and 12 weeks. The study concludes that ultrasound-guided GNB is more beneficial in reducing pain and improving functional and physical capacity, particularly with longer-lasting effects observed at 12 weeks.[5]

Fonkoue et al. (2021) performed a double-blind RCT to compare the effectiveness of GNB using traditional anatomical targets (CT) versus revised targets (RT) in patients with chronic knee OA pain. A total of 55 patients were included (28 in the CT group and 27 in the RT group). Patients received GNB with a fluid mixture. Post-intervention, pain levels, and knee function were assessed at various intervals. Results showed that the RT group experienced a greater reduction in pain scores at 1 hour post-intervention and a higher proportion of patients achieving more than 50% pain reduction, especially immediately after the procedure. Both groups demonstrated significant pain reduction and improved joint function up to 12 weeks post-intervention. The revised technique led to more immediate pain relief and a higher proportion

of successful responders shortly after the intervention. The larger volume injected during the GNB procedure might compensate for the lack of precision in the classical anatomical targets, thereby minimizing differences in outcomes between the two techniques.[6]

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Policy Revision History/Information

Original Date: April 30, 2024		
Review History		
Version 2	09/20/2024	Updated language regarding conservative treatment.
Version 3	07/31/2025	Annual review. Added a standalone indication for postoperative pain relief. Updated conservative care indications in alignment with standard language. Added indication, “The patient’s pain has been present for more than 3 months.” Added indication, “with documentation from an orthopedic surgeon stating that the patient is not a candidate for surgery” to the “chronic, symptomatic knee osteoarthritis” indication. Clarified differences between “diagnostic genicular nerve block” and “genicular nerve radiofrequency ablation” sections. Added indication, “Frequency limitation indicated no more than 2 genicular RFA per knee in a rolling 12 months” to the “genicular nerve radiofrequency ablation” section. Added non-indication, “The patient is under the age of 18.” Added non-indications: “Pulsed radiofrequency ablation, cooled radiofrequency, cryoablation, laser

		denervation; **"**Radiofrequency for acute perioperative pain relief." Removed non-indications: "Coagulopathy or bleeding diathesis;" "Knee trauma or injury that is recent;" "pregnancy."