Cohere Medicare Advantage Policy - Genicular Nerve Procedures

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: Cohere Medicare Advantage Policy - Genicular Nerve Procedures

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

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Medical Necessity Criteria

Service: Genicular Nerve Procedures

Benefit Category

Not applicable.

Recommended Clinical Approach

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.[1-12] Genicular nerve ablation involves using RFA to treat pain in the knee in patients with chronic, symptomatic knee osteoarthritis (Kellgren-Lawrence Grade 3 or 4). The Kellgren-Lawrence scale for the radiographic classification of osteoarthritis is as follows[13]:

- **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).

Evaluation of Clinical Benefits and Potential Harms

Cohere Health uses the criteria below to ensure consistency in reviewing the conditions to be met for coverage of genicular nerve procedures. 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, adverse reactions, and infection.

The potential clinical harms of using these criteria may include:

- Adverse effects from delayed or denied treatment: Delays or denials in genicular nerve procedures can lead to increased symptoms and complications, particularly in patients with chronic knee pain. Shanahan et al. emphasized the importance of genicular nerve block (GNB) in providing pain relief for knee osteoarthritis, noting that the effect diminishes over time.[6]
- Risks with inappropriate surgical procedures: This includes infection, bleeding requiring a transfusion, injury to neurovascular structures, anesthetic risk, and the need for repeat or additional procedures due to implant failure or complications. Fonkoue et al. noted that revised targets for GNB lead to more immediate pain relief and a higher proportion of successful responders shortly after the intervention.[10]
- Increased healthcare costs and complications: This includes inappropriate use of emergency services and additional treatments. Güler et al. reported that ultrasound-guided GNB is more beneficial in reducing pain and improving functional and physical capacity compared to physical therapy, particularly with longer-lasting effects observed at 12 weeks.[9]

The clinical benefits of using these criteria include:

- Improved patient outcomes: Ensuring timely and appropriate access to genicular nerve procedures for the patients selected for best outcomes. The goal is to provide accurate diagnostics and effective treatment planning, reducing the risk of complications and improving overall patient health. Ferreira-Dos-Santos et al. emphasized that up-to-date guides utilizing ultrasound guidance and peripheral nerve stimulation can standardize technique and improve outcomes.[5]
- Enhanced diagnostic accuracy: This is crucial for complex knee conditions such as chronic symptomatic knee osteoarthritis. Shanahan et al. stated that GNB offers short-term pain relief for knee OA.[6]
- Reduction in complications and adverse effects: Proper use of GNB criteria helps to avoid unnecessary interventions and their associated risks, thus safeguarding patient health. Fonkoue et al. highlighted the

importance of revised targets for GNB to achieve more immediate pain relief and a higher proportion of successful responders.[10]
- Enhanced overall patient satisfaction: Ensuring that GNB is used appropriately leads to better patient outcomes and higher satisfaction rates due to effective treatment and reduced complications. According to Güler et al., ultrasound-guided GNB significantly reduces pain levels and improves functional and physical capacity compared to physical therapy.[9]

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

➔ **Genicular nerve procedures** are considered appropriate if **ALL** of the following are **TRUE**[14-15]:
- ◆ 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; **AND**
- ◆ Persistent chronic pain with pain intensity of greater than 6/10 or documentation of pain causing functional disability; **AND**
- ◆ The patient has **ANY** of the following[6,16]:
  - Chronic, symptomatic knee osteoarthritis lasting greater than three months (Kellgren-Lawrence grade 3 or 4) and documentation from an orthopedic surgeon stating that the patient is not a candidate for surgery; **OR**
  - Previous knee surgery and **ALL** of the following:

        - Documentation from an orthopedic surgeon stating that the patient is not a candidate for additional surgical procedures; **AND**
        - **ANY** of the following:
            - Continued functional limitations; **OR**
            - Continued moderate to severe pain; **AND**
- **ANY** of the following:
    - For **genicular nerve injections**, the patient meets **ANY** of the following:
        - For a diagnostic genicular nerve block, the patient has tried and failed to improve with **ANY** of the following:
            - Intraarticular knee corticosteroid injection if medically appropriate; **OR**
            - Intraarticular knee corticosteroid injection is contraindicated; **OR**
        - Genicular nerve block injection is for preemptive analgesia or postoperative pain relief associated with a surgical procedure; **OR**
    - For **genicular radiofrequency ablation (RFA)**, the patient has received a diagnostic genicular block under fluoroscopy or ultrasound guidance, and RFA is indicated by **ALL** of the following:
        - At least 50% improvement in symptoms for the duration of local anesthetic used for the diagnostic block; **AND**
        - The patient has an improvement of at least 50% for at least 4 to 6 months from previous RFA (same knee) **AND**
        - Frequency limitation indicated: no more than two genicular RFA per knee in rolling 12 months.

Non-Indications

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

- Active local or systemic infection; **OR**
- Coagulopathy or bleeding diathesis; **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**
- Knee trauma or injury that is recent; **OR**
- Pregnancy; **OR**
- Recent knee trauma or injury; **OR**
- Osteoarthritis KL grade 0-2.

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 (OA). 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.[6]

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.[9]

Fonkoue et al. (2021) performed a double-blind RCT to compare the effectiveness of GNB using traditional anatomical targets (CT) vs 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 one-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.[10]

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Clinical Guideline Revision History/Information

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