Cohere Medicare Advantage Policy - Genicular Nerve Procedures

Clinical Policy for Medical Necessity Review

Version: 3
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Important Notices

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Policy Information:

Specialty Area: Disorders of the Musculoskeletal System
Policy Name: Cohere Medicare Advantage Policy - Genicular Nerve Procedures
Type: [**X**] Adult (18+ yo) | [ ] Pediatric (0-17 yo)

Table of Contents

Medical Necessity Criteria

Service: Genicular Nerve Procedures

Related CMS Documents

Please refer to the CMS Medicare Coverage Database for the most current applicable CMS National Coverage.[1-4]

- Local Coverage Determination (LCD). Peripheral Nerve Blocks (L33933)
  - Billing and Coding: Peripheral Nerve Blocks (A57788)
- Local Coverage Determination (LCD). Peripheral Nerve Blocks (L36850)
  - Billing and Coding: Peripheral Nerve Blocks (A57452)

Description

The genicular nerves provide sensory innervation to the knee. Patients with intractable chronic knee pain or who are anticipated to have severe postoperative knee pain may be candidates for a genicular nerve block, a procedure during which a pain physician injects an anesthetic into the affected region to offer temporary pain relief. A diagnostic genicular nerve block aids in patient selection for subsequent neurolysis procedures to the genicular nerves, such as radiofrequency (RFA) ablation, wherein the genicular nerve is thermally obliterated to provide extended pain relief. If a patient does not respond to a nerve block, for example, an RFA procedure may not be successful. Preemptive genicular nerve blocks may also be performed before major surgery involving the knee joint, such as knee arthroplasty, if the physician believes it is likely to improve postoperative pain and ultimately result in reduced narcotic use, faster recovery, and enhanced mobility. A genicular nerve block is performed with ultrasound to guide the trajectory and depth of the needle when administering bupivacaine, ropivacaine, or other long-acting local anesthetics.[5-7]

Medical Necessity Criteria

Indications

Genicular nerve procedures are considered appropriate if **ALL** of the following are **TRUE**:

- Failure of conservative management (e.g., rest, analgesics, physical therapy, behavioral therapy (when appropriate), 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[5,6]; **AND**
- Persistent chronic pain (moderate to severe) with functional deficit[1,3,5,6]; **AND**
- The patient has **ANY** of the following:
  - Chronic, symptomatic knee osteoarthritis lasting greater than three months (Kellgren-Lawrence [KL] grade 3 or 4) and documentation from an orthopedic surgeon stating that the patient is not a candidate for surgery[5,7]; **OR**
  - When genicular nerve injuries/entrapment or other extremity trauma leads to complex regional pain syndrome[1,3]; **OR**
  - Previous knee surgery and **ALL** of the following[8-10]:
    - 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 with functional deficit; **AND**
- **ANY** of the following:
  - For **genicular nerve injections**, the patient meets **ANY** of the following:
    - For a diagnostic genicular nerve block with **ALL** of the following:
      - **ANY** of the following[1,3]:
        - Pain appears to be due to a classic mononeuritis, but the neurodiagnostic studies have failed to provide a structural explanation; **OR**
        - Clinical picture is otherwise unclear; **AND**
      - The patient has tried and failed to improve with **ANY** of the following[6,7]:
        - 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 in **ANY** of the following scenarios[1,3]:
        - During the transition to oral analgesics; **OR**
        - In those procedures that cause severe pain normally uncontrolled by oral analgesics; **OR**
        - In cases otherwise requiring control with intravenous or parenteral narcotics; **OR**
        - In cases where the patient cannot tolerate treatment with narcotics due to allergy or side effects, etc.; **OR**
            - In some cases, neurolysis may be appropriate to provide lasting relief. Neurolysis via **genicular radiofrequency ablation (RFA)** is indicated if **ALL** of the following[6,7,11]:
                - Has received a diagnostic genicular block under fluoroscopy or ultrasound guidance; **AND**
                - At least 50% improvement in symptoms for the duration of the local anesthetic used for the diagnostic block; **AND**
                - **ANY** of the following:
                    - Initial RFA; **OR**
                    - For repeat RFA, the patient had an improvement of at least 50% for at least 4 to 6 months from previous RFA (same knee).

Non-Indications

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

- More than three injections per anatomic site (specific nerve, plexus, or branch as defined by the CPT code description) are requested within a six-month period[1,3]; **OR**
- No more than two genicular RFA procedures per knee in a rolling 12-month period[11]; **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)[12,13]:
    - Defibrillator; **OR**

- Pacemaker; **OR**
- Peripheral nerve stimulator.

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

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

Medical Evidence

Shanahan et al. (2023) performed a randomized controlled trial (RCT) that assessed the efficacy of ultrasound-guided genicular nerve block (GNB) in managing knee pain among patients with knee osteoarthritis (OA). A 12-week parallel-group, placebo-controlled randomized trial involving 59 patients was conducted. Patients in the active group received GNB injections, while those in the placebo group received saline injections. The primary outcomes were pain and disability using various pain scales. The authors concluded 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 appears to offer short-term pain relief for knee OA.[5]

Güler et al. (2023) conducted a prospective RCT to compare the efficacy of ultrasound-guided GNB and physical therapy (PT) in treating chronic knee OA. 102 patients received either GNB or PT, along with a standard home exercise program. Pain and physical capacity were measured, the latter via a 6-minute walking test. Evaluations were conducted pre-treatment and at 2 and 12 weeks post-treatment. GNB significantly reduced pain levels compared to PT at 2 and 12 weeks. The authors felt that ultrasound-guided GNB held benefits in reducing pain and improving functional and physical capacity, particularly with longer-lasting effects observed at 12 weeks.[14]

A 2025 systematic review compared GNB to genicular nerve ablation for patients with knee osteoarthritis. Four RCTs and two comparative studies were included in the review. Both GNB and genicular nerve ablation were safe and effective, with minimal adverse effects. Patients experienced reduced pain and improved function. Although ablation was suggested to confer a long duration of pain relief, the authors could not validate the superiority of ablation to a therapeutic block. As such, they concluded that both methods are safe and effective, and that further research must be conducted to better understand the superiority of one method over the other.[7]

Evaluation of Clinical Harms and Benefits

Clinical determinations for Medicare Advantage beneficiaries are made in accordance with 42 CFR 422.101 guidance outlining CMS's required approach to decision hierarchy in the setting of NCDs/LCDs identified as being "not fully established". When clinical coverage criteria are "not fully established" Medicare Advantage organizations are instructed to create publicly accessible clinical coverage criteria based on widely-accepted clinical guidelines and/or scientific studies backed by a robust clinical evidence base. Clinical coverage criteria provided by Cohere Health in this manner include coverage rationale and risk/benefit analysis.

The potential clinical harms of using these criteria for **genicular nerve injections** may include:

- Adverse effects from delayed (i.e., in order to complete 3 months of conservative treatment) or denied treatment for genicular nerve blocks to treat knee pain, such as persistent chronic pain and functional disability, potentially resulting in decreased ability to work, exercise, or perform the activities of daily living.[5]

The potential clinical benefits of using these criteria for **genicular nerve injections** may include:

- Improved patient selection for genicular nerve injections, resulting in better long-term outcomes. Shanahan et al. demonstrated pain control in nearly 75% of patients at four weeks post-injection, versus only 14% of placebo patients. Pain control persisted into the 8th week for more than half of patients.[5,15] Clearer, more specific criteria allow for optimal selection of those individuals most likely to benefit from - and accept potential risk associated with - genicular nerve injections.
- Earlier resolution or improvement of symptoms after conservative care (e.g., rest, analgesics, physical therapy, oral or injectable corticosteroids), resulting in reduced healthcare costs, eliminated need for surgical management and the accompanying surgical risks, and reduced patient burden. Nonsurgical management is generally easier to access for patients relative to surgery or other invasive treatments.[16-18]
- Appropriate allocation of healthcare resources at the individual beneficiary and population levels.

The potential clinical harms of using these criteria for **radiofrequency nerve ablation** may include:

- Adverse effects from delayed or denied treatment for RFA to treat knee osteoarthritis, such as persistent knee pain and functional disability, potentially resulting in decreased ability to work, exercise, or perform the activities of daily living.[5]

The potential clinical benefits of using these criteria for **radiofrequency nerve ablation** may include:

- Improved patient selection for genicular RFA procedures, resulting in better long-term outcomes. Ideal candidates include patients who have exhausted conservative care and continue to have significant, debilitating knee pain. Frail or elderly people, or those with medical comorbidities, may not be suitable for surgical intervention and yet still require pain control in order to function, comprising another important cohort that may benefit from RFA.[12,19]
- Maintenance of rigorous patient safety standards aligned to best available evidence. Patients with more than two RFA procedures in a 12-month period are at risk for excess medical expenses, inadequate pain control, opioid use, and opioid-induced hyperalgesia.[11]

References

1. Centers for Medicare & Medicaid Services (CMS). Local Coverage Determination (LCD). Peripheral nerve blocks (L33933). Revision Effective Date January 8, 2019. https://www.cms.gov/medicare-coverage-database/view/lcd.aspx?lcdId=33933&ver=30
2. Centers for Medicare & Medicaid Services (CMS). Billing and Coding: Peripheral nerve blocks (A57788). Revision Effective Date October 1, 2024. https://www.cms.gov/medicare-coverage-database/view/article.aspx?articleId=57788&ver=35
3. Centers for Medicare & Medicaid Services (CMS). Local Coverage Determination (LCD). Peripheral nerve blocks (L36850). Revision Effective Date November 21, 2019. https://www.cms.gov/medicare-coverage-database/view/lcd.aspx?lcdId=36850&ver=24
4. Centers for Medicare & Medicaid Services (CMS). Billing and Coding: Peripheral nerve blocks (A57452). Revision Effective Date October 1, 2024. https://www.cms.gov/medicare-coverage-database/view/article.aspx?articleId=57452&ver=42
5. Shanahan EM, Robinson L, Lyne S, et al. Genicular nerve block for pain management in patients with knee osteoarthritis: A randomized placebo-controlled trial. *Arthritis Rheumatol*. 2023 Feb;75(2):201-209. doi: 10.1002/art.42384. PMID: 36369781
6. Kolasinski SL, Neogi T, Hochberg MC, et al. 2019 American College of Rheumatology/Arthritis Foundation guideline for the management of osteoarthritis of the hand, hip, and knee. *Arthritis Rheumatol*. 2020 Feb;72(2):220-233. doi: 10.1002/art.41142. PMID: 31908163; PMCID: PMC10518852
7. Toubasi AY, Myles A, Singh P, Sun Z, Dua A. Genicular nerve block versus genicular nerve ablation for knee osteoarthritis: A systematic review of

randomized controlled trials and retrospective studies. *Cureus*. 2025 Feb 16;17(2)

8. Helander EM, Kaye AJ, Eng MR, et al. Regional nerve blocks—Best practice strategies for reduction in complications and comprehensive review. *Curr Pain Headache Rep.* 2019 Jun;23:1-9
9. Joshi M, Chambers WA. Pain relief in palliative care: A focus on interventional pain management. *Expert Rev Neurother*. 2010 May 1;10(5):747-56
10. Al Harbi MK, Alshaghroud SM, Aljahdali MM, et al. Regional anesthesia for geriatric population. *Saudi J Anaesth.* 2023 Oct 1;17(4):523-32
11. Kose SG, Kose HC, Celikel F, et al. Predictive factors associated with successful response to ultrasound-guided genicular radiofrequency ablation. *Korean J Pain*. 2022;35(4):447-457. doi :10.3344/kjp.2022.35.4.447
12. Kidd VD, Strum SR, Strum DS, Shah J. Genicular nerve radiofrequency ablation for painful knee arthritis: The why and the how. *JBJS Ess Surg Tech*. 2019 Mar 26;9(1):e10
13. Kidd VD. Genicular nerve radiofrequency ablation: A novel approach to symptomatic knee osteoarthritis. *JOPA*. 2018 Jan 1;6(1):e10
14. Güler T, Yurdakul FG, Önder ME, et al. Ultrasound-guided genicular nerve block versus physical therapy for chronic knee osteoarthritis: A prospective randomised study. *Rheumatol Int*. 2022 Apr;42(4):591-600. doi: 10.1007/s00296-022-05101-8. PMID: 35165769; PMCID: PMC8852952
15. Kim DH, Choi SS, Yoon SH, et al. Ultrasound-guided genicular nerve block for knee osteoarthritis: A double-blind, randomized controlled trial of local anesthetic alone or in combination with corticosteroid. *Pain Physician*. 2018 Jan;21(1):41-52. PMID: 29357330
16. Duong V, Oo WM, Ding C, Culvenor AG, Hunter DJ. Evaluation and treatment of knee pain: A review. *JAMA*. 2023 Oct 24;330(16):1568-80
17. Jones BQ, Covey CJ, Sineath Jr MH. Nonsurgical management of knee pain in adults. *AFP*. 2015 Nov 15;92(10):875-83
18. Allaeys C, Arnout N, Van Onsem S, Govaers K, Victor J. Conservative treatment of knee osteoarthritis. *Acta Orthop Belg*. 2020 Sep 1;86(3):412-21

19. Sarı S, Aydın ON, Turan Y, et al. Which one is more effective for the clinical treatment of chronic pain in knee osteoarthritis: Radiofrequency neurotomy of the genicular nerves or intra-articular injection?. *Int J Rheum Dis*. 2018 Oct;21(10):1772-8
20. Ferreira-Dos-Santos G, Hurdle MFB, Gupta S, et al. Revisiting the genicular nerve block: An up-to-date guide utilizing ultrasound guidance and peripheral nerve stimulation - anatomy description and technique standardization. *Pain Phys*. 2021 Mar;24(2):E177-E183. PMID: 33740351
21. Kim SH, Lee MS, Lee S, et al. A prospective randomized comparison of the efficacy of ultrasound- versus fluoroscopy-guided genicular nerve block for chronic knee osteoarthritis. *Pain Physician*. 2019 Mar;22(2):139-146. PMID: 30921977
22. Cheppalli N, Bhandarkar AW, Sambandham S, et al. Safety and efficacy of genicular nerve radiofrequency ablation for management of painful total knee replacement: A systematic review. *Cureus*. 2021 Nov 11;13(11)
23. Tan YL, Neo EJR, Wee TC. Ultrasound-guided genicular nerve blockade with pharmacological agents for chronic knee osteoarthritis: A systematic review. *Pain Phys*. 2022 Jul;25(4):E489-E502. PMID: 35793174
24. Henry S, Best TM, Jose J, et al. Procedural approach to ultrasound-guided geniculate nerve blockade for knee pain in patients with OA. *Curr Sports Med Rep*. 2022 Jun 1;21(6):192-195. doi: 10.1249/JSR.0000000000000965. PMID: 35703745
25. Kohn MD, Sassoon AA, Fernando ND. Classifications in brief: Kellgren-Lawrence classification of osteoarthritis. *Clin Orthop Relat Res*. 2016 Aug;474(8):1886-93. doi: 10.1007/s11999-016-4732-4. PMID: 26872913; PMCID: PMC4925407
26. Brophy RH, Fillingham YA. AAOS clinical practice guideline summary: Management of osteoarthritis of the knee (nonarthroplasty), third edition. *J Am Acad Orthop Surg.* 2022 May 1;30(9):e721-e729. doi: 10.5435/JAAOS-D-21-01233. PMID: 35383651
27. El-Hakeim EH, Elawamy A, Kamel EZ, et al. Fluoroscopic guided radiofrequency of genicular nerves for pain alleviation in chronic knee osteoarthritis: A single-blind randomized controlled trial. *Pain Physician.* 2018;21(2):169

28. Desai MJ, Bentley A, Keck WA. Cooled radiofrequency ablation of the genicular nerves for chronic pain due to osteoarthritis of the knee: A cost-effectiveness analysis compared with intra-articular hyaluronan injections based on trial data. *BMC MSK Dis.* 2022 May 24;23(1):491
29. American Academy of Orthopaedic Surgeons. Surgical management of osteoarthritis of the knee: Evidence-based clinical practice guideline. http://www.aaos.org/smoak2cpg. Published 12/02/2022
30. Conger A, Gililland J, Anderson L, et al. Genicular nerve radiofrequency ablation for the treatment of painful knee osteoarthritis: Current evidence and future directions. *Pain Med*. 2021 Jul 1;22(Supplement_1):S20-3
31. Lee SH, Choi HH, Kwak SG, Chang MC. Effectiveness of radiofrequency ablation of the genicular nerves of the knee for the management of intractable pain from knee osteoarthritis. *Pain Phys*. 2024;27(4):E419

Clinical Guideline Revision History/Information

Original Date: May 31, 2024		
Review History		
Version 2	6/10/2024	422.101 Disclaimer added
Version 2.1	3/18/2025	• Updated policy per CMS revisions for 10/3/2024 • Updated Effective date • Updated Links and Bookmarks
Version 3	5/22/2025	Annual policy review & restructure: Two LCDs were removed as they did not appropriately map to this policy via CPT codes. Updated medical evidence (including literature review). Removed several previous nonindications to make policy more permissive and compliant with CMS guidance Addition of behavioral therapy to conservative care language per CMS guidance Added “initial RFA” indication to allow for approval of initial RFA. Previously, criteria were only approvable for repeat RFA. Removed pediatric designation as procedure is not clinically appropriate for use in pediatric patients Removed “6/10” pain scale rating requirement out of concern for inappropriate denial. “Moderate to severe pain with functional deficit” was retained.