Genicular Nerve Blocks and Nerve Ablation for Knee Pain

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INSTRUCTIONS FOR USE: Company Medical Policies serve as guidance for the administration of plan benefits. Medical policies do not constitute medical advice nor a guarantee of coverage. Company Medical Policies are reviewed annually and are based upon published, peer-reviewed scientific evidence and evidence-based clinical practice guidelines that are available as of the last policy update. The Company reserves the right to determine the application of medical policies and make revisions to medical policies at any time. The scope and availability of all plan benefits are determined in accordance with the applicable coverage agreement. Any conflict or variance between the terms of the coverage agreement and Company Medical Policy will be resolved in favor of the coverage agreement. Coverage decisions are made on the basis of individualized determinations of medical necessity and the experimental or investigational character of the treatment in the individual case. In cases where medical necessity is not established by policy for specific treatment modalities, evidence not previously considered regarding the efficacy of the modality that is presented shall be given consideration to determine if the policy represents current standards of care.

SCOPE: Providence Health Plan, Providence Health Assurance, and Providence Plan Partners as applicable (referred to individually as "Company" and collectively as "Companies").

PLAN PRODUCT AND BENEFIT APPLICATION

☒ **Commercial** ☐ **Medicaid/OHP*** ☐ **Medicare****

*Medicaid/OHP Members

Oregon: Services requested for Oregon Health Plan (OHP) members follow the OHP Prioritized List and Oregon Administrative Rules (OARs) as the primary resource for coverage determinations. Medical policy criteria below may be applied when there are no criteria available in the OARs and the OHP Prioritized List.

Genicular Nerve Blocks and Nerve Ablation for Knee Pain : Guideline Note 173

**Medicare Members

This *Company* policy may be applied to Medicare Plan members only when directed by a separate *Medicare* policy. Note that investigational services are considered **"not medically necessary"** for Medicare members.

COVERAGE CRITERIA

I. Genicular nerve blocks and genicular nerve ablation (see Policy Guidelines for examples) are considered **not medically necessary** as treatment of chronic knee pain due to any cause, including but not limited to the following:

   A. Osteoarthritis of the knee
   B. As a treatment prior to knee arthroplasty
   C. As a treatment following knee arthroplasty

Link to Evidence Summary

POLICY CROSS REFERENCES

- Autologous Chondrocyte Implantation (ACI) for Cartilaginous Defects of the Knee, MP137
- Osteochondral Allografts and Autografts for Cartilaginous Defects, MP149
- Meniscal Allograft Transplantation and Other Meniscal Implants, MP150

The full Company portfolio of current Medical Policies is available online and can be accessed here.

POLICY GUIDELINES

DEFINITIONS

Examples of genicular nerve ablation include, but are not limited to the following:

- Radiofrequency ablation (e.g. non-pulsed/conventional, cooled, pulsed)
- Chemical ablation
- Cryoablation

BACKGROUND

The nerves supplying the knee are called the genicular nerves, comprising the articular branches of the obturator, femoral, saphenous, common peroneal, and tibial nerves. These nerves provide innervation to the capsule of the knee joint, as well as to the intra-articular and extra-articular ligaments. They are thought to contribute to knee-related pain of various etiologies, including but not limited to degenerative joint diseases such as osteoarthritis, chronic pain including knee pain that exists after total knee arthroplasty (TKA) surgery.

Radiofrequency Ablation

Radiofrequency ablation (RFA), also known as radiofrequency lesioning, radiofrequency nerve ablation (RFNA), radiofrequency neurotomy, denervation, or rhizotomy, is a minimally invasive treatment proposed to temporarily reduce knee pain caused by various etiologies. During the procedure radiofrequency (RF) energy delivers heat to the target nerve thereby creating a lesion that stops pain input to the central nervous system. Prior to planning the procedure, a diagnostic genicular nerve block is conducted to ensure that the patient is a suitable candidate for RFA. The procedure is performed in an outpatient setting, typically by a pain specialist. It is usually performed under fluoroscopic or ultrasonographic guidance to facilitate localization of the target nerves. After local anesthetic has been injected, an RF cannula is inserted and advanced until it makes contact with bone. Stimulation is performed at 50 hertz to identify the location of each target nerve. Anesthetic may be applied to the target nerve to relieve pain during RFA. During conventional RFA, the RF probe is advanced through the cannula and the temperature of the tip is increased to 70°C to 80°C for 90 to 120 seconds. One lesion is created at each of the target nerves.[1]

Cooled radiofrequency ablation/denervation (also known as C-RFA) is a variation on conventional RFA that is also being researched. C-RFA maintains the tissue temperature immediately adjacent to the electrode at 60°C while the target nerve is heated to 75°C or higher. This purportedly allows for treatment of a large tissue area without the risk of adjacent tissue damage. Examples of devices used for this procedure include, but may not be limited to, the Coolief Cooled RF Probe. (Please see the Regulatory Status section below for more information on this device.)

Pulsed RFA in another proposed alternative to conventional RFA. Pulsed RFA involves the application of heat applied in short bursts instead of a continuous flow, allowing the tissue to cool between applications and a resulting tissue temperature of approximately 42°C. Lower tissue temperatures and short bursts of application are thought to reduce the risk of destruction to nearby tissue. Examples of devices used for this procedure include, but may not be limited to, the Stryker MultiGen™ 2 RF Generator System (when used on the pulsed mode). (Please see the Regulatory Status section below for more information on this device.)

Cryoablation

Cryoablation has also been proposed as minimally invasive treatment for individuals with knee pain of various etiologies. This technique may also be referred to by a variety of other names, including but not limited to:

- cryosurgery
- cryodenervation
- cryogenic neuroablation
- cryoneurolysis
- cryoanalgesia

This technique involves the use of a specialized hand-held device (e.g., cryoprobe) and administration of intense cooling applications to the target nerve, usually the genicular nerve. The proposed mechanism of action is that freezing destroys nerve tissue by causing extensive vascular damage to the endoneural capillaries or blood vessels supplying the nerves, thereby interrupting the transmission of pain impulses. Treatment effects have been reported two last up to 24 months.

Chemical Ablation

Chemical ablation may also be referred to as chemical neurolysis, chemical denervation or chemodenervation, and involves the injection of neurolytic agents (e.g., phenol, alcohol, glycerol, saline, and sodium morrhuate). This proposed treatment option for chronic pain generally results in a permanent destruction of the nerve.

Genicular Nerve Blocks (GNB)

In a GNB procedure, an anesthetic agent (e.g., lidocaine, bupivacaine) is injected on the genicular nerves of the knee, targeting the superior lateral, superior medial, and inferior medial genicular nerves. In blocking the nerve supply to the knee, the treatment aims to alleviate knee pain and restore function.[2]

REGULATORY STATUS

U.S. FOOD AND DRUG ADMINISTRATION (FDA)

Approval or clearance by the Food and Drug Administration (FDA) does not in itself establish medical necessity or serve as a basis for coverage. Therefore, this section is provided for informational purposes only.

Several radiofrequency and cryosurgery devices have been cleared for marketing by the U.S. Food and Drug Administration (FDA) through the 510(k) process. Radiofrequency (RF) probes and lesion generators are considered class II devices. The FDA has approved over 60 RF probes (product code: GXI) and over 40 RF lesion generators (product code: GXD). Below are examples of these devices.

- NeuroTherm® NT 2000 (NeuroTherm, Inc.) received 510K clearance in 2011. The FDA determined that this device was substantially equivalent to existing devices for use in lesioning neural tissue in the peripheral nervous system. Existing predicate devices included the NeuroTherm NT 1000 (cleared in 2006), Stryker Interventional Pain RF Generator and RF Electrodes and Cannulae (2004), and Cosman G4 RF Generator (cleared in 2008).

- The Stryker MultiGen™ 2 RF Generator System received 510K clearance in 2017 for "coagulation of soft tissues in orthopedic, spinal, and neurosurgical applications. Examples include, but are not limited to: Facet Denervation, Trigeminus Neuralgia, Peripheral Neuralgia and Rhizotomy."[3] This system may be used for both pulsed and non-pulsed/conventional RFA, depending on the setting.

- The iovera° system (Myoscience, Inc) originally received 510K clearance in 2014 to produce lesions in peripheral nervous tissue to block pain. In 2017 (K1737637) indications for use were expanded specifically for the knee, stating that the device could also be used "for the relief of pain and symptoms associated with osteoarthritis of the knee for up to 90 days."[4]

- Coolief Cooled RF Probe (Halyard Health, Inc.) received 510K clearance (K163461) in 2017 for "creating radiofrequency lesions of the genicular nerves for the management of moderate to severe knee pain of more than 6 months with conservative therapy, including medication, in patients with radiologically-confirmed osteoarthritis (grade 2-4) and a positive response (≥50% reduction in pain) to a diagnostic genicular nerve block the relief of chronic, moderate to severe, knee pain caused by osteoarthritis (OA)."[5]

CLINICAL EVIDENCE AND LITERATURE REVIEW

EVIDENCE REVIEW

A review of the ECRI, Hayes, Cochrane, and PubMed databases was conducted regarding the use of radiofrequency lesioning and cryosurgery as potential treatments for knee pain of various etiologies. Below is a summary of the available evidence identified through July 2024.

Because of the subjective nature of outcome measures like pain, randomized clinical trials (RCTs) are needed to determine whether outcomes are truly improved with the use of radiofrequency lesioning or cryosurgery as opposed to placebo effect. Ideally, trials should be sufficiently powered to avoid spurious results, include homogenous patient populations, longer follow up periods, and report objective outcome measures such as imaging in addition to standardized methods of measuring subjective outcomes like pain severity and functional impairment. Therefore, the evidence review below has focused on RCTs and systematic reviews that have included RCTs.

Radiofrequency Ablation

Systematic Reviews

Osteoarthritis (OA) of the Knee

- In 2021 (updated 2023), Hayes published a review that evaluated non-pulsed RFA for the treatment of osteoarthritis (OA) of the knee, including eight studies (n=25 to 73).[1] The review

indicated that the overall body of evidence was of low quality. The studies included in the review suffered from a number of limitations including:

- Heterogeneous in terms of:
  - Study design: three randomized controlled trials (RCTs), one randomized comparison study, one nonrandomized study, and three noncomparative studies.
  - Quality: one study was deemed to be of good quality, two were of fair quality, two were of poor quality, and three were of very poor quality.
  - Comparator group: two compared RFA with sham stimulation, one compared RFA with platelet rich plasma, one with steroid plus anesthetic.
  - Tools used to assess self-reported pain/function outcomes: four different tolls sued between the eight studies.
- All studies were of relatively small sample size (n= 25 to 73)
- All studies reported only short-term follow-up, ranging from three months (five studies) to one year.
- Most of the studies (n=6) reported that initial improvements in pain and/or function diminished over time.
- Lack of one or more of the following:
  - control or comparison group
  - power analysis
  - randomization
  - blinding
  - objective outcome measures
- Some studies had unclear methodology or procedures, while others reported baseline differences in disease severity between groups.

Investigations assigned a "C" rating (potential but unproven benefit) and determined that RFA of the genicular nerves may result in improvements in pain and function in patients with treatment-refractory pain associated with KOA. Authors also noted, however, that "substantial uncertainty exists as to the consistency of clinically significant improvements in pain and the duration of effect of RFA on KOA-related pain."

- In 2018, the Washington State Health Care Authority conducted a systematic review evaluating the safety and efficacy of peripheral nerve ablation for the treatment of limb pain.[6] Independent investigators systematically searched the literature through October 2018, identified eligible studies, assessed study quality and extracted data. In total, 7 RCTs assessing radiofrequency ablation (RFA) for the treatment of osteoarthritic knee pain were included for review. Four of these studies reported some improvements in knee function and pain measures at 6-month follow-up. Three studies found significant improvements at 3 months for the conventional RFA group across functional outcomes. Similarly, these 3 RCTs found statistically significant improvements for the conventional RFA group at 3 months using a VAS pain scale. Results' validity was limited, however, by studies' lack of long term follow-up. One RCT was included, which evaluated cooled RFA (CRFA) and 1 RCT of cryoablation for knee pain. Cooled RFA improved function and pain measures at 6 months compared to an intraarticular steroid injection (IAS). Cryoablation of the genicular nerves improved WOMAC total scores (osteoarthritis index) at 1 to 3 months compared to a sham procedure, but not at 4 months. On

the basis of this report, the Washington State Health Care Authority concluded that peripheral nerve ablation, using any technique to knee pain was not a covered benefit.[7]

- Additional systematic reviews have also evaluated the safety and efficacy of radiofrequency ablation for the treatment of knee pain.[8-13] While each review noted improvement among patients' functional outcomes and pain scores at short-term follow-up, each study called for additional high-quality RCTs with long-term follow-up to confirm the efficacy and superiority of various radiofrequency modalities for the treatment of knee osteoarthritis.

Randomized Controlled Trials

Summarized below are the RCTs that were either not included or were published after the systematic reviews described above.

OA of the Knee: Cooled RFA (CRFA)

Systematic Reviews

- In 2022 (updated 2023), Hayes conducted a systematic review evaluating the safety and efficacy cooled radiofrequency ablation with the Coolief Cooled RF (Avanos Medical Inc.) system for osteoarthritis of the knee.[14] In total, 5 studies were included for review: 1 RCT compared cooled radiofrequency ablation (CRFA) with the Coolief system with intra-articular steroid injection (IASI) for relief of pain associated with knee osteoarthritis (KOA); whereas 4 studies evaluated the effect of CRFA on KOA that had failed conservative treatment. An additional RCT compared CRFA with sham treatment in patients scheduled to undergo total knee arthroplasty in the following 2 to 6 weeks, to assess whether CRFA reduced postoperative pain. Sample sizes range from 33 to 205; median follow-up was 6 months. Outcomes of interest included pain, function, medication use and need for additional procedures.

  Across 4 studies, CRFA significant reduced pain, with 50% to 77% of patients reporting a clinically significant reduction in pain at 6 months in 2 studies and 37% to 74% of patients achieving at least a 50% improvement in pain at 6 months in 4 studies. However, the proportion of patients achieving a 50% reduction in pain at longer follow-up were reduced substantially (1 study). Evidence evaluating the effect of CRFA on functional outcomes was limited. No differences were reported in medication use between patients receiving CRFA and patients receiving IASI. Quality of evidence was assessed as "very low" due to a lack of long-term follow up, and the inconsistent reductions in pain. Hayes concluded that the evidence base was "insufficient" to draw conclusions regarding the efficacy of CRFA due to uncertainty surrounding the treatment's clinical significance, comparative effectiveness and the duration of effect of CRFA on the genicular nerves.

- In 2020, ECRI published a systematic review assessing the safety and efficacy of the Coolief cooled radiofrequency system (CRFA) for treating knee osteoarthritis.[15] In total, 2 multicenter, randomized, crossover studies were included for review.[16].[17] Studies compared CRFA with single hyaluronic acid (HA) or intra-articular steroid (IAS) injections. Outcomes of interest included pain, function, quality of life, opioid use, and adverse events. At 6-month follow-up, results indicated that CRFA of genicular nerve structures may improve pain, knee function, and quality

of life (QOL) compared with either a single intra-articular injection of hyaluronic acid (HA) or corticosteroid. Nonetheless, these studies also reported higher procedure-related adverse event (AE) rates in patients who received CRFA than in those who received an HA or IAS injection. Study limitations included a lack of blinding of outcomes assessors, cross over to CRFA after 6 months among HA and IAS patients, short follow-up and possible diminished effects of single HA or IAS injection rather than multiple spaced-out injections. Authors of one study also cited a higher attrition rate in the CRFA group than in the HA group (15% versus 7%) and lack of balance across enrolling sites. Lastly, HA injection may not be a clinically relevant comparator because some clinical guidelines recommend against this treatment in patients with symptomatic knee OA. No studies compared CRFA with standard RFA. Authors concluded that evidence supporting CRFA for the treatment of KOA is "inconclusive" and that RCTs with longer follow-up are needed to determine how CRFA compares with nonsurgical procedural treatments for knee OA.

Randomized Controlled Trials

In 2018, Davis et al. published the results of an industry-sponsored RCT that compared the safety and effectiveness of C-RFA (using the Coolief system) with corticosteroid injection in the management of knee pain from OA, including 151 subjects.[17] This study was included as part of the ECRI review discussed above. Although the study reported significant reductions in knee pain and opioid use in the C-RFA group compared to the injection group, the RCT suffered from a number of limitations including:

- Limited 6-month follow-up precludes conclusions regarding long-term efficacy.
- Inconsistency between study sites in terms of blinding observers to procedures.
- Patients in both treatment groups were permitted to use opioids for medical indications other than OA-related knee pain, precluding conclusions regarding the effect of each treatment on opioid use for OA-related knee pain.

OA of the Knee: Pulsed RFA

In 2014, Rahimzadeh et al. published an RCT that compared the efficacy of pulsed RFA to prolotherapy with erythropoietin and with dextrose, including 70 patients with knee OA.[18] The authors reported that pulsed RFA produced a significant reduction in pain comparable to prolotherapy at two- and four-weeks, but the analgesic effect of the RFA diminished by 12 weeks.

In 2017, Gulec et al. published the results of an RCT that compared the effectiveness of unipolar versus bipolar intraarticular pulsed RFA in chronic knee pain control, including 100 patients with moderate to severe OA.[19] Although significant reductions in knee pain were reported post-treatment compared to baseline in both treatment groups, this trial was limited by the short-term follow-up (three months). In addition, lack of an appropriate comparator group, such as sham control, precludes conclusions regarding efficacy of pulsed RFA for knee pain. Furthermore, greater reductions in pain were reported at 1-month follow-up compared to 3-month follow-up, indicating that potential improvements in pain are not sustained.

Total Knee Arthroplasty (TKA): Non-Pulsed RFA

In 2017, Qudsi-Sinclair et al. published the results of a small RCT (n=28 patients) that compared conventional RFA to local anesthetic and corticosteroid block of the superolateral, superomedial, and

inferomedial branches of the knee genicular nerves in patients who had total knee arthroplasty (TKA) but still experience pain.[20] There were no significant differences in outcome measures between treatment groups, including reductions in pain and analgesic use, and improvements in joint function and disability. The authors concluded that "further clinical trials need to be undertaken, with a larger sample size, in order to demonstrate the efficacy of this technique and to detect the possible appearance of any long-term adverse effects."

Total Knee Arthroplasty (TKA): Pulsed RFA

In 2010, Taverner et al. published the results of a small (n=50) sham-controlled RCT that compared pulsed RFA treatment in patients with painful knee awaiting TKA.[21] The authors reported a statistically significant reduction in VAS pain scores at 1- and 4-week follow-up compared with baseline in the pulsed RFA group. Patients receiving sham treatment showed no statistically significant improvement. The authors concluded that based on the promising results of this study, that future studies were needed to determine efficacy of pulsed RFA for pre-TKA knee pain.

No systematic reviews or RCTs were identified that evaluated radiofrequency ablation as a treatment for knee pain of any other etiology not listed above.

Cryoablation

Systematic Reviews

In 2021 (updated 2022), Hayes published an "evolving evidence review" assessing the safety and efficacy of the iovera° system for the treatment of knee osteoarthritis.[22] In total, 1 randomized sham-controlled clinical trial (discussed below)[23] and one systematic review (including 1 case report and 2 clinical studies) were included for review. The sham-controlled RCT reported benefit in pain and knee-specific global scales with iovera° over sham treatment with the majority of benefit observed up to 60-90 days, and no benefit observed by 180 days follow-up. The systematic review reported improvements in pain and symptoms in patients with knee pain treated with iovera° compared with sham or standard care, however only 1 of these studies treated patients with knee osteoarthritis. Authors concluded that clinical studies and systematic reviews suggest "minimal support" for the iovera system for the treatment of knee osteoarthritis.

Randomized Controlled Trials

In 2017, Radnovich et al. published the results of an RCT that evaluated the efficacy and safety/tolerability of cryoneurolysis (using the Myoscience iovera° system) for reduction of pain and symptoms associated with knee OA.[23] The trial included 180 patients (n = 121 active treatment and 59 sham treatment) and only 6-month outcomes were reported. The attrition rate for this study was unacceptably high, with 28% of actively treated patients and 31% of controls being lost to follow-up at 6-months. Although there were significant differences in pain outcomes between treatment groups up to 150 days of follow-up, by the 180 day follow-up there were no differences in pain outcomes, possibly indicating reduced treatment efficacy over a relatively short time period. The authors noted that although treatment allocation was well concealed initially, this diminished over time and patients began to guess their treatment group, which may have affected patient-reported outcomes and biased results in favor of active treatment.

No systematic reviews or RCTs were identified that evaluated cryoablation as a treatment for knee pain of any other etiology not listed above.

Chemical Ablation

Systematic Reviews

No systematic reviews were identified that evaluated chemical ablation as a treatment for knee pain of any etiology.

Randomized Controlled Trials

No randomized controlled trials were identified that evaluated chemical ablation as a treatment for knee pain of any etiology.

Genicular Nerve Blocks

In 2022 (updated 2023), Hayes published a systematic review assessing the safety and efficacy of genicular nerve blocks for the management of knee pain.[2] In total, 4 studies (n=33 to 80 patients) evaluated GNB in patients with knee pain. The evidence base included 4 randomized controlled trials (RCTs). Three studies were conducted in patients with pain associated with KOA and 1 study was conducted in patients in whom pain persisted for at least 6 months after TKA. Three studies evaluated GNB combined with a corticosteroid applied to the genicular nerves. Comparators of these 3 studies varied and included GNB alone, ultrasound-guided administration compared with fluoroscopy-guided administration, and radiofrequency ablation (RFA). One RCT evaluated GNB combined with intra-articular corticosteroid injection (IACSI) compared with IACSI alone. The quality of studies ranged from poor to fair. Follow-up ranged from 8 weeks to 12 months. The overall quality of the body of evidence for GNB for knee pain was rated as very low. This quality rating reflects limited and conflicting evidence, limited follow-up data, and individual study quality limitations. The overall body of evidence had considerable heterogeneity across studies in terms of comparators. Individual study quality ranged from poor to fair. On the basis of "very low quality evidence," Hayes assigned a D2 rating (insufficient evidence), stating that an overall very-low-quality body of evidence does not consistently provide proof of benefit. Additional studies designed to evaluate the efficacy of the treatment by comparing GNB with a sham treatment were deemed necessary to better establish treatment efficacy and duration.

CLINICAL PRACTICE GUIDELINES

American College of Rheumatology/Arthritis

In 2019, the American College of Rheumatology/Arthritis published a clinical practice guideline addressing the treatment of osteoarthritis of the hand, hip and knee.[24] On the basis of a non-systematic review of evidence, investigators conditionally recommended radiofrequency ablation for the treatment of patients with knee osteoarthritis. Authors acknowledged "the heterogeneity of techniques and controls used and lack of long-term safety data."[24]

Osteoarthritis Research Society International (OARSI)

In 2019, the OARSI published guidelines addressing non-surgical management of knee, hip and polyarticular osteoarthritis.[25] On the basis of a systematic review of evidence, authors did not recommend nerve block therapy (including RFA) as a treatment for knee osteoarthritis.

EVIDENCE SUMMARY

There is not enough evidence to support the use of radiofrequency ablation, cryoablation or genicular knee blocks for the treatment of knee pain. There are a limited number of randomized trials comparing radiofrequency ablation or cryoablative techniques to standard of care treatments for knee pain, such as nonoperative treatments or surgical repair. Although some positive results have been reported, this body of evidence has a number of limitations, including the following: lack of long-term follow-up, heterogeneous outcomes measures evaluated, reporting of only subjective patient-reported outcomes, inconsistencies in terms of treatment efficacy. Additionally, several trials have reported diminished improvement over time post-treatment, indicating a lack of long-term efficacy for any of the ablative therapies addressed in this policy. Lastly, no clinical practice guidelines were identified which addressed any type of genicular knee blocks, RFA or cryoablative therapies as potential treatments for any type of knee pain. To determine the long-term safety and efficacy of these procedures, large, high-quality randomized controlled trials are needed.

BILLING GUIDELINES AND CODING

The codes 0441T and 64640 are not specific to the procedures and/or indications addressed in this policy. 64640 and 0441T will be considered not medically necessary for the therapies addressed in this policy when the request is for any of the ICD-10 diagnosis+ codes present in the Billing Guidelines Appendix below.

Genicular Nerve Block

The following codes represent **genicular nerve block** procedures which have recently emerged as an alternative treatment for chronic knee pain.

• 64454: Injection(s), anesthetic agent(s) and/or steroid; genicular nerve branches, including imaging guidance, when performed

CPT instructions state that code 64454 “requires injecting all of the following genicular nerve branches: superolateral, superomedial, and inferomedial. If all 3 of these genicular nerve branches are not injected, report 64454 with modifier 52.”

Radiofrequency Ablation

Radiofrequency treatment is considered a neurolytic agent by CPT. CPT code 64640 would be reported for **radiofrequency ablation** of a peripheral nerve, and CPT 64624 would be reported for radiofrequency ablation of the genicular nerve.

• 64624: Destruction by neurolytic agent, genicular nerve branches including imaging guidance, when performed
• 64640: Destruction by neurolytic agent; other peripheral nerve or branch

CPT instructions state that code 64624 "requires the destruction of each of the following genicular nerve branches: superolateral, superomedial, and inferomedial. If a neurolytic agent for the purposes of destruction is not applied to all of these nerve branches, report 64624 with modifier 52."

CODES*		
CPT	0441T	Ablation, percutaneous, cryoablation, includes imaging guidance; lower extremity distal/peripheral nerve
	20999	Unlisted procedure, musculoskeletal system, general
	27599	Unlisted procedure, femur or knee
	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
	64640	Destruction by neurolytic agent; other peripheral nerve or branch
	64999	Unlisted procedure, nervous system
HCPCS	C9809	Cryoablation needle (e.g., iovera system), including needle/tip and all disposable system components, non-opioid medical device (must be a qualifying medicare non-opioid medical device for post-surgical pain relief in accordance with section 4135 of the caa, 2023)

***Coding Notes:**

- The above code list is provided as a courtesy and may not be all-inclusive. Inclusion or omission of a code from this policy neither implies nor guarantees reimbursement or coverage. Some codes may not require routine review for medical necessity, but they are subject to provider contracts, as well as member benefits, eligibility and potential utilization audit.
- All unlisted codes are reviewed for medical necessity, correct coding, and pricing at the claim level. If an unlisted code is submitted for non-covered services addressed in this policy then it will be **denied as not covered**. If an unlisted code is submitted for potentially covered services addressed in this policy, to avoid post-service denial, **prior authorization is recommended**.
- **See the non-covered and prior authorization lists on the Company Medical Policy, Reimbursement Policy, Pharmacy Policy and Provider Information website for additional information.**
- HCPCS/CPT code(s) may be subject to National Correct Coding Initiative (NCCI) procedure-to-procedure (PTP) bundling edits and daily maximum edits known as "medically unlikely edits" (MUEs) published by the Centers for Medicare and Medicaid Services (CMS). This policy does not take precedence over NCCI edits or MUEs. Please refer to the CMS website for coding guidelines and applicable code combinations.

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POLICY REVISION HISTORY

DATE	REVISION SUMMARY
2/2023	Converted to new policy template.
12/2023	Annual update. Changed denial from investigational to not medically necessary.
10/2024	Annual update. Billing guidelines updated.
1/2025	Q1 2025 code set update.

APPENDICES

Diagnosis codes for knee pain may include but are not limited to any of the ICD-10 codes listed below. CPT 64640 and 0441T will be considered not medically necessary for the therapies addressed in this

policy when the request is for any of the ICD-10 diagnosis+ codes listed here. Additional ICD codes may apply.

Code or Range	Description
M174	Other bilateral secondary osteoarthritis of knee
M175	Other unilateral secondary osteoarthritis of knee
M172	Bilateral post-traumatic osteoarthritis of knee
M1710	Unilateral primary osteoarthritis, unspecified knee
M1711	Unilateral primary osteoarthritis, right knee
M1712	Unilateral primary osteoarthritis, left knee
M1730	Unilateral post-traumatic osteoarthritis, unspecified knee
M1731	Unilateral post-traumatic osteoarthritis, right knee
M1732	Unilateral post-traumatic osteoarthritis, left knee
M06261	Rheumatoid bursitis, right knee
M06262	Rheumatoid bursitis, left knee
M06269	Rheumatoid bursitis, unspecified knee
M71161	Other infective bursitis, right knee
M71162	Other infective bursitis, left knee
M71169	Other infective bursitis, unspecified knee
M71561	Other bursitis, not elsewhere classified, right knee
M71562	Other bursitis, not elsewhere classified, left knee
M71569	Other bursitis, not elsewhere classified, unspecified knee
M08.861-M08.869	Other juvenile arthritis, knee
M08.961-M08.969	Juvenile arthritis, unspecified, knee
M12.561-M12.569	Traumatic arthropathy, knee
M12.861-M12.869	Other specific arthropathies, not elsewhere classified, knee
M13.161-M13.169	Monoarthritis, not elsewhere classified, knee
M13.861-M13.869	Other specified arthritis, knee
M17.0-M17.9	Osteoarthritis of knee
M21.061-M21.069	Valgus deformity, not elsewhere classified, knee
M21.161-M21.169	Varus deformity, not elsewhere classified, knee
M21.261-M21.269	Flexion deformity, knee
M22.00-M22.92	Disorder of patella
M23.000-M23.92	Internal derangement of knee
M24.361-M24.369	Pathological dislocation of knee, not elsewhere classified
M24.461-M24.469	Recurrent dislocation, knee
M24.561-M24.569	Contracture, knee
M24.661-M24.669	Ankylosis, knee
M25.361-M25.369	Other instability, knee
M25.561-M25.569	Pain in knee
M25.661-M25.669	Stiffness of knee, not elsewhere classified
M25.761-M25.769	Osteophyte, knee
M25.861-M25.869	Other specified joint disorders, knee
M66.0	Rupture of popliteal cyst
M67.361-M67.369	Transient synovitis, knee
M67.461-M67.469	Ganglion, knee

M67.50-M67.52	Plica syndrome
M67.861-M67.869	Other specified disorders of synovium and tendon, knee
M70.40-M70.42	Prepatellar bursitis
M70.50-M70.52	Other bursitis of knee
M71.20-M71.22	Synovial cyst of popliteal space
M71.561-M71.569	Other bursitis, not elsewhere classified, knee
M92.40-M92.42	Juvenile osteochondrosis of patella
M92.50-M92.52	Juvenile osteochondrosis of tibia and fibula
M94.261-M94.269	Chondromalacia, knee
S80.00XA-S80.02XS	Contusion of knee
S83.101A-S83.196S	Subluxation and dislocation of knee
S83.401A-S83.92XS	Sprain of knee
S87.00XA-S87.02XS	Crushing injury of knee
T84.84XA-T84.84XS	Pain due to internal orthopedic prosthetic devices, implants and grafts
Z96.651-Z96.659	Presence of artificial knee joint
M0516	Rheumatoid lung disease with rheumatoid arthritis of knee
M05161	Rheumatoid lung disease with rheumatoid arthritis of right knee
M05162	Rheumatoid lung disease with rheumatoid arthritis of left knee
M05169	Rheumatoid lung disease with rheumatoid arthritis of unspecified knee
M0526	Rheumatoid vasculitis with rheumatoid arthritis of knee
M05261	Rheumatoid vasculitis with rheumatoid arthritis of right knee
M05262	Rheumatoid vasculitis with rheumatoid arthritis of left knee
M05269	Rheumatoid vasculitis with rheumatoid arthritis of unspecified knee
M0536	Rheumatoid heart disease with rheumatoid arthritis of knee
M05361	Rheumatoid heart disease with rheumatoid arthritis of right knee
M05362	Rheumatoid heart disease with rheumatoid arthritis of left knee
M05369	Rheumatoid heart disease with rheumatoid arthritis of unspecified knee
M0546	Rheumatoid myopathy with rheumatoid arthritis of knee
M05461	Rheumatoid myopathy with rheumatoid arthritis of right knee
M05462	Rheumatoid myopathy with rheumatoid arthritis of left knee
M05469	Rheumatoid myopathy with rheumatoid arthritis of unspecified knee
M0556	Rheumatoid polyneuropathy with rheumatoid arthritis of knee
M05561	Rheumatoid polyneuropathy with rheumatoid arthritis of right knee
M05562	Rheumatoid polyneuropathy with rheumatoid arthritis of left knee
M05569	Rheumatoid polyneuropathy with rheumatoid arthritis of unspecified knee
M0566	Rheumatoid arthritis of knee with involvement of other organs and systems
M05661	Rheumatoid arthritis of right knee with involvement of other organs and systems
M05662	Rheumatoid arthritis of left knee with involvement of other organs and systems
M05669	Rheumatoid arthritis of unspecified knee with involvement of other organs and systems
M0576	Rheumatoid arthritis with rheumatoid factor of knee without organ or systems involvement
M05761	Rheumatoid arthritis with rheumatoid factor of right knee without organ or systems involvement

M05762	Rheumatoid arthritis with rheumatoid factor of left knee without organ or systems involvement
M05769	Rheumatoid arthritis with rheumatoid factor of unspecified knee without organ or systems involvement
M0586	Other rheumatoid arthritis with rheumatoid factor of knee
M05861	Other rheumatoid arthritis with rheumatoid factor of right knee
M05862	Other rheumatoid arthritis with rheumatoid factor of left knee
M05869	Other rheumatoid arthritis with rheumatoid factor of unspecified knee
M0606	Rheumatoid arthritis without rheumatoid factor, knee
M06061	Rheumatoid arthritis without rheumatoid factor, right knee
M06062	Rheumatoid arthritis without rheumatoid factor, left knee
M06069	Rheumatoid arthritis without rheumatoid factor, unspecified knee
M0686	Other specified rheumatoid arthritis, knee
M06861	Other specified rheumatoid arthritis, right knee
M06862	Other specified rheumatoid arthritis, left knee
M06869	Other specified rheumatoid arthritis, unspecified knee
M0806	Unspecified juvenile rheumatoid arthritis, knee
M08061	Unspecified juvenile rheumatoid arthritis, right knee
M08062	Unspecified juvenile rheumatoid arthritis, left knee
M08069	Unspecified juvenile rheumatoid arthritis, unspecified knee
M0826	Juvenile rheumatoid arthritis with systemic onset, knee
M08261	Juvenile rheumatoid arthritis with systemic onset, right knee
M08262	Juvenile rheumatoid arthritis with systemic onset, left knee
M08269	Juvenile rheumatoid arthritis with systemic onset, unspecified knee
M0846	Pauciarticular juvenile rheumatoid arthritis, knee
M08461	Pauciarticular juvenile rheumatoid arthritis, right knee
M08462	Pauciarticular juvenile rheumatoid arthritis, left knee
M08469	Pauciarticular juvenile rheumatoid arthritis, unspecified knee