



CLINICAL GUIDELINES

CMM-208: Radiofrequency Joint Ablations/ Denervations

Version 2.0.2019

Effective August 1, 2019



CMM-208: Radiofrequency Joint Ablations/Denervations

CMM-208.1: Definitions	3
CMM-208.2: General Guidelines	3
CMM-208.3: Indications	3
CMM-208.4: Non-Indications	4
CMM-208.5: Procedure (CPT®) Codes	5
CMM-208.6: References	5

CMM-208.1: Definitions

- **Radiofrequency joint denervation/ablation** (i.e., facet neurotomy, facet rhizotomy) refers to the insertion of a radiofrequency probe towards the medial branch of the posterior primary rami, which supplies the innervation to the facet joints under fluoroscopic guidance. The radiofrequency electrode is then utilized to create a “continuous” heat lesion by coagulating the nerve supplying the joint with the intention of providing pain relief by denervating the painful facet joint. The injection/block applies directly to the facet joint(s) blocked/ablated and not to the number of nerves blocked/ablated that innervate the facet joint(s).

CMM-208.2: General Guidelines

- The determination of medical necessity for the performance of radiofrequency joint denervations/ablations is always made on a case-by-case basis.
- When performing radiofrequency joint denervations/ablations, it may be necessary to perform the procedure at the same level(s) bilaterally; however, no more than three (3) levels should be performed during the same session/procedure.
- When performing a repeat radiofrequency joint denervation/ablation at the same spinal level(s) as a prior successful denervation/ablation procedure, further diagnostic facet joint injections/medial branch blocks at that spinal level(s) are not necessary.

CMM-208.3: Indications

- A radiofrequency joint denervation/ablation is considered **medically necessary** for facet mediated pain resulting from disease, injury, or surgery when **ALL** of the following are met:
 - ◆ Clinical findings and imaging studies suggest no other obvious cause of the pain (e.g., central spinal stenosis with neurogenic claudication/myelopathy, foraminal stenosis or disc herniation with concordant radicular pain/radiculopathy, infection, tumor, fracture, pseudoarthrosis, pain related to spinal instrumentation).
 - ◆ Failure of at least three (3) months of conservative therapy (e.g., exercise, physical methods including physical therapy, chiropractic care, nonsteroidal anti-inflammatory drugs [NSAID’s] and/or analgesics) unless contraindicated and the reason(s) for the contraindication(s) is/are documented in the medical record
 - ◆ Two positive diagnostic facet joint injections/medial branch blocks as evidenced by at least 80% relief of facet mediated pain for at least the expected minimum duration of the effect of the local anesthetic used.
- For an individual with a prior spinal fusion, radiofrequency joint denervation/ablation is considered **medically necessary** when the above criteria are met and the procedure is performed at an unfused spinal segment located either above or below the fused spinal segment.

- A repeat radiofrequency joint denervation/ablation when **BOTH** of the following criteria are met:
 - ◆ There is documented pain relief of at least 50% which has lasted for a minimum of 12 weeks
 - ◆ The procedure is performed at a minimum of six months following the prior denervation/ablation.

CMM 208.4: Non-Indications

- Performance of a radiofrequency joint denervation/ablation for **ANY** of the following indications is considered **not medically necessary**:
 - ◆ When performed without the use of fluoroscopic guidance
 - ◆ Performing more than two procedures at the same level(s) during a 12 month period of time
 - ◆ In the absence of two sequential positive diagnostic facet joint injections/medial branch blocks at the same level(s) for an initial radiofrequency treatment, or for a repeat radiofrequency treatment in the absence of at least 50% relief of facet mediated pain for at least 6 months from a previous radiofrequency treatment at the same level(s).
 - ◆ When performed for neck pain or low back pain in the presence of an untreated radiculopathy
 - ◆ When performed at a posteriorly fused spinal motion segment (with the exception of patients with clinically suspected pseudarthrosis)
 - ◆ When performed on more than three (3) contiguous spinal joint levels during the same session/procedure
 - ◆ When performed to treat pain arising from above C2-3 and below L5-S1 spinal levels
- Performance of radiofrequency joint denervation/ablations for **ANY** of the following indications is considered **experimental, investigational, or unproven**:
 - ◆ Pulsed radiofrequency ablation for chronic pain syndromes
 - ◆ Endoscopic radiofrequency denervation/endoscopic dorsal ramus rhizotomy
 - ◆ Cryoablation/cryoneurolysis/cryodenervation
 - ◆ Chemical ablation (e.g., alcohol, phenol, glycerol)
 - ◆ Laser ablation
 - ◆ Ablation by any method for sacroiliac (SI) joint pain
 - ◆ Cooled radiofrequency ablation

CMM-208.5: Procedure (CPT®) Codes

This guideline relates to the CPT® code set below. Codes are displayed for informational purposes only. Any given code's inclusion on this list does not necessarily indicate prior authorization is required.

CPT®	Code Description/Definition
64633	Destruction by neurolytic agent, paravertebral facet joint nerve(s), with imaging guidance (fluoroscopy or CT), cervical or thoracic, single facet joint
64634	Destruction by neurolytic agent, paravertebral facet joint nerve(s), with imaging guidance (fluoroscopy or CT), cervical or thoracic, each additional facet joint (List separately in addition to code for primary procedure)
64635	Destruction by neurolytic agent, paravertebral facet joint nerve(s), with imaging guidance (fluoroscopy or CT), lumbar or sacral, single facet joint
64636	Destruction by neurolytic agent, paravertebral facet joint nerve(s), with imaging guidance (fluoroscopy or CT), lumbar or sacral, each additional facet joint (List separately in addition to code for primary procedure)

This list may not be all inclusive and is not intended to be used for coding/billing purposes. The final determination of reimbursement for services is the decision of the health plan and is based on the individual's policy or benefit entitlement structure as well as claims processing rules.

CMM-208.6: References

1. American College of Occupational and Environmental Medicine. Occupational Medicine Practice Guideline, 2nd Ed. 2008.
2. American Medical Association. *Current Procedural Terminology* – Professional Edition.
3. Abejon D, Garcia-del-Valle S, Fuentes M, et al. Pulsed radiofrequency in lumbar radicular pain: clinical effects in various etiological groups. *Pain Pract.* 2007 7(1):21-26.
4. Barnsley L. Percutaneous radiofrequency neurotomy for chronic neck pain: outcomes in a series of consecutive patients. *Pain Med.* 2005;6(4):282-286.
5. Boswell M, Colson J, Sehgal N, et al. A systematic review of therapeutic facet joint interventions in chronic spinal pain. *Pain Physician* 2007;10:229-253.
6. Boswell MV, Manchikanti L, Kaye AD, et al. A best-evidence systematic appraisal of the diagnostic accuracy and utility of facet (zygapophysial) joint injections in chronic spinal pain. *Pain Physician.* 2015;18:E497-E533.
7. Boswell M, Shah R, Everett C, et al. Interventional techniques in the management of chronic spinal pain: evidence-based practice guidelines. *Pain Physician.* 2005;8(1):1-47.
8. Buijs E, van Wijk R, Geurts J, Weeseman et al. Radiofrequency lumbar facet denervation: A comparative study of the reproducibility of lesion size after 2 current radiofrequency techniques. *Reg Anesth Pain Med.* 2004;29(5):400-407.
9. Cahana A, Van Zundert J, Macrea L, et al. Pulsed radiofrequency: current clinical and biological literature available. *Pain Med.* 2006 t;7(5):411-423.
10. Civelek E, Cansever T, Kabatas S, et al. Comparison of effectiveness of facet joint injection and radiofrequency denervation in chronic low back pain. *Turk Neurosurg.* 2012; 22:200-206.
11. Cohen S, Hurley R, Buckenmaier C, et. al. Randomized placebo-controlled study evaluating lateral branch radiofrequency denervation for sacroiliac joint pain. *Anesthesiology.* 2008; 109(2): 279–288.
12. Cohen S, Hurley R, Christo P, Winkley et al. Clinical predictors of success and failure for lumbar facet radiofrequency denervation. *Clin J Pain.* 2007;23:45-52.
13. Cohen S, Raja S. Pathogenesis, diagnosis, and treatment of lumbar zygapophysial (facet) joint pain. *Anesthesiology* 2007;106:591-614.

14. Cohen SP, Williams KA, Kurihara C, et al. Multicenter, randomized, comparative costeffectiveness study comparing 0, 1, and 2 diagnostic medial branch (facet joint nerve) block treatment paradigms before lumbar facet radiofrequency denervation. *Anesthesiology*. 2010; 113:395-405.
15. Conlin A, Bhogal S, Sequeira K, Teasell R. Treatment of whiplash-associated disorders -part II: Medical and surgical interventions. *Pain Res Manag*. 2005 10(1):33-40.
16. Dobrogowski J, Wrzosek A, Wordliczek J. Radiofrequency denervation with or without addition of pentoxifylline or methylprednisolone for chronic lumbar zygapophysial joint pain. *Pharmacol Rep*. 2005;57:475-480.
17. Dreyfuss P, Halbrook B, Pauza K, et al. Efficacy and validity of radiofrequency neurotomy for chronic lumbar zygapophysial joint pain. *Spine*. 2000;25(10):1270-1277.
18. Geurts J, van Wijk R, Stolker R, Groen G. Efficacy of radiofrequency procedures for the treatment of spinal pain: a systematic review of randomized clinical trials. *Reg Anesth Pain Med*. 2001; 26(5):394-400.
19. Gofeld M, Jitendra J, Faclier G. Radiofrequency denervation of the lumbar zygapophysial joints: 10-year prospective clinical audit. *Pain Physician*. 2007;10:291-300.
20. Haldeman S, Carroll L, Cassidy JD, et al. Bone and Joint Decade 2000-2010 Task Force on Neck Pain and Its Associated Disorders. The Bone and Joint Decade 2000-2010 Task Force on Neck Pain and Its Associated Disorders: executive summary. *Spine*. 2008 33(4 Suppl):S5-A7.
21. Hancock M, Maher C, Latimer J, et al. Systematic review of tests to identify the disc, SIJ or facet joint as the source of low back pain. *Eur Spine J*. 2007;16(10):1539-1550.
22. Hooten W, Martin D, Huntoon M. Radiofrequency neurotomy for low back pain: evidence-based procedural guidelines. *Pain Med*. 2005;6(2):129-138.
23. King W, Ahmed SU, Baisden J, Patel N, Kennedy DJ, MacVicar J, Duszynski B. Diagnosis and treatment of posterior sacroiliac complex pain: a systematic review with comprehensive analysis of the published data. *Pain Med* 2015 Feb; 16(2): 257.
24. Koizuka S, Saito S, Kawauchi C, et al. Percutaneous radiofrequency lumbar facet rhizotomy guided by computed tomography fluoroscopy. *J Anesth*.2005;19(2):167-169.
25. Joo YC, Park JY, Kim KH. Comparison of alcohol ablation with repeated thermal radiofrequency ablation in medial branch neurotomy for the treatment of recurrent thoracolumbar facet joint pain. *J Anesth*. 2013; 27:390-395.
26. Lakemeier S, Lind M, Schultz W, et al. A comparison of intraarticular lumbar facet joint steroid injections and lumbar facet joint radiofrequency denervation in the treatment of low back pain: A randomized, controlled, double-blind trial. *Anesth Analg*. 2013;117:228-235.
27. Laslett M, McDonald B, Aprill C, et al. Clinical predictors of screening lumbar zygapophysial joint blocks: development of clinical prediction rules. *Spine J*. 2006 ;6(4):370-379.
28. Laslett M, Oberg B, Aprill C, McDonald B. Zygapophysial joint blocks in chronic low back pain: a test of Revel's model as a screening test. *BMC Musculoskelet Disord*. 2004;5:43.
29. Leclaire R, Fortin L, Lambert R, et al. Radiofrequency facet joint denervation in the treatment of low back pain: a placebo-controlled clinical trial to assess efficacy. *Spine*. 2001;26(13):1411-1416.
30. Lee CH, Chung CK, Kim CH. The efficacy of conventional radiofrequency denervation in patients with chronic low back pain originating from the facet joints: a meta-analysis of randomized controlled trials. *Spine J*. 2017 Nov;17(11):1770-1780.
31. Lord S, Barnsley L, Wallis B, McDonald G, Bogduk N. Percutaneous radio-frequency neurotomy for chronic cervical zygapophysial-joint pain. *N Engl J Med*. 1996; 335:1721-1726.
32. Maas ET, Ostelo RW, Niemisto L, Jousimaa J, Hurri H, Malmivaara A, van Tulder MW. Radiofrequency denervation for chronic low back pain. *Cochrane Database Syst Rev*. 2015 Oct 23;(10):CD008572. doi: 10.1002/14651858.CD008572.pub2.
33. MacVicar J, Borowczyk JM, MacVicar AM, Loughnan BM, Bogduk N. Cervical medial branch radiofrequency neurotomy in New Zealand. *Pain Med*. 2012;13:647-654.

34. MacVicar J, Kreiner DS, Duszynski B, Kennedy DJ. Appropriate use criteria for fluoroscopically guided diagnostic and therapeutic sacroiliac interventions: results from the spine intervention society convened multispecialty collaborative. *Pain Med.* 2017;18(11):2081-2095.
35. Manchikanti L, Abdi S, Atluri S, et al. An update of comprehensive evidence-based guidelines for interventional techniques of chronic spinal pain: Part II: Guidance and recommendations. *Pain Physician.* 2013;16:S49-S283.
36. Manchikanti L, Kaye AD, Boswell MV, et al. A systematic review and best evidence synthesis of the effectiveness of therapeutic facet joint interventions in managing chronic spinal pain. *Pain Physician.* 2015;18:E535-E582.
37. Manchikanti L, Cash K, Pampati V, Fellows B. Influence of psychological variables on the diagnosis of facet joint involvement in chronic spinal pain. *Pain Physician.* 2008 ;11(2):145-160.
38. Manchikanti L, Manchukonda R, Pampati V, et al. Prevalence of facet joint pain in chronic low back pain in postsurgical patients by controlled comparative local anesthetic blocks. *Arch Phys Med Rehabil.* 2007;88(4):449-455.
39. Manchikanti L, Staats P, Singh V, et al. Evidence-based practice guidelines for interventional techniques in the management of chronic spinal pain. *Pain Phys.* 2003;6:3-81.
40. Manchukonda R, Manchikanti K, Cash K, et al. Facet joint pain in chronic spinal pain: an evaluation of prevalence and false-positive rate of diagnostic blocks. *J Spinal Disord Tech.* 2007;20(7):539-545.
41. McDonald G, Lord S, Bogduk N. Long-term follow-up of patients treated with cervical radiofrequency neurotomy for chronic neck pain. *Neurosurgery* 1999 ;45(1):61-68.
42. Mikeladze G, Espinal R, Finnegan R, et al. Pulsed radiofrequency application in treatment of chronic zygapophyseal joint pain. *Spine J.* 2003;3(5):360-362.
43. Moon JY, Lee PB, Kim YC, Choi SP, Sim WS. An alternative distal approach for the lumbar medial branch radiofrequency denervation: A prospective randomized comparative study. *Anesth Analg.* 2013;116:1133-1140.
44. Nath S, Nath C, Pettersson K. Percutaneous lumbar zygapophysial (Facet) joint neurotomy using radiofrequency current, in the management of chronic low back pain: a randomized double-blind trial. *Spine.* 2008;33(12):1291-1298.
45. Niemisto L, Kalso E, Malmivaara A, et al. Radiofrequency denervation for neck and back pain. *The Cochrane Database of Systematic Reviews.* 2006; Issue 3.
46. Oh W, Shim J. A randomized controlled trial of radiofrequency denervation of the ramus communicans nerve for chronic discogenic low back pain. *Clin J Pain* 2004;20(1):55-60.
47. Patel N, Gross A, Brown L, Gekht G. A randomized, placebo-controlled study to assess the efficacy of lateral branch neurotomy for chronic sacroiliac joint pain. *Pain Medicine.* 2012;13:383-398.
48. Sanders M, Zuurmond W. Percutaneous intra-articular lumbar facet joint denervation in the treatment of low back pain: a comparison with percutaneous extra-articular lumbar facet denervation. *Pain Clinic.* 1999;11(4):329-335.
49. Sapir DA, Gorup JM. Radiofrequency medial branch neurotomy in litigant and non-litigant patients with cervical whiplash. *Spine (Phila Pa 1976).* 2001;26:E268-E273.
50. Schofferman J, Kine G. Effectiveness of repeated radiofrequency neurotomy for lumbar facet pain. *Spine.* 2004;29(21):2471-2473.
51. Slipman C, Bhat A, Gilchrist R, et al. A critical review of the evidence for the use of zygapophysial injections and radiofrequency denervation in the treatment of low back pain, *Spine J.* 2003;3(4):310-316.
52. Speldewinde GC. Outcomes of percutaneous zygapophysial and sacroiliac joint neurotomy in a community setting. *Pain Med.* 2011;12:209-218.
53. Tekin I, Mirzai H, Ok G, Erbuyun et al. A comparison of conventional and pulsed radiofrequency denervation in the treatment of chronic facet joint pain. *Clin J Pain.* 2007;23(6):524-529.
54. Tzaan W, Tasker R. Percutaneous radiofrequency facet rhizotomy--experience with 118 procedures and reappraisal of its value. *Canadian Journal of Neurological Sciences.* 2000;27(2):125-130.

55. Vallejo R, Benyamin R, Kramer J, et al. Pulsed radiofrequency denervation for the treatment of sacroiliac joint syndrome. *Pain Med.* 2006;7(5):429-434.
56. van Kleef M, Barendse G, Kessels A, et al. Randomized trial of radiofrequency lumbar facet denervation for chronic low back pain. *Spine.* 1999;24(18):1937-1942.
57. van Wijk R, Geurts J, Wynne H, et al. Radiofrequency denervation of lumbar facet joints in the treatment of chronic low back pain: a randomized, double-blind, sham lesion-controlled trial. *Clin J Pain.* 2005; 21(4):335-344.
58. Van Zundert J, Patihh J, Kessels A, et al. Pulsed radiofrequency adjacent to the cervical dorsal root ganglion in chronic cervical radicular pain: a double-blind sham controlled randomized clinical trial. *Pain.* 2007;127:173-182
59. Washington State Department of Labor and Industries. Guideline on diagnostic facet medial nerve branch blocks and facet neurotomy. *Provider Bull.* 2005;(PB 05-11):1-6.
60. Workloss Data Institute. Official Disability Guidelines 2008.