

02-61000-32

Original Effective Date: 05/15/04

Reviewed: 10/26/23

Revised: 11/15/23

Subject: Automated Percutaneous Discectomy, Laser Discectomy, Percutaneous Endoscopic Discectomy, and DISC Nucleoplasty™

THIS MEDICAL COVERAGE GUIDELINE IS NOT AN AUTHORIZATION, CERTIFICATION, EXPLANATION OF BENEFITS, OR A GUARANTEE OF PAYMENT, NOR DOES IT SUBSTITUTE FOR OR CONSTITUTE MEDICAL ADVICE. ALL MEDICAL DECISIONS ARE SOLELY THE RESPONSIBILITY OF THE PATIENT AND PHYSICIAN. BENEFITS ARE DETERMINED BY THE GROUP CONTRACT, MEMBER BENEFIT BOOKLET, AND/OR INDIVIDUAL SUBSCRIBER CERTIFICATE IN EFFECT AT THE TIME SERVICES WERE RENDERED. THIS MEDICAL COVERAGE GUIDELINE APPLIES TO ALL LINES OF BUSINESS UNLESS OTHERWISE NOTED IN THE PROGRAM EXCEPTIONS SECTION.

Position Statement	Billing/Coding	Reimbursement	Program Exceptions	Definitions	Related Guidelines
Other	References	Updates			

DESCRIPTION:

Back pain or radiculopathy related to herniated discs is an extremely common condition and a frequent cause of chronic disability. Although many cases of acute low back pain and radiculopathy will resolve with conservative care, a surgical decompression is often considered when the pain is unimproved after several months and is clearly neuropathic in origin, resulting from irritation of the nerve roots.

Surgical management of herniated intervertebral discs most commonly involves discectomy or microdiscectomy. Traditionally, discectomy is performed manually through an open incision, using cutting forceps to remove nuclear material from within the disc annulus.

Automated percutaneous discectomy involves placement of a probe within the intervertebral disc under image guidance with aspiration of disc material using a suction cutting device.

Laser discectomy involves insertion of a needle or catheter under fluoroscopic guidance into the disc nucleus, with laser energy directed through it to vaporize tissue.

Percutaneous endoscopic discectomy involves the percutaneous placement of a working channel under image guidance, followed by visualization of the working space and instruments through an endoscope, and aspiration of disc material. Endoscopic techniques may be intradiscal or may involve extraction of noncontained and sequestered disc fragments from inside the spinal canal using an interlaminar or transforaminal approach. Disc nucleoplasty (radiofrequency coblation) uses bipolar radiofrequency energy directed into the disc to ablate tissue.

POSITION STATEMENT:

Automated percutaneous discectomy, laser discectomy, percutaneous endoscopic discectomy (e.g., Deuk Laser Disc Repair®), DISC nucleoplasty™ (radiofrequency coblation), image-guided minimally invasive lumbar decompression, and all other methods of percutaneous disc decompression are considered **experimental or investigational**. The evidence is insufficient to permit conclusions on safety, effectiveness, and net health outcomes.

BILLING/CODING INFORMATION:

CPT Coding

62287	Decompression procedure, percutaneous, of nucleus pulposus of intervertebral disc, any method utilizing needle based technique to remove disc material under fluoroscopic imaging or other form of indirect visualization, with discography and/or epidural injection(s) at the treated level(s), when performed, single or multiple levels, lumbar. (Investigational)
62380	Endoscopic decompression of spinal cord, nerve root(s), including laminotomy, partial facetectomy, foraminotomy, discectomy and/or excision of herniated intervertebral disc, 1 interspace, lumbar (Investigational)
0274T*	Percutaneous laminotomy/laminectomy (interlaminar approach) for decompression of neural elements, (with or without ligamentous resection, discectomy, facetectomy and/or foraminotomy), any method, under indirect image guidance (e.g., fluoroscopic, CT), single or multiple levels, unilateral or bilateral; cervical or thoracic. (Investigational)
0275T*	Percutaneous laminotomy/laminectomy (interlaminar approach) for decompression of neural elements, (with or without ligamentous resection, discectomy, facetectomy and/or foraminotomy), any method, under indirect image guidance (e.g., fluoroscopic, CT), single or multiple levels, unilateral or bilateral; lumbar. (Investigational)

*Note: Percutaneous discectomy is also a component of 0274T and 0275T.

HCPCS Coding:

S2348	Decompression procedure, percutaneous, of nucleus pulposus of intervertebral disc, using radiofrequency energy, single or multiple levels, lumbar (Investigational)
-------	--

REIMBURSEMENT INFORMATION:

Refer to section entitled [POSITION STATEMENT](#).

PROGRAM EXCEPTIONS:

Federal Employee Program (FEP): Follow FEP guidelines.

State Account Organization (SAO): Follow SAO guidelines.

Medicare Advantage products: The following National Coverage Determinations (NCD) were reviewed on the last guideline reviewed date: Laser Procedures (140.5); Thermal Intradiscal Procedures (TIPS)

(150.11); and Percutaneous image-guided lumbar decompression for lumbar spinal stenosis (150.13), located at [cms.gov](https://www.cms.gov).

If this Medical Coverage Guideline contains a step therapy requirement, in compliance with Florida law 627.42393, members or providers may request a step therapy protocol exemption to this requirement if based on medical necessity. The process for requesting a protocol exemption can be found at [Coverage Protocol Exemption Request](#).

DEFINITIONS:

Annulus: a ring of fibrous or fibrocartilaginous tissue (as of an intervertebral disk or surrounding an orifice of the heart).

Deuk Laser Disc Repair®: an anterior, full endoscopic, transdiscal, laser-assisted surgery during which a selective partial discectomy, foraminoplasty, and annular debridement are performed under direct visualization of the local anatomy. The entire procedure is performed on the cervical spine without the use of implants, biologics, or fusion.

Discectomy: surgical removal of an intervertebral disk.

Nucleus pulposus: an elastic pulpy mass lying in the center of each intervertebral fibrocartilage and regarded as a remnant of the notochord.

RELATED GUIDELINES:

[Percutaneous Intradiscal Electrothermal Annuloplasty, Radiofrequency Annuloplasty, Biacuplasty and Intraosseous Basivertebral Nerve Ablation, 02-61000-20](#)

OTHER:

None applicable.

REFERENCES:

1. American Society of Interventional Pain Physicians (ASIPP) practice guidelines (2013).
2. American Pain Society clinical practice guidelines (2009).
3. Arts MP, Peul WC, Brand R, Koes BW, Thomeer RT. Cost-effectiveness of microendoscopic discectomy versus conventional open discectomy in the treatment of lumbar disc herniation: a prospective randomised controlled trial [ISRCTN51857546]. *BMC Musculoskelet Disord*. 2006 May 13; 7: 42.
4. Azzazi A, AlMekawi S, Zein M. Lumbar disc nucleoplasty using coblation technology: clinical outcome. *J Neurointerv Surg*. 2011 Sep;3(3):288-92.
5. Bao BX, Zhou JW, Yu PF, Chi C, Qiang H, Yan H. Transforaminal Endoscopic Discectomy and Foraminoplasty for Treating Central Lumbar Stenosis. *Orthop Surg*. 2019 Dec;11(6):1093-1100. doi: 10.1111/os.12559. Epub 2019 Nov 12.
6. Basu S. mild® Procedure: Single-Site Experience Prospective IRB Study. *Clinical Journal of Pain*, 28(3): 254-258. doi: 10.1097/AJP.0b013e31822bb344.

7. Benyamin RN, Staats PS. Case report: ENCORE: Randomized Controlled Study Design and Protocol. *Pain Physician* 2015; 18:307-316 • ISSN 1533-3159.
8. Benyamin RN, Staats PS. MILD® is an Effective Treatment for Lumbar Spinal Stenosis with Neurogenic Claudication: MIDAS ENCORE Randomized Controlled Trial. *Pain Physician* 2016; 19:229-242 • ISSN 1533-3159.
9. Blue Cross Blue Shield Association Evidence Positioning System®. 7.01.18 - Automated Percutaneous and Percutaneous Endoscopic Discectomy, 07/23.
10. Blue Cross Blue Shield Association Evidence Positioning System®. 7.01.93 - Decompression of the Intervertebral Disc Using Laser Energy (Laser Discectomy) or Radiofrequency Coblation (Nucleoplasty), 05/23.
11. Blue Cross Blue Shield Association Evidence Positioning System®. 7.01.126 - Image-Guided Minimally Invasive Decompression for Spinal Stenosis, 05/23.
12. Boswell MV, Trescot AM, Datta S, Schultz DM, Hansen HC, Abdi S, Sehgal N, Shah RV, Singh V, Benyamin RM, Patel VB, Buenaventura RM, Colson JD, Cordner HJ, Epter RS, Jasper JF, Dunbar EE, Atluri SL, Bowman RC, Deer TR, Swicegood JR, Staats PS, Smith HS, Burton AW, Kloth DS, Giordano J, Manchikanti L; American Society of Interventional Pain Physicians. Interventional techniques: evidence-based practice guidelines in the management of chronic spinal pain. *Pain Physician*. 2007 Jan; 10(1): 7-111.
13. Boswell MV, Trescot AM, Datta S, Schultz DM, Hansen HC, et al. Comprehensive Evidence-Based Guidelines for Interventional Techniques in the Management of Chronic Spinal Pain. *Pain Physician* 2009; 12:699-802 – ISSN 1533-3159.
14. Brouwer PA, et al. Percutaneous laser disc decompression versus conventional microdiscectomy for patients with sciatica: Two-year results of a randomised controlled trial. *Interv Neuroradiol*. 2017 Jun;23(3):313-324.
15. Brouwer PA, Peul WC, Brand R, Arts MP, Koes BW, van den Berg AA, van Buchem MA. Effectiveness of percutaneous laser disc decompression versus conventional open discectomy in the treatment of lumbar disc herniation; design of a prospective randomized controlled trial. *BMC Musculoskelet Disord*. 2009 May 13;10:49.
16. Brown LL. A double-blind, randomized, prospective study of epidural steroid injection vs. the mild® procedure in patients with symptomatic lumbar spinal stenosis. *Pain Pract*. 2012 Jun;12(5):333-41. doi: 10.1111/j.1533-2500.2011.00518.x. Epub 2012 Jan 25.
17. Centers for Medicare and Medicaid Services (CMS). National Coverage Determination for Laser Procedures (140.5) (05/01/97).
18. Centers for Medicare and Medicaid Services (CMS). National Coverage Determination for Thermal Intradiscal Procedures (TIPS) (150.11) (09/29/08).
19. Centers for Medicare and Medicaid Services (CMS). National Coverage Determination (NCD) for Percutaneous Image-Guided Lumbar Decompression for Lumbar Spinal Stenosis (150.13) (12/07/16).
20. Chen H, Kelling J. mild® Procedure for Lumbar Decompression: A Review. *Pain Practice*, 2013; 13(2): 146-153 doi:10.1111/j.1533-2500.2012.00574.x.
21. Chen Y, Derby R, Lee SH. Percutaneous disc decompression in the management of chronic low back pain. *Orthop Clin North Am*. 2004 Jan; 35(1): 17-23.
22. Cheng L, Cai H, Yu Y, Li W, Li Q, Liu Z. Modified Full-Endoscopic Interlaminar Discectomy via an Inferior Endplate Approach for Lumbar Disc Herniation: Retrospective 3-Year Results from 321 Patients. *World Neurosurg*. 2019 Oct 16:S1878-8750(19)32649-X. doi: 10.1016/j.wneu.2019.10.034. Epub ahead of print. PMID: 31629153.

23. Choi KC, et al. A Novel Combination of Percutaneous Endoscopic Lumbar Discectomy and Epiduroscopic Laser Neural Decompression for Down-migrated Disc Herniation. *Pain Physician*. 2017 May;20(4):E605-E609.
24. Chopko B, Caraway DL. MiDAS I (mild® Decompression Alternative to Open Surgery): A Preliminary Report of a Prospective, Multi-Center Clinical Study. *Pain Physician* 2010; 13:369-378 • ISSN 1533-3159.
25. Chopko BW. Minimally Invasive Lumbar Decompression for Spinal Stenosis. A novel method for treatment of lumbar spinal stenosis in high-risk surgical candidates: pilot study experience with percutaneous remodeling of ligamentum flavum and lamina. *J Neurosurg: Spine / Volume 14 / January 2011*.
26. Chopko BW. Long-term results of percutaneous lumbar decompression for LSS: two-year outcomes. *Clin J Pain Volume 00, Number 00, 2013*.
27. Chou R, Loeser JD, Owens DK et al. Interventional therapies, surgery, and interdisciplinary rehabilitation for low back pain: an evidence-based clinical practice guideline from the American Pain Society. *Spine (Phila Pa 1976)* 2009; 34(10):1066-77.
28. Davis TT, Sra P, Fuller N, Bae H. Lumbar intervertebral thermal therapies. *Orthop Clin North Am*. 2003 Apr; 34(2): 255-62.
29. Deer T. Minimally Invasive Lumbar Decompression for the Treatment of Spinal Stenosis of the Lumbar Spine. *Pain Management*, 2(5): 457-465, ISSN 1758-1869.
30. Deer TR, et al. Study of percutaneous lumbar decompression and treatment algorithm for patients suffering from neurogenic claudication. *Pain Physician*. 2012 Nov-Dec;15(6):451-60.
31. Deer TR, Grider JS, et al. The MIST Guidelines: The Lumbar Spinal Stenosis Consensus Group Guidelines for Minimally Invasive Spine Treatment. University Medical Center, Chicago, Illinois; 28Evidence-Based Pain Management Research and Education, Cleveland Clinic, Cleveland, Ohio, U.S.A (2019).
32. Deer TR, Kapural L. New Image-Guided Ultra-Minimally Invasive Lumbar Decompression Method: The mild® Procedure. *Pain Physician* 2010; 13:35-41 • ISSN 1533-3159.
33. Deer TR, Mekhail N, et al. Minimally Invasive Lumbar Decompression for Spinal Stenosis. *JNR* 2011; 1(S1): 29-32.
34. Deukmedjian AJ, Jason Cutright ST, Augusto Cianciabella PC, Deukmedjian A. Deuk Laser Disc Repair(®) is a safe and effective treatment for symptomatic cervical disc disease. *Surg Neurol Int*. 2013 May 28;4:68. doi: 10.4103/2152-7806.112610.
35. ECRI Custom Hotline Response. Nucleoplasty (Coblation) for Lumbar Herniated Disc and Discogenic Pain. Plymouth Meeting, PA: ECRI. January 2006, updated 04/19/07.
36. ECRI Windows on Medical Technology™. Automated Percutaneous Nucleotomy for Herniated Lumbar Discs. Plymouth Meeting, PA: ECRI. April 2005. Issue No. 124.
37. ECRI Windows on Medical Technology™. Laser Discectomy for the Treatment of Herniated Lumbar Discs. Plymouth Meeting, PA: ECRI. December 2004. Issue No. 119.
38. ECRI. Custom Hotline Response. Percutaneous Cervical Discectomy for Disc Herniation. Plymouth Meeting, PA: ECRI. 12/31/07.
39. ECRI Product Brief. Mild Device Kit (Vertos Medical, INc.) for Treating Lumbar Spinal Stenosis (November 2018).
40. Erginousakis D, Filippiadis DK, Malagari A, Kostakos A, Brountzos E, Kelekis NL, Kelekis A. Radiology. Comparative prospective randomized study comparing conservative treatment and percutaneous disk decompression for treatment of intervertebral disk herniation. 2011 Aug;260(2):487-93.

41. First Coast Service Options (FCSO) Local Coverage Determination for Non-covered Services (L29288) (01/29/13). (Retired 06/30/15).
42. First Coast Service Options (FCSO) Local Coverage Determination for Non-covered Services (L33777). (07/03/18). (Retired 07/01/20).
43. Fukushi R, Yoshimoto M, Iesato N, Terashima Y, Takebayashi T, Yamashita T. Short-term Results of Microendoscopic Muscle-preserving Interlaminar Decompression versus Spinal Process Splitting Laminectomy. *Journal of Neurological Surgery Part A: Central European Neurosurgery*. 2018 Nov;79(06):511-7.
44. Gadjradj PS et al. Clinical outcomes after percutaneous transforaminal endoscopic discectomy for lumbar disc herniation: a prospective case series. *Neurosurgical Focus* 40.2 (2016): E3.
45. Gadjradj PS, Harhangi BS, et al. Percutaneous Transforaminal Endoscopic Discectomy Versus Open Microdiscectomy for Lumbar Disc Herniation: A Systematic Review and Meta-analysis. *Spine (Phila Pa 1976)*. 2021 Apr 15;46(8):538-549. doi: 10.1097/BRS.0000000000003843.
46. Gazzeri R, Tribuzi S, Galarza M, Leoni MLG, Occhigrossi F. Ultrasound-guided Percutaneous Laser Disc Decompression (PLDD) with Fluoroscopic Validation for the Treatment of Cervical Disc Herniation: Technical Note. *Pain Med*. 2023 Jun 1;24(6):625-632. doi: 10.1093/pm/pnac188. PMID: 36469340.
47. Gerges FJ, Lipsitz SR, Nedeljkovic SS. A systematic review on the effectiveness of the Nucleoplasty procedure for discogenic pain. *Pain Physician*. 2010 Mar-Apr;13(2):117-32.
48. Gibson JNA, Waddell G. Surgery for degenerative lumbar spondylosis. *The Cochrane Database of Systematic Reviews* 2005, Issue 4. Art. No.: CD001352. DOI: 10.1002/14651858.CD001352.pub3.
49. Gibson JNA, Waddell G. Surgical interventions for lumbar disc prolapse. *Cochrane Database of Systematic Reviews* 2007, Issue 2. Art. No.: CD001350. DOI: 10.1002/14651858.CD001350.pub4.
50. Gibson JNA et al. A randomised controlled trial of transforaminal endoscopic discectomy vs microdiscectomy. *European Spine Journal* 26.3 (2017): 847-856.
51. Gibson JNA, Menno Ipreburg et al. Transforaminal endoscopic spinal surgery: the future 'gold standard' for discectomy?—A review. *The Surgeon* 10.5: 290-296 (2012).
52. Hayes, Inc. HAYES Medical Technology Directory™. Automated Percutaneous Lumbar Discectomy. Lansdale, PA: Hayes, Inc.; 05/12/06. Update performed 05/20/08.
53. Hayes, Inc. HAYES Medical Technology Directory™. Laser Discectomy. Lansdale, PA: Hayes, Inc.; 06/10/02. Update performed 04/30/06.
54. Hayes, Inc. Health Technology Brief. Disc Nucleoplasty® (Perc™-D® SpineWand™) (ArthroCare Corp.) for Percutaneous Disc Decompression Lansdale, PA: Hayes, Inc. 12/30/07.
55. He L, et al. Efficacy of coblation technology in treating cervical discogenic upper back pain. *Medicine (Baltimore)*. 2015 May;94(20):e858.
56. Hegmann KT, editor(s). Cervical and thoracic spine disorders. *Occupational medicine practice guidelines. Evaluation and management of common health problems and functional recovery in workers*. 3rd ed. Elk Grove Village (IL): American College of Occupational and Environmental Medicine (ACOEM); 2011. p. 1-332.
57. Hegmann KT, editor(s). Low Back Disorders. *Occupational medicine practice guidelines. Evaluation and management of common health problems and functional recovery in workers*. 3rd ed. Elk Grove Village (IL): American College of Occupational and Environmental Medicine (ACOEM); 2011. p. 333-796.
58. Hirsch JA, Singh V, Falco FJ, Benyamin RM, Manchikanti L. Automated percutaneous lumbar discectomy for the contained herniated lumbar disc: a systematic assessment of evidence. *Pain Physician*. 2009 May-Jun;12(3):601-20.

59. Hoogland T et al. Endoscopic transforaminal discectomy for recurrent lumbar disc herniation. A prospective, cohort evaluation of 262 consecutive cases. *Spine* 33.9: 973- 978 (2008).
60. Ipreburg M, Wagner R, Godschalx A, Telfeian AE. Patient radiation exposure during transforaminal lumbar endoscopic spine surgery: a prospective study. *Neurosurg Focus* 40.2:E7 (2016).
61. Jain S, Deer T, et al. Minimally invasive lumbar decompression: a review of indications, techniques, efficacy and safety. *Pain Manag.* 2020 Sep;10(5):331-348. doi: 10.2217/pmt-2020-0037. Epub 2020 Jul 1.
62. Jasper GP, et al. Clinical success of transforaminal endoscopic discectomy with foraminotomy: a retrospective evaluation. *Clin Neurol Neurosurg.* 2013 Oct;115(10):1961-5. doi: 10.1016/j.clineuro.2013.05.033. Epub 2013 Jul 5. PMID: 23835307.
63. Jasper GP, Telfeian AE et al. A retrospective evaluation of the clinical success of transforaminal endoscopic discectomy with foraminotomy in geriatric patients. *Pain Physician* 16: 225-229 (2013).
64. Kang MS, Park HJ, Hwang JH, Kim JE, Choi DJ, Chung HJ. Safety Evaluation of Biportal Endoscopic Lumbar Discectomy: Assessment of Cervical Epidural Pressure During Surgery. *Spine (Phila Pa 1976).* 2020 Oct 15;45(20):E1349-E1356. doi: 10.1097/BRS.0000000000003585. PMID: 32969993.
65. Kim HS et al. Percutaneous Full Endoscopic Bilateral Lumbar Decompression of Spinal Stenosis Through Uniportal- Contralateral Approach: Techniques and Preliminary Results. *World Neurosurgery* 103 (2017): 201-209.
66. Kim JH, Lee J, et I. Efficacy of automated percutaneous lumbar discectomy for lumbar disc herniation in young male soldiers. *Medicine (Baltimore).* 2019 Nov;98(46):e18044. doi: 10.1097/MD.00000000000018044.
67. Kim KH, Kim DH, Kim P. Efficacy of Nucleoplasty for Radiculopathy Caused by Foraminal Cervical Disc Herniation: Clinical Results of Case Series and Technical Note. *Pain Physician.* 2022 Oct;25(7):E1087-E1094.
68. Kim SK, Lee SC, Park SW. Trans-sacral epiduroscopic laser decompression versus the microscopic open interlaminar approach for L5-S1 disc herniation. *J Spinal Cord Med.* 2020 Jan;43(1):46-52. doi: 10.1080/10790268.2018.1442285. Epub 2018 Feb 28.
69. Komatsu J, Muta T, Nagura N, Iwabuchi M, Fukuda H, Kaneko K, Shirado O. Tubular surgery with the assistance of endoscopic surgery via a paramedian or midline approach for lumbar spinal canal stenosis at the L4/5 level. *Journal of Orthopaedic Surgery.* 2018 Jun 22;26(2):2309499018782546.
70. Kreiner DS, MacVicar J, Duszynski B, Nampiaparampil DE. The mild@ procedure: a systematic review of the current literature. *Pain medicine (Malden, Mass.).* 2014 Feb;15(2):196.
71. Lawrence MM, Hayek SM. Minimally invasive lumbar decompression: a treatment for lumbar spinal stenosis. 2013 Wolters Kluwer Health | Lippincott Williams & Wilkins.
72. Lee CH, et al. Efficacy and Safety of Full-endoscopic Decompression via Interlaminar Approach for Central or Lateral Recess Spinal Stenosis of the Lumbar Spine: A Meta-analysis. *Spine (Phila Pa 1976).* 2018 Dec 15;43(24):1756-1764. doi: 10.1097/BRS.0000000000002708. PMID: 29794584.
73. Lee P, Liu JC, Fessler RG. *J Clin Neurosci.* 2011 Dec;18(12):1667-70. doi: 10.1016/j.jocn.2011.04.004. Epub 2011 Sep 25. PMID: 21944927.
74. Levy RM, Deer TR. Systematic safety review and meta-analysis of procedural experience using percutaneous access to treat symptomatic lumbar spinal stenosis. *Pain Med.* 2012 Dec;13(12):1554-61. doi: 10.1111/j.1526-4637.2012.01504.x. Epub 2012 Nov 8.
75. Li C, Qi Y, Liu G, Yin X, Jin Y, Jiang Z, Li P, Kang X, Ye C. Long-Term Clinical Outcomes of Percutaneous Cervical Nucleoplasty for Cervical Degenerative Diseases with Neck Pain and Cervical Vertigo. *World Neurosurg.* 2020 Jan;133:e205-e210. doi: 10.1016/j.wneu.2019.08.210. Epub 2019 Sep 5. PMID: 31493606.

76. Lingreen R, Grider JS, et al. Retrospective Review of Patient Self-Reported Improvement and Post-Procedure Findings for mild® (Minimally Invasive Lumbar Decompression). *Pain Physician* 2010; 13:555-560 • ISSN 1533-3159.
77. Ma B, Smith A. Outpatient minimally invasive spine surgeries during the COVID-19 pandemic - A retrospective analysis of 164 consecutive cases. *World Neurosurg X.* 2023 Jun 29;20:100229. doi: 10.1016/j.wnsx.2023.100229.
78. Manchikanti L, Boswell MV, Singh V, Benyamin RM, Fellows B, Abdi S, Buenaventura RM, Conn A, Datta S, Derby R, Falco FJ, Erhart S, Diwan S, Hayek SM, Helm S, Parr AT, Schultz DM, Smith HS, Wolfer LR, Hirsch JA. Comprehensive evidence-based guidelines for interventional techniques in the management of chronic spinal pain. *Pain Physician* 2009 Jul-Aug;12(4):699-802 (updated 01/28/10).
79. Manchikanti L, Derby R, Benyamin RM et al. A systematic review of mechanical lumbar disc decompression with nucleoplasty. *Pain Physician* 2009; 12(3):561-72.
80. Manchikanti L, Falco FJ, Benyamin RM, Caraway DL, Deer TR, Singh V, Hameed H, Hirsch JA. An update of the systematic assessment of mechanical lumbar disc decompression with nucleoplasty. *Pain Physician.* 2013 Apr;16(2 Suppl):SE25-54.
81. Manchikanti L, Singh V, Falco FJ, Calodney AK, Onyewu O, Helm S 2nd, Benyamin RM, Hirsch JA. An updated review of automated percutaneous mechanical lumbar discectomy for the contained herniated lumbar disc. *Pain Physician.* 2013 Apr;16(2 Suppl):SE151-84.
82. Mekhail N, Costandi S, Abraham B, Samuel SW. Functional and patient-reported outcomes in symptomatic lumbar spinal stenosis following percutaneous decompression. *Pain Pract.* 2012 Jul;12(6):417-25. doi: 10.1111/j.1533-2500.2012.00565.x. Epub 2012 Jun 1.
83. Mekhail N, et al. Long-term results of percutaneous lumbar decompression mild(®) for spinal stenosis. *Pain Pract.* 2012 Mar;12(3):184-93. doi: 10.1111/j.1533-2500.2011.00481.x. Epub 2011 Jun 16.
84. National Guideline Clearinghouse. Comprehensive Evidence-based Guidelines for Interventional Techniques in the Management of Chronic Spinal Pain by the American Society of Interventional Pain Physicians (2009).
85. National Institute for Clinical Excellence (NICE) Interventional Procedure Guidance (IPG) 61. Percutaneous endoscopic laser thoracic discectomy. May 2004.
86. National Institute for Clinical Excellence (NICE) Interventional Procedure Guidance (IPG) 141. Automated percutaneous mechanical lumbar discectomy. Nov 2005.
87. National Institute for Clinical Excellence (NICE) Interventional Procedure Guidance (IPG) 173. Percutaneous disc decompression using coblation for lower back pain. 2006.
88. National Institute for Clinical Excellence (NICE) Interventional Procedure Guidance (IPG) 300. Interventional procedure guidance 300. Percutaneous endoscopic laser lumbar discectomy; May 2009.
89. National Institute for Clinical Excellence (NICE) Interventional Procedure Guidance (IPG) 303. Percutaneous endoscopic laser cervical discectomy. June 2009.
90. National Institute for Clinical Excellence (NICE). Interventional procedures overview of Laser lumbar discectomy. London, UK: NICE; August 2003.
91. North American Spine Society Coverage Committee. Coverage Policy Recommendations: Endoscopic Decompression (February 2019). Accessed at <https://www.spine.org/>.
92. Pain Medicine News (Interventional). Long-Term Data on MILD Lumbar Spine Intervention Demonstrate Continued Decreases in Pain (February 2019). <https://www.painmedicineneeds.com/Article/PrintArticle?articleID=54041>.

93. Pan M, Li Q, Li S, Mao H, Meng B, Zhou F, Yang H. Percutaneous Endoscopic Lumbar Discectomy: Indications and Complications. *Pain Physician*. 2020 Jan;23(1):49-56.
94. Pan Z et al. Efficacy of Transforaminal Endoscopic Spine System (TESSYS) Technique in Treating Lumbar Disc Herniation. *Medical Science Monitor*: 22: 530-539 (2016).
95. Ren C, Li Y, Qin R, Sun P, Wang P. Transforaminal Endoscopic Lumbar Discectomy for Lumbar Disc Herniation Causing Bilateral Symptoms. *World Neurosurg*. 2017 Oct;106:413-421. doi: 10.1016/j.wneu.2017.06.191. Epub 2017 Jul 12. PMID: 28710050.
96. Sclafani JA et al. Outcome Measures of an Intracanal, Endoscopic Transforaminal Decompression Technique: Initial Findings from the MIS Prospective Registry. *International Journal of Spine Surgery* 9 (2015).
97. Shen SC, Chen HC, Tsou HK, Lin RH, Shih YT, Huang CW, Tang CL, Chen HT, Chang CC, Tzeng CY. Percutaneous endoscopic lumbar discectomy for L5-S1 disc herniation based on image analysis and clinical findings: A retrospective review of 345 cases. *Medicine (Baltimore)*. 2023 Feb 3;102(5):e32832. doi: 10.1097/MD.00000000000032832.
98. Shomer DF, Solsberg D, et al. mild® Lumbar Decompression for the Treatment of Lumbar Spinal Stenosis. *The Neuroradiology Journal* 24: 620-626, 2011.
99. Singh V, Benyamin RM, Datta S, Falco FJ, Helm S 2nd, Manchikanti L. Systematic review of percutaneous lumbar mechanical disc decompression utilizing Dekompressor. *Pain Physician*. 2009 May-Jun;12(3):589-99.
100. Singh V, Manchikanti L, Benyamin RM et al. Percutaneous lumbar laser disc decompression: a systematic review of current evidence. *Pain Physician* 2009; 12(3):573-88.
101. Singh V(1), Manchikanti L, et al. Percutaneous lumbar laser disc decompression: an update of current evidence. *Pain Physician*. 2013 Apr;16(2 Suppl):SE229-60.
102. Staats PS, Chafin TB, Golovac S, Kim CK, Li S, Richardson WB, Vallejo R, Wahezi SE, Washabaugh EP, Benyamin RM. Long-term safety and efficacy of minimally invasive lumbar decompression procedure for the treatment of lumbar spinal stenosis with neurogenic claudication: 2-year results of MiDAS ENCORE. *Reg Anesth Pain Med*. 2018;43:789-794.
103. Staats PS, et al. MiDAS ENCORE: Randomized Controlled Clinical Trial Report of 6-Month Results. *Pain Physician*. 2016 Feb;19(2):25-38.
104. Sun D, et al. Comparison of coblation annuloplasty and radiofrequency thermocoagulation for treatment of lumbar discogenic pain. *Medicine (Baltimore)*. 2017 Nov;96(47):e8538.
105. Telfeian AE, Ipreburg M, Wagner R. Endoscopic Spine Surgery: Distance Patients Will Travel for Minimally Invasive Spine Surgery. *Pain Physician* 20.1 (2017): E145-E149.
106. Udeh BL, et al. The 2-year cost-effectiveness of 3 options to treat lumbar spinal stenosis patients. *Pain Pract*. 2015 Feb;15(2):107-16. doi: 10.1111/papr.12160. Epub 2014 Jan 3.
107. UpToDate. Subacute and chronic low back pain: Surgical treatment. 2023. Accessed at [uptodate.com](https://www.uptodate.com).
108. Vertos Medical, Inc. Clinical Dossier: mild® Technology (June 2020). ©2020 Vertos Medical Inc.
109. Wang JJ, Bowden K, Pang G, Cipta A. Decrease in health care resource utilization with MILD. *Pain Med*. 2013 May;14(5):657-61. doi: 10.1111/pme.12117. Epub 2013 Apr 11.
110. Wang Z, Tan Y, Fu K, Meng Z, Wang L. Minimally invasive trans-superior articular process percutaneous endoscopic lumbar discectomy with robot assistance. *BMC Musculoskelet Disord*. 2022 Dec 31;23(1):1144. doi: 10.1186/s12891-022-06060-8.
111. Washington State Department of Labor and Industries. Percutaneous discectomy for disc herniation. Olympia, Washington: Washington State Department of Labor and Industries (WSDLI), 2004:42.

112. Wei FL, Li T, Gao QY, et al Eight Surgical Interventions for Lumbar Disc Herniation: A Network Meta-Analysis on Complications. *Front Surg.* 2021 Jul 20;8:679142. doi: 10.3389/fsurg.2021.679142.
113. Wong WH. mild® Interlaminar decompression for the treatment of lumbar spinal stenosis: procedure description and case series with 1-year follow-up. *Clin J Pain.* 2012 Jul;28(6):534-8. doi: 10.1097/AJP.0b013e31823aaa9d.
114. Work Loss Data Institute. *Low back - lumbar & thoracic (acute & chronic).* Encinitas (CA): Work Loss Data Institute; 2011.
115. Yin H, Zhang X, Huang Z, Song Y, Zhu Q. Efficacy of Single Level Versus Double Levels Surgery of Percutaneous Disc Nucleoplasty (PDN) Approach in Treating Lumbar Disc Herniation. *Med Sci Monit.* 2021 Jul 29;27:e930000. doi: 10.12659/MSM.930000.
116. Zhang J, Gao Y, Zhao B, Li H, Hou X, Yin L. Comparison of percutaneous transforaminal endoscopic discectomy and open lumbar discectomy for lumbar disc herniations: A systematic review and meta-analysis. *Front Surg.* 2022 Nov 11;9:984868. doi: 10.3389/fsurg.2022.984868.
117. Zhu H, Zhou XZ, Cheng MH, Shen YX, Dong QR. The efficacy of coblation nucleoplasty for protrusion of lumbar intervertebral disc at a two-year follow-up. *Int Orthop.* 2011 Nov;35(11):1677-82.

COMMITTEE APPROVAL:

This Medical Coverage Guideline (MCG) was approved by the Florida Blue Medical Policy and Coverage Committee on 10/26/23.

GUIDELINE UPDATE INFORMATION:

05/15/04	New Medical Coverage Guideline. Investigational.
11/15/04	Revision to guideline; consisting of the addition of CPT code 62287.
01/01/05	Annual HCPCS update: consisting of the addition of S2348.
08/15/05	Scheduled review and revision of guideline; consisting of updated references.
08/15/06	Scheduled review and revision of guideline consisting of updated references.
07/15/07	Annual review; investigational status maintained; reformatted guideline, references updated.
07/15/08	Review and revision of guideline consisting of updated references.
01/01/09	Annual HCPCS coding update: revised descriptor for code 62287.
09/15/09	Scheduled review; no change to position statement; references updated.
07/15/10	Scheduled review; position statement unchanged, references updated.
01/01/12	Annual HCPCS coding update: revised descriptor for code 62287.
07/15/12	Scheduled review; position statement revised to include additional methods of percutaneous disc decompression; policy title revised: references updated.
07/15/13	Scheduled review; position statement unchanged; Program Exceptions section updated; references updated.
07/15/14	Scheduled review; position statement unchanged; CPT codes 0274T and 0275T added; references updated.
11/01/15	Revision: ICD-9 Codes deleted.
01/01/17	Annual CPT/HCPCS update. Revised descriptors for 62287, 0274T, and 0275T. Revised Program Exceptions section.

09/15/18	Scheduled review. Revised description section. Maintained position statement. Revised program exceptions section. Updated references.
10/03/18	Revision: added CPT code 62380.
05/15/19	Unscheduled review. Revised description. Maintained position statement and updated references.
06/15/19	Unscheduled review. Maintained position statement and updated references.
12/15/19	Revision: maintained position statement and updated references.
11/15/20	Scheduled review. Maintained position statement and updated references.
12/15/21	Scheduled review. Maintained position statement and updated references.
04/01/23	Revision. Added reference to Deuk Laser Disc Repair®. Updated Definitions section and references.
08/21/23	Update to Program Exceptions section.
11/15/23	Scheduled review. Maintained position statement and updated references.