MEDICAL POLICY

POLICY TITLE	**DECOMPRESSION OF THE INTERVERTEBRAL DISC USING LASER ENERGY (LASER DISCECTOMY) OR RADIOFREQUENCY COBLATION (NUCLEOPLASTY)**
POLICY NUMBER	**MP-1.125**

Original Issue Date (Created):	**12/1/2011**
Most Recent Review Date (Revised):	**9/27/2018**
Effective Date:	**1/1/2019** **RETIRED** – See policy history*

POLICY
RATIONALE
DISCLAIMER
POLICY HISTORY
PRODUCT VARIATIONS
DEFINITIONS
CODING INFORMATION
DESCRIPTION/BACKGROUND
BENEFIT VARIATIONS
REFERENCES

I. POLICY

Laser discectomy and radiofrequency coblation (disc nucleoplasty) are considered **investigational** as techniques of disc decompression and treatment of associated pain. There is insufficient evidence to support a conclusion concerning the health outcomes or benefits associated with these procedures.

Cross-references:
MP-1.124 Percutaneous Intradiscal Electrothermal (IDET) Annuloplasty and Percutaneous Intradiscal Radiofrequency Annuloplasty

II. PRODUCT VARIATIONS TOP

This policy is applicable to all programs and products administered by Capital BlueCross unless otherwise indicated below.

FEP PPO Refer to FEP Medical Policy Manual MP-7.01.93 Decompression of the Intervertebral Disc Using Laser Energy (Laser Discectomy) or Radiofrequency Coblation. The FEP Medical Policy manual can be found at: https://www.fepblue.org/benefit-plans/medical-policies-and-utilization-management-guidelines/medical-policies

III. DESCRIPTION/BACKGROUND TOP

DISCOGENIC LOW BACK PAIN

POLICY TITLE	DECOMPRESSION OF THE INTERVERTEBRAL DISC USING LASER ENERGY (LASER DISCECTOMY) OR RADIOFREQUENCY COBLATION (NUCLEOPLASTY)
POLICY NUMBER	MP-1.125

Discogenic low back pain is a common, multifactorial pain syndrome that involves low back pain without radicular symptoms findings, in conjunction with radiologically confirmed degenerative disc disease.

Treatment

Typical treatment includes conservative therapy with physical therapy and medication management, with potential for surgical decompression in more severe cases.

A variety of minimally invasive techniques have been investigated over the years as a treatment of low back pain related to disc disease. Techniques can be broadly divided into techniques that are designed to remove or ablate disc material, and thus decompress the disc, and those designed to alter the biomechanics of the disc annulus. The former category includes chymopapain injection, automated percutaneous lumbar discectomy, laser discectomy, and most recently disc decompression using radiofrequency energy, referred to as a disc nucleoplasty

Techniques that alter the biomechanics of the disc (disc annulus) include a variety of intradiscal electrothermal procedures. .

A variety of different lasers have been investigated for laser discectomy, including YAG, KTP, holmium, argon, and carbon dioxide lasers. Due to differences in absorption, the energy requirements and the rate of application differ among the lasers. In addition, it is unknown how much disc material must be removed to achieve decompression. Therefore, protocols vary by the length of treatment, but typically the laser is activated for brief periods only.

RF coblation uses bipolar low- frequency energy in an electrical conductive fluid (eg, saline) to generate a high-density plasma field around the energy source. This creates a low-temperature field of ionizing particles that break organic bonds within the target tissue. Coblation technology is used in a variety of surgical procedures, particularly related to otolaryngology. The disc nucleoplasty procedure is accomplished with a probe mounted with a RF coblation source. The proposed advantage of coblation is that the procedure provides for controlled and highly localized ablation, resulting in minimal damage to surrounding tissue.

REGULATORY STATUS

A number of laser devices have been cleared for marketing by the U.S. Food and Drug Administration (FDA) through the 510(k) process for incision, excision, resection, ablation, vaporization, and coagulation of tissue. Intended uses described in FDA summaries include a wide variety of procedures, including percutaneous discectomy. Trimedyne Inc. received 510(k) clearance in 2002 for the Trimedyne® Holmium Laser System Holmium:Yttrium, Aluminum Garnet (Holmium:YAG), in 2007 RevoLix Duo™ Laser System, and in 2009 Quanta System LITHO Laser System. All were cleared, based on equivalence with predicate devices for percutaneous laser disc decompression/discectomy, including foraminoplasty, percutaneous cervical disc decompression/discectomy, and percutaneous thoracic disc decompression/discectomy. The summary for the Trimedyne® system states that indications for

cervical and thoracic decompression/discectomy include uncomplicated ruptured or herniated discs, sensory changes, imaging consistent with findings, and symptoms unresponsive to 12 weeks of conservative treatment. Indications for treatment of cervical discs also include positive nerve conduction studies. FDA product code: GEX.

In 2001, the Perc-D SpineWand™ (ArthroCare) was cleared for marketing by FDA through the 510(k) process. FDA determined that this device was substantially equivalent to predicate devices. It is used in conjunction with the ArthroCare Coblation® System 2000 for ablation, coagulation, and decompression of disc material to treat symptomatic patients with contained herniated discs. Smith & Nephew acquired ArthroCare in 2014; as of 2017, Smith & Nephew has not provided any information about coblation devices specific to spine surgeries on its website. FDA product code: GEI.

IV. RATIONALE

TOP

SUMMARY OF EVIDENCE

For individuals who have discogenic back pain or radiculopathy who receive laser discectomy, the evidence includes systematic reviews of observational studies. Relevant outcomes are symptoms, functional outcomes, and treatment-related morbidity. While numerous case series and uncontrolled studies have reported improvements in pain levels and functioning following laser discectomy, the lack of well-designed and -conducted controlled trials limits interpretation of reported data. The evidence is insufficient to determine the effect of the technology on health outcomes.

For individuals who have discogenic back pain or radiculopathy who receive disc nucleoplasty with radiofrequency coblation, the evidence includes RCTs and systematic reviews. Relevant outcomes are symptoms, functional outcomes, and treatment-related morbidity. For nucleoplasty, there are 2 RCTs in addition to several uncontrolled studies. These RCTs are limited by the lack of blinding, an inadequate control condition in one, and inadequate data reporting in the second. The available evidence is insufficient to permit conclusions concerning the effect of these procedures on health outcomes due to multiple confounding factors that may bias results. High-quality randomized trials with adequate follow-up (at least 1 year), which control for selection bias, the placebo effect, and variability in the natural history of low back pain, are needed. The evidence is insufficient to determine the effect of the technology on health outcomes.

V. DEFINITIONS

TOP

ABLATION IS the removal of a part, pathway, or function by surgery, chemical destruction, electrocautery or radiofrequency.

POLICY TITLE	DECOMPRESSION OF THE INTERVERTEBRAL DISC USING LASER ENERGY (LASER DISCECTOMY) OR RADIOFREQUENCY COBLATION (NUCLEOPLASTY)
POLICY NUMBER	MP-1.125

INTERVERTEBRAL DISC is the fibrocartilaginous tissue between the vertebral bodies. The outer portion is the annulus fibrosus; the inner portion is the nucleus pulposus. The disc is the shock absorber, or cushion, and permits movement.

MINIMALLY INVASIVE PROCEDURES also called minimal access procedures used to perform spinal surgeries. These may include the following: (Note; this is not an all-inclusive list.)

- ALIF – anterior lumbar interbody fusion
- AxiaLIF – axial approach to interbody fusion which is performed perpendicular to the long axis of the spine with access through the sacrum. Also called anterior para-axial, trans-sacral or paracoccygeal interbody fusion performed with the AxiaLIF® and AxiaLIF 2 Level systems.
- DLIF - Direct lateral interbody fusion
- IDET – intradiscal electrothermal annuloplasty
- IG-MLD – image-guided minimally invasive lumbar decompression.
- LASE – annuloplasty using a laser-assisted spinal endoscopy
- LTIF – lateral transpsoas interbody fusion
- MEDL – microendoscopic decompressive laminotomy
- MILD – microscopic muscle-preserving interlaminar decompression involves a small skin incision at the interspinous level and partial drilling of the spinous process.
- PELA – percutaneous endoscopic laser annuloplasty.
- PLD – percutaneous lumbar discectomy
- PIRFT – percutaneous intradiscal radiofrequency thermocoagulation
- PLIF – posterior lumbar interbody fusion
- TLIF – transforaminal interbody fusion
- XLIF –Extreme lateral interbody fusion

VI. BENEFIT VARIATIONS TOP

The existence of this medical policy does not mean that this service is a covered benefit under the member's contract. Benefit determinations should be based in all cases on the applicable contract language. Medical policies do not constitute a description of benefits. A member's individual or group customer benefits govern which services are covered, which are excluded, and which are subject to benefit limits and which require preauthorization. Members and

providers should consult the member's benefit information or contact Capital BlueCross for benefit information.

VII. DISCLAIMER

TOP

Capital BlueCross's medical policies are developed to assist in administering a member's benefits, do not constitute medical advice and are subject to change. Treating providers are solely responsible for medical advice and treatment of members. Members should discuss any medical policy related to their coverage or condition with their provider and consult their benefit information to determine if the service is covered. If there is a discrepancy between this medical policy and a member's benefit information, the benefit information will govern. Capital BlueCross considers the information contained in this medical policy to be proprietary and it may only be disseminated as permitted by law.

VIII. CODING INFORMATION

TOP

Note: This list of codes may not be all-inclusive, and codes are subject to change at any time. The identification of a code in this section does not denote coverage as coverage is determined by the terms of member benefit information. In addition, not all covered services are eligible for separate reimbursement.

Investigational, and therefore not covered, when used to report minimally invasive disc procedures as outlined in the Policy section:

CPT Codes®								
62287								

Investigational; therefore not covered:

HCPCS Code	Description
S2348	Decomp perq intervert disc rf energy 1/mx lumb

IX. REFERENCES

TOP

1. *Singh V, Manchikanti L, Benyamin RM, et al. Percutaneous lumbar laser disc decompression: a systematic review of current evidence. Pain Physician. May-Jun 2009;12(3):573-588. PMID 19461824*
2. *Singh V, Manchikanti L, Calodney AK, et al. Percutaneous lumbar laser disc decompression: an update of current evidence. Pain Physician. Apr 2013;16(2 Suppl):SE229-260. PMID 23615885*
3. *Gibson JN, Waddell G. Surgical interventions for lumbar disc prolapse. Cochrane Database Syst Rev. Apr 18 2007(2):CD001350. PMID 17443505*
4. *Tassi GP. Comparison of results of 500 microdiscectomies and 500 percutaneous laser disc decompression procedures for lumbar disc herniation. Photomed Laser Surg. Dec 2006;24(6):694-697. PMID 17199468*

5. *Choy DS. Percutaneous laser disc decompression: an update. Photomed Laser Surg. Oct 2004;22(5):393-406. PMID 15671712*
6. *Menchetti PP, Canero G, Bini W. Percutaneous laser discectomy: experience and long term follow-up. Acta Neurochir Suppl. Nov 2011;108:117-121. PMID 21107947*
7. *Manchikanti L, Falco FJ, Benyamin RM, et al. An update of the systematic assessment of mechanical lumbar disc decompression with nucleoplasty. Pain Physician. Apr 2013;16(2 Suppl):SE25-54. PMID 23615886*
8. *Gerszten PC, Smuck M, Rathmell JP, et al. Plasma disc decompression compared with fluoroscopy-guided transforaminal epidural steroid injections for symptomatic contained lumbar disc herniation: a prospective, randomized, controlled trial. J Neurosurg Spine. Apr 2010;12(4):357-371. PMID 20201654*
9. *Chitragran R, Poopitaya S, Tassanawipas W. Result of percutaneous disc decompression using nucleoplasty in Thailand: a randomized controlled trial. J Med Assoc Thai. Oct 2012;95(Suppl 10):S198-205. PMID 23451463*
10. *Bokov A, Skorodumov A, Isrelov A, et al. Differential treatment of nerve root compression pain caused by lumbar disc herniation applying nucleoplasty. Pain Physician. Sep-Oct 2010;13(5):469-480. PMID 20859316*
11. *Birnbaum K. Percutaneous cervical disc decompression. Surg Radiol Anat. Jun 2009;31(5):379-387. PMID 19190848*
12. *Cuellar VG, Cuellar JM, Vaccaro AR, et al. Accelerated degeneration after failed cervical and lumbar nucleoplasty. J Spinal Disord Tech. Dec 2010;23(8):521-524. PMID 21131800*
13. *National Institute for Health and Care Excellence (NICE). Epiduroscopic lumbar discectomy through sacral hiatus for sciatica [IPG570]. 2016; https://www.nice.org.uk/guidance/ipg570. Accessed March 12, 2018.*
14. *National Institute for Health and Care Excellence (NICE). Percutaneous coblation of the intervertebral disc for low back pain and sciatica [IPG543]. 2016; https://www.nice.org.uk/guidance/ipg543. Accessed March 12, 2018.*
15. *Chou R, Atlas SJ, Stanos SP, et al. Nonsurgical interventional therapies for low back pain: a review of the evidence for an American Pain Society clinical practice guideline. Spine (Phila Pa 1976). May 1 2009;34(10):1078-1093. PMID 19363456*
16. *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). May 1 2009;34(10):1066-1077. PMID 19363457*
17. *Manchikanti L, Derby R, Benyamin RM, et al. A systematic review of mechanical lumbar disc decompression with nucleoplasty. Pain Physician. May-Jun 2009;12(3):561-572. PMID 19461823*

18. *Manchikanti L, Abdi S, Atluri S, et al. An update of comprehensive evidence-based guidelines for interventional techniques in chronic spinal pain. Part II: Guidance and recommendations. Pain Physician. Apr 2013;16(2 Suppl):S49-S283. PMID 23615883*
19. *Centers for Medicare & Medicaid Services (CMS). National Coverage Determination (NCD) for Thermal Intradiscal Procedures (TIPs) (150.11). 2009; https://www.cms.gov/medicare-coverage-database/details/ncd-details.aspx?NCDId=324&ncdver=1&DocID=150.11&bc=gAAAAAgAAAAA&. Accessed March 12, 2018.*
20. *Centers for Medicare & Medicaid Services (CMS). National Coverage Determination (NCD) for Laser Procedures (140.5). 1997; https://www.cms.gov/medicare-coverage-database/details/ncd-details.aspx?NCDId=69&ncdver=1&DocID=140.5&bc=gAAAAAgAAAAA&. Accessed March 12, 2018.*
21. *Blue Cross Blue Shield Association Medical Policy Reference Manual. 7.01.93, Decompression of the Intervertebral Disc Using Laser Energy (Laser Discectomy) or Radiofrequency Coblation (Nucleoplasty). April 2018.*

Other:

1. *Taber's Cyclopedic Medical Dictionary, 20th edition.*

X. POLICY HISTORY

TOP

MP 1.125	**CAC 7/26/11** New policy, Adopt BCBSA. BCBSA language adoption did not change intent of policy statements. Other minimally invasive procedures extracted from CBC MP-1.021 Image-Guided Minimally Invasive Lumbar Decompression (IG-MLD) for Spinal Stenosis (formerly Minimally Invasive Disc Procedures) and separated into individual policies. See MP 1.123 Automated Percutaneous Discectomy, MP 1.124 Percutaneous Intradiscal Electrothermal (IDET) Annuloplasty and Percutaneous Intradiscal Radiofrequency Annuloplasty, and MP 1.126 Minimally Invasive Lumbar Interbody Fusion.
	CAC 10/30/12 Consensus review. References updated; no changes to policy statement. FEP variation revised. Medicare variation removed. Codes reviewed 10/25/12
	03/28/13- Admin code changes
	11/26/13 Consensus. No change to policy statement. References updated. Rationale section added.
	CAC 11/25/14 Consensus review. No changes to the policy statements. References and rationale updated. Coding reviewed, no changes.
	CAC 11/24/15 Consensus review. No changes to policy statements. References and rationale updated. Coding updated.

POLICY TITLE	DECOMPRESSION OF THE INTERVERTEBRAL DISC USING LASER ENERGY (LASER DISCECTOMY) OR RADIOFREQUENCY COBLATION (NUCLEOPLASTY)
POLICY NUMBER	MP-1.125

	CAC 11/29/16 Consensus review. No changes to policy statements. References and rationale updated. Coding reviewed. Variation reformatting.
	CAC 12/19/17 Consensus. No change to policy statements. References and rationale updated. Coding reviewed.
	9/14/18 Consensus review. No change to the policy statement. References reviewed. Rationale revised**.** Retired - Please refer to TurningPoint Healthcare for management of these services effective 1/1/2019.*

Top