

Medical Policy

Cervical Spine Surgery	
MEDICAL POLICY NUMBER	Med_Clin_Ops-006
CURRENT VERSION EFFECTIVE DATE	March 1, 2023
APPLICABLE PRODUCT AND MARKET	<i>Individual Family Plan: All Plans</i> <i>Small Group: All Plans</i> <i>Medicare Advantage: All Plans</i>

Bright Health develops policies and makes coverage determinations using credible scientific evidence including but not limited to MCG™ Health Guidelines, the ASAM Criteria™, and other third party sources, such as peer-reviewed medical literature generally recognized by the relevant medical community, physician specialty society recommendations, and expert opinion as relevant to supplement those sources. Bright Health Medical Policies, MCG™ Guidelines, and the ASAM Criteria™ are not intended to be used without the independent clinical judgment of a qualified health care provider considering the individual circumstances of each member's case. The treating health care providers are solely responsible for diagnosis, treatment, and medical advice. Members may contact Bright Health Customer Service at the phone number listed on their member identification card to discuss their benefits more specifically. Providers with questions about this Bright Health Medical Policy may visit Bright Health's provider portal or brighthouse.com/provider. Bright Health policies and practices are compliant with federal and state requirements, including mental health parity laws.

If there is a difference between this policy and the member specific plan document, the member benefit plan document will govern. For Medicare Advantage members, Medicare National Coverage Determinations (NCD) and Local Coverage Determinations (LCD), govern. Refer to the CMS website at <http://www.cms.gov> for additional information.

Bright Health medical policies address technology assessment of new and emerging treatments, devices, drugs, etc. They are developed to assist in administering plan benefits and do not constitute an offer of coverage nor medical advice. Bright Health medical policies contain only a partial, general description of plan or program benefits and do not constitute a contract. Bright Health does not provide health care services and, therefore, cannot guarantee any results or outcomes. Treating providers are solely responsible for medical advice and treatment of members. Our medical policies are updated based on changes in the evidence and healthcare coding and therefore are subject to change without notice. CPT codes, descriptions and materials are copyrighted by the American Medical Association (AMA). MCG™ and Care Guidelines® are trademarks of MCG Health, LLC (MCG).

PURPOSE

The purpose of this policy is to establish the clinical review criteria that support that the determination of medical necessity for Cervical Spine Surgery.

POLICY/CRITERIA

Clinical Review Criteria

Prior Authorization is NOT required when the spine surgery is emergent in nature.

I. CERVICAL DECOMPRESSION, STABILIZATION OR FUSION

A. Initial and repeat/revision cervical decompression, stabilization, or fusion

prior Authorization is required for treatment of radiculopathy or myelopathy and may be authorized when documentation in the medical record shows that **ALL** the following are met:

1. A physical examination, including a neurologic examination, has been performed by or reviewed by the operating surgeon.
2. The member is undergoing **ONE or more** of the following procedures:
 - a. Corpectomy/hemicorpectomy.

Medical Policy

- b. Discectomy.
 - c. Foraminectomy/foraminoplasty.
 - d. Foraminotomy.
 - e. Laminectomy/laminoplasty.
 - f. Laminotomy (i.e., laminoforaminotomy, hemilaminectomy).
 - g. Osteophyte removal (i.e., bone spur removal).
3. The member has **ONE or more** of the following diagnosis:
- a. Spondylolisthesis, anterolisthesis, or retrolisthesis.
 - b. Non-acute radiculopathy (e.g., symptomatic cervical stenosis; osteophytes) causing continued pain, motor weakness, paresthesia, and/or compromised neurological function indicative of nerve root compression.
 - c. Post laminectomy syndrome.
 - d. Recurrent disc herniation.
4. Surgery is less than two contiguous levels from C2 to C7.
5. Skeletal maturity has been reached.
6. Documentation of continued episodes of severe, radiating, neurological pain and/or impairment (e.g., extremity weakness or stiffness, lack of arm and/or hand coordination, numbness and/or decreased sensation, back and/or lower extremity involvement).
7. Compromised ability to perform routine activities of daily living.
8. Radiologic testing documenting **ONE or more** of the following:
- a. For central myelopathy: radiographic imaging (computed tomography or magnetic resonance imaging) demonstrating myelopathy at a level correlating exactly with clinical presentation.
 - b. For persistent radiculopathy: Radiographic imaging (computed tomography or magnetic resonance imaging) demonstrating impingement at a level correlating exactly with clinical presentation.
9. Documentation demonstrating **ONE or more** of the following within one month of prior authorization:
- a. Completion of a minimum of six (6) weeks of conservative management with documentation of **ALL** of the following
 - Use of ice, rest/activity modification, weight loss, bracing
 - Use of medications [e.g., anti-inflammatories], injections [steroid]
 - Physical therapy
 - Documented progression of pain/disability.
 - Documentation indicating at least moderate disability.
 - Inability to perform routine activities of daily living.

Medical Policy

- b. For individuals unable to complete a minimum of six (6) weeks of conservative management, documentation of **ONE or more** of the following:
 - Documentation of at least moderate disability following attempted course of conservative management including inability to perform routine activities of daily living.
 - An explicit statement in the documentation that explains why such conservative therapy is contraindicated. The requirement for conservative therapy will not be met if there is a failure to initiate or complete prescribed conservative therapy for non-clinical reasons.
10. BMI documentation of **ONE** of the following
- a. BMI < 40 at the time of the prior authorization request.
 - b. BMI > 40 with documentation of surgeon's judgment of severe or progressive bone loss, deformity, or the symptoms progress/worsen in the face of active interventions.
11. Documentation in the medical record of tobacco and nicotine status indicating **ONE** the following:
- a. The individual is a non-tobacco and non-nicotine user.
 - b. The individual has been tobacco-free for a minimum of six (6) weeks prior to the date of the prior authorization request.

II. CERVICAL INTERVERTEBRAL ARTIFICIAL DISC REPLACEMENT (ARTHROPLASTY)

A. Initial or repeat/revision cervical intervertebral artificial disc replacement

(arthroplasty) prior Authorization is required for treatment of radiculopathy or myelopathy and may be authorized when documentation in the medical record indicates **ALL** of the following:

1. A physical examination, including a neurologic examination, has been performed by or reviewed by the operating surgeon.
2. Documented symptomatic degenerative disc disease (DDD) with myelopathy or radiculopathy resulting in unremitting pain.
3. Procedure will be performed using **ONE** of following
 - a. One-level arthroplasty using an FDA-approved device (e.g., Prestige® Cervical Disc Systems; ProDisc™, Bryan® Cervical Disc; Secure® C Artificial Disc System; PCM® Cervical Disc System; MOBIC® Cervical Disc Prosthesis).
 - b. Two-level arthroplasty using Mobi-C or Prestige LP. **Two level cervical arthroplasty using any other device is considered investigative and will not be authorized.
4. The member has documentation supporting **ALL** of the following
 - a. Member does NOT have documentation of spinal instability;
 - b. Member does NOT have documentation of moderate to severe facet arthritis;

Medical Policy

- c. Member does NOT have documentation of localized or systemic infection;
 - d. Member does NOT have documentation of spinal tumor or other active malignancy.
5. The member has reached skeletal maturity.
6. Documentation demonstrating **ONE or more** of the following within one month of prior authorization:
- a. Completion of a minimum of six (6) weeks of conservative management with documentation of **ALL** of the following
 - Use of ice, rest/activity modification, weight loss, bracing
 - Use of medications [e.g., anti-inflammatories], injections [steroid]
 - Physical therapy
 - Documented progression of pain/disability.
 - Documentation indicating at least moderate disability.
 - Inability to perform routine activities of daily living.
 - b. For individuals unable to complete a minimum of six (6) weeks of conservative management, documentation of **ONE or more** of the following:
 - Documentation of at least moderate disability following attempted course of conservative management including inability to perform routine activities of daily living.
 - An explicit statement in the documentation that explains why such conservative therapy is contraindicated. The requirement for conservative therapy will not be met if there is a failure to initiate or complete prescribed conservative therapy for non-clinical reasons.
7. BMI documentation of **ONE** of the following
- a. BMI < 40 at the time of the prior authorization request.
 - b. BMI > 40 with documentation of surgeon's judgment of severe or progressive bone loss, deformity, or the symptoms progress/worsen in the face of active interventions.
8. Documentation in the medical record of tobacco and nicotine status indicating at least **ONE** the following:
- i.) The individual is a non-tobacco and non-nicotine user.
 - ii.) The individual has been tobacco-free for a minimum of six (6) weeks prior to the date of the prior authorization request.

III. CONTRAINDICATIONS

Cervical spine surgery will not be authorized if there are medical contraindications present. Medical contraindications to surgery include **ALL** of the following:

- A.** No documentation of congestive Heart Failure and NYHA functional class III or IV

Medical Policy

- B. No documentation of coronary artery disease as defined by ANY of the following:
 - Myocardial Infarction less than 1 year ago.
 - Stent placed less than 1 year ago.
 - Uncontrolled angina.
- C. No documentation of uncontrolled Hypertension (HTN) as defined by ANY of the following:
 - systolic measurement greater than 160.
 - diastolic measurement greater than 100.
- D. No documentation of Chronic Obstructive Pulmonary Disease (COPD) patients with mMRC Grade 3 and 4. (mMRC: Modified Research Council dyspnea scale).
- E. No documentation of Acute Cerebrovascular Accident less than 6 months ago.
- F. No documentation of post-acute Cerebrovascular Accident deficits that affect activities of daily living.
- G. No documentation of Chronic Kidney Disease stage G4-G5.
- H. No documentation of decompensated Cirrhosis.
- I. No documentation of current alcohol abuse.
- J. No documentation of Neurological and musculoskeletal conditions that might preclude recovery (i.e., Parkinson disease).
- K. No documentation of the patient being generally frail..
- L. No documentation of of the patient being non-ambulatory.
- M. No documentation of moderate to severe dementia.
- N. No documentation of anemia, as defined by Hb less than normal range (female less than 12 g dl⁻¹, male less than 13 g dl⁻¹)
- O. No documentation of Malnutrition, as defined by ANY of the following:
 - BMI less than 18.
 - recent unintentional weight loss.
 - serum Albumin below normal range
- P. No documentation of active urinary tract infection;
- Q. No documentation of active dental infection;
- R. No documentation of systemic infection;
- S. No documentation of skeletal immaturity.

IV. EXCLUSIONS

Bright HealthCare considers **ALL** the following procedures to be investigative and they will not be authorized:

- A. The Authorization is NOT for Recombinant human bone morphogenic protein-2 (rhBMP-

Medical Policy

- 2)/InFUSE™ Bone Graft/LT- CAGE™ for cervical spine indications;
- B.** The Authorization is NOT for OsteoAmp™ allogenic morphogenic protein;
 - C.** The Authorization is NOT for Autologous blood-derive biologics (e.g., platelet-rich plasma, autologous conditioned serum, autologous whole blood);
 - D.** The Authorization is NOT for Stem cell therapy (e.g. AlloStem®, Cellentra™ VCBM, Osteocel® Plus, Trinity® Evolution™);
 - E.** The Authorization is NOT for Two-level Cervical Disc Replacement (arthroplasty) using a device other than Mobi-C or Prestige LP;
 - F.** The Authorization is NOT for Cervical Disc Replacement (arthroplasty) at more than two levels;
 - G.** The Authorization is NOT for Laser Spine Surgery

BACKGROUND

Cervical degenerative disease (CDD) affects approximately ten percent of all adults who display some degree of neck pain. Less than one percent develop neurologic deficits. In most of cases, individuals recover following conservative treatment, and there remains a lack of consensus regarding use of surgical options and the prognostic factors associated with surgical treatment of CDD.

Symptomatic CDD can result in axial neck pain, extremity pain, and/or neurological dysfunction. Causes of axial neck pain include cervical strain, internal disc disruption syndrome, cervical facet-mediated pain, cervical 'whiplash' syndrome, and myofascial pain.

Cervical radiculopathy is a disorder that involves a combination of pain, numbness, tingling and/or weakness in a nerve distribution that correlates with imaging findings showing mechanical compression of the individual nerve by a soft disc herniation or osteophyte (bone spur). It can involve one or more nerves at a time.

Cervical myelopathy is a disorder that is caused when a soft disc herniation, hypertrophic ligaments or osteophytes cause mechanical pressure on the spinal cord, which results in a continuum of symptoms ranging from subtle incoordination and spasticity to frank quadraparesis or quadraplegia.

Spine surgery is a complex area of medicine, and this document breaks out the clinical indications by surgical type. Operative treatment is indicated only when the natural history of an operatively treatable problem is better than the natural history of the problem without operative treatment. Choice of surgical approach is based on anatomy, the patient's pathology, and the surgeon's experience and preference. All operative interventions must be based on a positive correlation with clinical findings, the natural history of the disease, the clinical course, and diagnostic tests or imaging results.

DEFINITIONS

Medical Policy

- 1) **Anterior cervical spine surgery** is the preferred method for cervical spine surgery. It is performed by the surgeon approaching the spine from the front of the body, through the throat area. Anterior approaches are performed for correction of CDD including cervical discectomy, corpectomy, fusion, and bone grafting.
- 2) **Artificial cervical intervertebral disc** replacement (arthroplasty) is a surgical procedure in which a diseased or damaged intervertebral disc is replaced with an artificial device in individuals with symptomatic degenerative disc disease or herniated disc. They are intended to preserve/restore vertebral alignment, maintain spinal stability and flexibility, and alleviate pain.
- 3) **Atlantoaxial instability** or subluxation occurs when ligaments that hold the C1 (Atlas) and C2 (Axis) vertebra together become loose, either from traumatic disruption of the ligaments or from degeneration of the joint itself. The degeneration of this joint is most common in patients with rheumatoid arthritis and is relatively uncommon in the normal population. In severe situations, the laxity of the vertebrae may cause spinal cord compression and/or migration of the odontoid resulting in spinal cord or brain stem lesions. This can potentially lead to irreversible neurological damage.
- 4) **Authorization** A decision by Bright Health that a health care service, treatment plan, prescription drug or durable medical equipment is medically necessary or meets other member contract terms. Sometimes called prior authorization, prior approval or precertification. Bright Health requires preauthorization for certain services before a member receives them, except in an emergency. Authorization is not a promise that Bright Health will cover the cost.
- 5) **Chronic discogenic pain** is severe, recurring or constant pain originating from the intervertebral disc that limits the individual's ability to function. The term is most frequently used when the patient has relatively mild pathology on imaging studies, and does not have significant spondylosis, instability, radicular or myelopathic findings. Surgery is rarely indicated to treat this condition.
- 6) **Corpectomy/hemicorpectomy** is removal of the entire vertebral body and surrounding discs to relieve nerve and/or spinal cord impingement. When the pathology dictates that only a portion of the vertebral body be removed, the procedure is referred to as a hemicorpectomy.
- 7) **Decompression** surgery is a general term that refers to various procedures intended to relieve symptoms caused by pressure, or compression, on the spinal cord and/or nerve roots. Bulging or collapsed disks, thickened joints, loosened ligaments and bony growths can narrow the spinal canal and the spinal nerve openings (foramen), causing irritation.
- 8) **Discectomy** is the surgical removal of the intervertebral disc. It can refer to removing the entire disc, as in an anterior discectomy and fusion, or simply a herniated portion of the nucleus pulposus (the central portion of the intervertebral disc), which is pressing on a nerve root or the spinal cord. Infrequently (i.e., 5% – 10% of discectomies), additional nuclear material may extrude through the same annular defect at any time after the primary discectomy surgery.

Medical Policy

- 9) **Facet joints** are small joints that are located on the back of the spine, one on each side. Each vertebra is connected by facet joints. They provide stability to the spine by interlocking two vertebrae.
- 10) **Laminectomy** is a surgical procedure performed to remove the lamina. It is also referred to as decompression surgery. A laminectomy enlarges the spinal canal and is intended to relieve pressure on the spinal cord and surrounding nerves.
- 11) **Myelopathy** is due to compression of the spinal cord by spinal stenosis (e.g., osteophytes), extruded disk material (i.e. herniated disc), metastatic tumor, or fracture fragments. Myelopathy is more common in older individuals and is generally a slowly progressive condition. Symptoms include hand incoordination, heaviness in the legs, or numbness/tingling in the legs. If the site of compression is applying pressure to nerves, pain at the segment site may be present.
- 12) **Neck Disability Index (NDI) Score** was developed as a modification of the **Oswestry Disability Index (ODI)** for low back pain with the permission of the original author. The NDI is a standard self-administered, low back pain disability questionnaire used by clinicians and researchers to measure a patient's functional disability at a certain point in time.
- 13) **Os odontoideum** (hypoplastic dens) results when the "peg" of the first cervical vertebra has persisted over time, usually secondary to a traumatic event at an early age. The cause of os odontoideum remains uncertain, but there is now emerging consensus regarding its traumatic etiology, which may cause the C1-2 stabilizing ligaments to be underdeveloped and predisposes this section to hypermobility and instability.
- 14) **Post laminectomy syndrome** is characterized by persistent neck pain or neck and arm pain following otherwise successful cervical spine surgery, most often following a laminectomy. Following spine surgery, major pain relief is expected, but rarely is there total pain relief. A fraction of post-surgical pain is normal. However, the term post laminectomy syndrome is reserved for individuals who continue to suffer from most of their pain symptoms following surgery.
- 15) **Pseudoarthrosis** is a term that is used to describe the situation where the spinal segment does not grow together after an attempted surgical fusion.
- 16) **Cervical radiculopathy** (also called radiculitis) refers to a loss of sensory, motor or reflex function or pain in a specific region within the upper extremity secondary to irritation and/or compression of a spinal nerve root in the neck. Radiculopathy often presents clinically as pain traveling from the neck into the arm, forearm and/or hand. In many cases, this will be accompanied by numbness in the limb.
- 17) **Skeletal (bone) maturity** occurs when bone growth ceases after puberty and refers to demonstration of fusion of skeletal bones. Females reach skeletal maturity at approximately 16 years of age, while males reach skeletal maturity around 18 years of age. Radiographs of either the knee or of the hand and wrist with subsequent mathematical

Medical Policy

calculations are often used when exact measurement of skeletal maturity is warranted.

- 18) **Spinal fusion** (also known as spinal arthrodesis) is a procedure that permanently fuses two or more vertebrae. A bone graft (autograft, allograft, or synthetic graft) is placed between the vertebrae or facet joints to stimulate the growth of bone across the joint, with the intent of improving stability and decreasing pain.
- 19) **Spinal instability** refers to loss of motion segment stiffness which results in excessive motion within a spinal segment that could result in neurological deficit, deformity, or pain. Instability can be categorized as acute (e.g., spine fractures, spinal dislocations) or chronic (i.e., caused by degeneration of the joint through the normal aging process or diseases such as rheumatoid arthritis). Instability can be clinically simulated when force applied to the painful spine segment produces abnormally excessive motion (e.g., flexion, extension, lateral angulation, translation) compared to the same force applied to a non-affected segment. Instability can also be demonstrated on radiographic images by seeing damage to the spine's restraining structures (i.e., facet joint, spinous process, transverse process, disk, ligaments, and/or muscles). Conditions or diseases associated with spinal instability include, but are not limited to, trauma, tumors, infections, connective tissue disorders, congenital disorders, degenerative disorders, and postsurgical events.
- 20) **Spinal stenosis** is a reduction in the diameter of the spinal canal caused by bone spur formation, disc herniation, hypertrophic (thickened) ligaments, or traumatic displacement of bone or soft tissue. Some individuals are born with small or stenotic spinal canals. Stenosis often results in pressure on the spinal cord and/or nerve root compression leading to significant pain and nerve-related symptoms or paralysis.
- 21) **Spondylolisthesis** can occur when one vertebra slips forward and out of alignment with the vertebra lying below it. It is commonly seen in the fourth over the fifth lumbar vertebra or the fifth over the sacrum. The causes can be congenital, due to stress fractures, facet degeneration, injury, or after decompression surgery. The condition may be asymptomatic, or cause significant pain and nerve-related symptoms. If the slippage occurs backwards, it is referred to as retrolisthesis and lateral slippage is called listhesis.
- 22) **Tobacco/Nicotine** products can result in nicotine addiction and health problems, including a negative effect on bone healing. This includes delayed unions, non-unions and other complications (e.g., decreased blood flow; wound complications). Products containing nicotine include, but are not limited to;
- Smoked tobacco (e.g., cigarettes, cigars, cigarillos, pipe tobacco).
 - Smokeless tobacco (e.g., chewing tobacco, snuff).
 - Nicotine replacements (e.g., patches, gum, nasal spray, inhalers).

CODING

The codes listed below are for reference purposes. This list does not imply whether the code is covered or not covered. The benefit document should be referenced for coverage determination. This list of applicable codes may not be all-inclusive.

CPT CODE	DESCRIPTION
22548	Arthrodesis, anterior transoral or extraoral technique, clivus-C1-C2 (atlas-axis), with or without excision of odontoid process

Medical Policy

CPT CODE	DESCRIPTION
22551	Arthrodesis, anterior interbody, including disc space preparation, discectomy, osteophylectomy and decompression of spinal cord and/or nerve roots; cervical below C2
22552	Arthrodesis, anterior interbody, including disc space preparation, discectomy, osteophylectomy and decompression of spinal cord and/or nerve roots; cervical below C2, each additional interspace (List separately in addition to code for separate procedure: 22551)
22554	Arthrodesis, anterior interbody technique, including minimal discectomy to prepare interspace (other than for decompression); cervical below C2
22585	Arthrodesis, anterior interbody technique, including minimal discectomy to prepare interspace (other than for decompression); each additional interspace (List separately in addition to code for primary procedure: 22554)
22590	Arthrodesis, posterior technique, craniocervical (occiput-C2)
22595	Arthrodesis, posterior technique, atlas-axis (C1-C2)
22600	Arthrodesis, posterior or posterolateral technique, single interspace; cervical below C2 segment
22614	Arthrodesis, posterior or posterolateral technique, single interspace; each additional interspace (List separately in addition to code for primary procedure: 22600)
22856	Total disc arthroplasty (artificial disc), anterior approach, including discectomy with end plate preparation (includes osteophylectomy for nerve root or spinal cord decompression and microdissection); single interspace, cervical
22858	Total disc arthroplasty (artificial disc), anterior approach, including discectomy with end plate preparation (includes osteophylectomy for nerve root or spinal cord decompression and microdissection); second level, cervical (List separately in addition to code for primary procedure: 22556)
22861	Revision including replacement of total disc arthroplasty (artificial disc), anterior approach, single interspace; cervical
22864	Removal of total disc arthroplasty (artificial disc), anterior approach, single interspace; cervical
22899	Unlisted procedure, spine
63001	Laminectomy with exploration and/or decompression of spinal cord and/or cauda equina, without facetectomy, foraminotomy or discectomy (eg, spinal stenosis), 1 or 2 vertebral segments; cervical
63015	Laminectomy with exploration and/or decompression of spinal cord and/or cauda equina, without facetectomy, foraminotomy or discectomy (eg, spinal stenosis), more than 2 vertebral segments; cervical
63020	Laminotomy (hemilaminectomy), with decompression of nerve root(s), including partial facetectomy, foraminotomy and/or excision of herniated intervertebral disc; 1 interspace, cervical
63035	Laminotomy (hemilaminectomy), with decompression of nerve root(s), including partial facetectomy, foraminotomy and/or excision of herniated intervertebral disc; each additional interspace, cervical or lumbar (List separately in addition to code for primary procedure:63020)
63040	Laminotomy (hemilaminectomy), with decompression of nerve root(s), including partial facetectomy, foraminotomy and/or excision of herniated intervertebral disc, reexploration, single interspace; cervical
63043	Laminotomy (hemilaminectomy), with decompression of nerve root(s), including partial facetectomy, foraminotomy and/or excision of herniated intervertebral disc, reexploration, single interspace; each additional cervical interspace (List separately in addition to code for primary procedure:63020)
63045	Laminectomy, facetectomy and foraminotomy (unilateral or bilateral with decompression of spinal cord, cauda equina and/or nerve root[s], [eg, spinal or lateral recess stenosis]), single vertebral segment; cervical
63048	Laminectomy, facetectomy and foraminotomy (unilateral or bilateral with decompression of spinal cord, cauda equina and/or nerve root[s], [eg, spinal or lateral recess stenosis]), single vertebral segment; each additional vertebral segment, cervical, thoracic, or lumbar (List separately in addition to code for primary procedure: 63045)
63050	Laminoplasty, cervical, with decompression of the spinal cord, 2 or more vertebral segments

Medical Policy

CPT CODE	DESCRIPTION
63051	Laminoplasty, cervical, with decompression of the spinal cord, 2 or more vertebral segments; with reconstruction of the posterior bony elements (including the application of bridging bone graft and non-segmental fixation devices [eg, wire, suture, mini-plates], when performed)
63075	Discectomy, anterior, with decompression of spinal cord and/or nerve root(s), including osteophyctomy; cervical, single interspace
63076	Discectomy, anterior, with decompression of spinal cord and/or nerve root(s), including osteophyctomy; cervical, each additional interspace (List separately in addition to code for primary procedure)
0095T	Removal of total disc arthroplasty (artificial disc), anterior approach, each additional interspace, cervical (List separately in addition to code for primary procedure: 22864)
0098T	Revision including replacement of total disc arthroplasty (artificial disc), anterior approach, each additional interspace, cervical (List separately in addition to code for primary procedure: 22864)

HCPCS CODE	DESCRIPTION
n/a	

EVIDENCE BASED REFERENCES

- Ng VY, Lustenberger D, Hoang K, Urchek R, Beal M, Calhoun JH, Glassman AH. Preoperative risk stratification and risk reduction for total joint reconstruction: AAOS exhibit selection. *J Bone Joint Surg Am.* 2013 Feb 20; 95(4):e191-15. <https://www.ncbi.nlm.nih.gov/pubmed/23426776>. Accessed December 5, 2017.
- Anderson PA, Matz PG, Groff MW, et al. Laminectomy and fusion for the treatment of cervical degenerative myelopathy. *J Neurosurg Spine.* 2009;11(97):150-156.
- Chaichana KL, Pendleton C, Sciubba DM, Wolinsky JP, Gokaslan ZL. Outcome following decompressive surgery for different histological types of metastatic tumors causing epidural spinal cord compression. *J Neurosurg Spine.* 2009; 11:56-63.
- Fehlings MG, Arvin B. Editorial. Surgical management of cervical degenerative disease: the evidence related to indications, impact, and outcome. *J Neurosurg Spine.* 2009;11(97):97-100.
- Hadley MN. Metastatic spinal cord tumors. *J Neurosurg Spine.* 2009; 11:53-55.
- Heary RF, TC, Matz PG, et al. Cervical laminoforaminotomy for the treatment of cervical degenerative radiculopathy. *J Neurosurg Spine.* 2009;11(97):198-202.
- Holly LT, Matz PG, Anderson PA, et al. Clinical prognostic indicators of surgical outcome in cervical spondylotic myelopathy. *J Neurosurg Spine.* 2009;11(97):112-118.
- Holly LT, Matz PG, Anderson PA, et al. Functional outcomes assessment for cervical degenerative disease. *J Neurosurg Spine.* 2009;11(97):238-244.
- Kaiser MG, Mummaneni PB, Matz PG, et al. Management of anterior cervical pseudarthrosis. *J Neurosurg Spine.* 2009;11(97):228-237.
- Kaiser MG, Mummaneni PV, Matz PG, et al. Radiographic assessment of cervical subaxial fusion. *J Neurosurg Spine.* 2009;11(97):221-227.
- Mummaneni PV, Kaiser M, Matz P, et al. Cervical surgical techniques for the treatment of cervical spondylotic myelopathy. *J Neurosurg Spine.* 2009;11(97):130-141.
- Mummaneni PV, Kaiser MG, Matz P, et al. Preoperative patient selection with magnetic resonance imaging, computed tomography, and electroencephalography: does the test predict outcome after cervical surgery? *J Neurosurg Spine.* 2009;11(97):119-129.
- North American Spine Society (NASS). NASS Evidence-Based Clinical Guidelines for Multidisciplinary Spine Care: Diagnosis and Treatment of Cervical Radiculopathy from Degenerative Disorders. Burr Ridge, IL.
- Ryken TC, Heary RF, Matz PG, et al. Cervical laminectomy for the treatment of cervical degenerative myelopathy. *J Neurosurg Spine.* 2009;11(97):142-149.
- Ryken TC, Heary RF, Matz PG, et al. Techniques for cervical interbody grafting. *J Neurosurg Spine.* 2009;11(97):203-220.
- Alvin MD, Mroz TE. The Mobi-C cervical disc for one-level and two-level cervical disc replacement: a review of the literature. *Med Devices (Auckl).* 2014; 7:397-403.
- Brinjikji W, Luetmer PH, Comstock B3, et al. Systematic literature review of imaging features of spinal degeneration in asymptomatic populations. *AJNR Am J Neuroradiol.* 2015;36(4):811-816.

Medical Policy

- Coric D. ISASS Policy Statement - Cervical Artificial Disc. *Int J Spine Surg.* 2014;8. eCollection 2014. (ISASS: International Society for the Advancement of Spine Surgery)
- Davis RJ, Kim KD, Hisey MS, et al. Cervical total disc replacement with the Mobi-C cervical artificial disc compared with anterior discectomy and fusion for treatment of 2-level symptomatic degenerative disc disease: a prospective, randomized, controlled multicenter clinical trial: clinical article. *J Neurosurg Spine.* 2013;19(5):532- 545.
- Davis RJ, Nunley PD, Kim KD, et al. Two-level total disc replacement with Mobi-C cervical artificial disc versus anterior discectomy and fusion: a prospective, randomized, controlled multicenter clinical trial with 4-year follow up results. *J Neurosurg Spine.* 2015;22(1):15-25.
- Hayes, Inc. Hayes Directory: Artificial Disc Replacement for Cervical Degenerative Disc Disease. December 2014. Lansdale, PA.
- Hou Y, Liu Y, Yuan W, et al. Cervical kinematics and radiological changes after Discover artificial disc replacement versus fusion. *Spine J.* 2014;14(6):867-877.
- Johnsen LG, Brinckmann P, Hellum C, Rossvoll I, Leivseth G. Segmental mobility, disc height and patient reported outcomes after surgery for degenerative disc disease: a prospective randomized trial comparing disc replacement and multidisciplinary rehabilitation. *Bone Joint J.* 2013;95-B (1):81-89.
- Sköld C, Tropp H, Berg S. Five-year follow-up of total disc replacement compared to fusion: a randomized controlled trial. *Eur Spine J.* 2013;22(10):2288-2295.
- Zhao H, Cheng L, Hou Y, et al. Multi-level cervical disc arthroplasty (CDA) versus single-level CDA for the treatment of cervical disc diseases: a meta-analysis. *Eur Spine J.* 2015;24(1):101- 112.
- An H, Yeung C, Field J, Roh J. A radiographic analysis of posterolateral lumbar fusion utilizing an allogeneic growth factor compared to recombinant human bone morphogenetic protein-2 (rhBMP-2). *J Spine.* 2014;3(5).
- Bateman DK, Millhouse PW, Shahi N, et al. Anterior lumbar spine surgery: a systematic review and metaanalysis of associated complications. *Spine J.* 2015;15(5):1118-32.
- Bydon M, Xu R, De la Garza-Ramos R, et al. Adjacent segment disease after anterior cervical discectomy and fusion: Incidence and clinical outcomes of patients requiring anterior versus posterior repeat cervical fusion. *Surg Neurol Int.* 2014;5(Suppl 3): S74-S78.
- Elmasry S, Asfour S, de Rivero Vaccari JP, Travascio F. Effects of Tobacco Smoking on the Degeneration of the Intervertebral Disc: A Finite Element Study. *PLoS One.* 2015;10(8): e0136137.
- Field J, Yeun, C, Roh J. Clinical evaluation of allogeneic growth factor in cervical spine fusion. *J Spine.* 2014;3(2). 44. Govil, A, Thompson, N. Osteoinductivity and osteogenicity of leading allograft bone products. *Orthopaedic Proceedings.* 2014.
- Rodine RJ, Vernon H. Cervical radiculopathy: a systematic review on treatment by spinal manipulation and measurement with the Neck Disability Index. *J Can Chiropr Assoc.* 2012;56(1):18-28. 50. Roh JS, Yeung CA, Field JS, McClellan RT. Allogeneic morphogenetic protein vs. recombinant human bone morphogenetic protein-2 in lumbar interbody fusion procedures: a radiographic and economic analysis. *J Orthop Surg Res.* 2013;849.
- Saavedra-Pozo FM, Deusdara RA, Benzel EC. Adjacent segment disease perspective and review of the literature. *Ochsner J.* 2014;14(1):78-83.
- Sayama C, Hadley C, Monaco GN, et al. The efficacy of routine use of recombinant human bone morphogenetic protein-2 in occipitocervical and atlantoaxial fusions of the pediatric spine: a minimum of 12 months' follow-up with computed tomography. *J Neurosurg Pediatric.* 2015;16(1):14-20.
- Sayama C, Willsey M, Chintagumpala M, et al. Routine use of recombinant human bone morphogenetic protein- 2 in posterior fusions of the pediatric spine and incidence of cancer. *J Neurosurg Pediatr.* 2015;16(1):4-13.
- Yeung C, Field J, and Roh J. Clinical validation of allogeneic morphogenetic protein: donor intervariability, terminal irradiation and age of product is not clinically relevant. *J Spine.* 2014;3(3).
- American Academy of Orthopaedic Surgeons (AAOS). Cervical Spondylotic Myelopathy: Surgical Treatment Options. Reviewed November 2009. <http://orthoinfo.aaos.org/topic.cfm?topic=A00539>. Accessed December 7, 2017.
- Bartels RH, van Tulder MW, Moojen WA, Arts MP, Peul WC. Laminoplasty and laminectomy for cervical spondylotic myelopathy: a systematic review. *Eur Spine J.* 2013. Epub ahead of print. April 11, 2013. <http://link.springer.com/article/10.1007%2Fs00586-013-2771-z>. Accessed December 7, 2017.
- Bono CM, Ghiselli G, Gilbert TJ, et al. An evidence-based clinical guideline for the diagnosis and treatment of cervical radiculopathy from degenerative disorders. *Spine J.* 2011;11(1):64-72.
- Botelho RV, Dos Santos Buscarioli Y, de Barros Vasconcelos Fernandes Serra MV, Bellini MN, Bernardo WM. The choice of the best surgery after single level anterior cervical spine discectomy: a systematic review. *Open Orthop J.* 2012; 6:121-128.
- Cheng L, Nie L, Zhang L, Hou Y. Fusion versus Bryan Cervical Disc in two-level cervical disc disease: a

Medical Policy

- prospective, randomized study. *Int Orthop*. 2009 Oct;33(5):1347-51.
- Cunningham MR, Hershman S, Bendo J. Systematic review of cohort studies comparing surgical treatments for cervical spondylotic myelopathy. *Spine (Phila Pa 1976)*. 2010;35(5):537- 543.
 - Davis RJ, Nunley PD, Kim KD, Hisey MS, Jackson RJ, Bae HW, Hoffman GA, Gaede SE, Danielson GO 3rd, Gordon C, Stone MB. Two-level total disc replacement with Mobi-C cervical artificial disc versus anterior discectomy and fusion: a prospective, randomized, controlled multicenter clinical trial with 4-year follow-up results. *J Neurosurg Spine*. 2015 Jan;22(1):15-25. doi:10.3171/2014.7. SPINE13953.
 - Gebremariam L, Koes BW, Peul WC, Huisstede BM. Evaluation of treatment effectiveness for the herniated cervical disc: a systematic review. *Spine (Phila Pa 1976)*. 2012;37(2): E109-E118.
 - Heary RF, Ryken TC, Matz PG, et al.; Joint Section on Disorders of the Spine and Peripheral Nerves of the American Association of Neurological Surgeons and Congress of Neurological Surgeons. Cervical laminoforaminotomy for the treatment of cervical degenerative radiculopathy. *J Neurosurg Spine*. 2009;11(2):198-202.
 - Holly LT, Matz PG, Anderson PA, et al.; Joint Section on Disorders of the Spine and Peripheral Nerves of the American Association of Neurological Surgeons and Congress of Neurological Surgeons. Clinical prognostic indicators of surgical outcome in cervical spondylotic myelopathy. *J Neurosurg Spine*. 2009;11(2):112-118.
 - Kwon BK, Hilibrand AS, Malloy, K; Savas PE, et al.; A critical Analysis of the Literature Regarding Surgical Approach and Outcome for Adult Low-Grade Isthmic Spondylolisthesis. *J Spinal Disord Tech*. 2005;18(1): S30-40.
 - Matz PG, Anderson PA, Groff MW, et al.; Joint Section on Disorders of the Spine and Peripheral Nerves of the American Association of Neurological Surgeons and Congress of Neurological Surgeons. Cervical laminoplasty for the treatment of cervical degenerative myelopathy. *J Neurosurg Spine*. 2009c;11(2):157-169.
 - Matz PG, Anderson PA, Holly LT, et al.; Joint Section on Disorders of the Spine and Peripheral Nerves of the American Association of Neurological Surgeons and Congress of Neurological Surgeons. The natural history of cervical spondylotic myelopathy. *J Neurosurg Spine*. 2009d;11(2):104-111.
 - Matz PG, Holly LT, Groff MW, et al.; Joint Section on Disorders of the Spine and Peripheral Nerves of the American Association of Neurological Surgeons and Congress of Neurological
 - Surgeons. Indications for anterior cervical decompression for the treatment of cervical degenerative radiculopathy. *J Neurosurg Spine*. 2009a;11(2):174-182.
 - Matz PG, Holly LT, Mummaneni PV, et al.; Joint Section on Disorders of the Spine and Peripheral Nerves of the American Association of Neurological Surgeons and Congress of Neurological Surgeons. Anterior cervical surgery for the treatment of cervical degenerative myelopathy. *J Neurosurg Spine*. 2009b;11(2):170-173.
 - Matz PG, Meagher RJ, Lamer T, et al.; *Diagnosis and Treatment of Degenerative Lumbar Spondylolisthesis 2nd Edition*. North American Spine Society. 2014. 1-121.
 - Matz PG, Ryken TC, Groff MW, et al.; Joint Section on Disorders of the Spine and Peripheral Nerves of the American Association of Neurological Surgeons and Congress of Neurological Surgeons. Techniques for anterior cervical decompression for radiculopathy. *J Neurosurg Spine*. 2009e;11(2):183-197.
 - Nikolaidis I, Fouyas IP, Sandercock PA, Statham PF. Surgery for cervical radiculopathy or myelopathy. *Cochrane Database Syst Rev*. 2010;(1):CD001466.
 - Patel RA, Wilson FR, Patel PA, Palmer RM., The effect of smoking on bone healing, A systematic Review. *Bone Joint Res*. 2013;2(6):102-11.
 - Ryken TC, Heary RF, Matz PG, et al.; Joint Section on Disorders of the Spine and Peripheral Nerves of the American Association of Neurological Surgeons and Congress of Neurological Surgeons. Cervical laminectomy for the treatment of cervical degenerative myelopathy. *J Neurosurg Spine*. 2009;11(2):142-149.
 - Tetreault LA, Karpova A, Fehlings MG. Predictors of outcome in patients with degenerative cervical spondylotic myelopathy undergoing surgical: results of a systematic review. *Eur Spine* 2013. Epub ahead of print. February 6, 2013.
 - van Middelkoop M, Rubinstein SM, Ostelo R, et al. No additional value of fusion techniques on anterior discectomy for neck pain: a systematic review. *Pain*. 2012;153(11):2167-2173.
 - Wang SJ, Jiang SD, Jiang LS, Dai LY. Axial pain after posterior cervical spine surgery: a systematic review. *Eur Spine J*. 2011;20(2):185-194.
 - Woods BI, Hohl J, Lee J, Donaldson W 3rd, Kang J. Laminoplasty versus laminectomy and fusion for multilevel cervical spondylotic myelopathy. *Clin Orthop Relat Res*. 2011;469(3):688- 695.
 - Yalamanchili PK, Vives MJ, Chaudhary SB. Cervical spondylotic myelopathy: factors in choosing the surgical approach. *Adv Orthop*. 2012; 2012:783762.
 - Zhu B, Xu Y, Liu X, et al. Anterior approach versus posterior approach for the treatment of multilevel cervical spondylotic myelopathy: a systemic review and meta-analysis. *Eur Spine J*. 2013;22(7):1583-1593.
 - <https://academic.oup.com/bja/article/106/1/13/2920153>

Medical Policy

- Detection, evaluation, and management of preoperative anemia in the elective orthopaedic surgical patient: NATA guidelines
- T. Goodnough, A. Maniatis, P. Earnshaw, G. Benoni, P. Beris, E. Bisbe, D. A. Fergusson, H. Gombotz, O. Habler, T. G. Monk: *BJA: British Journal of Anaesthesia*, Volume 106, Issue 1, 1 January 2011, Pages 13–22, <https://doi.org/10.1093/bja/aeq361>

POLICY HISTORY

This policy has been approved by the approval body listed below or has received other necessary approval pursuant to Bright HealthCare’s policies on clinical criteria and policy development.

Approval Body		Utilization Management Committee	
Version History	Approval Date	Effective Date	Action
V1	07-31-2018	08-02-2018	New Policy
V2	12-18-2018	12-18-2018	Updated to reflect new markets
V3	02-01-2020	02-01-2020	Updated to reflect new markets
V4	06-18-2020	06-18-2020	Annual Review, updated template and medical contraindications language
V5	12-20-2020	12-20-2020	Small Group added as applicable product
V6	06-17-2021	06-17-2021	Annual Review
V7	06-16-2022	06-16-2022	Annual Review
V8	10-12-2022	10-12-2022	Codes confirmed, criteria confirmed and reorganized for clarity
V9	10-12-2022	03-01-2023	Adopted by MA UMC