MASSACHUSETTS

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Medical Policy

Artificial Intervertebral Disc: Cervical Spine

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Policy Number: 585

BCBSA Reference Number: 7.01.108 (For Plan internal use only)
LCD/NCD: N/A

Related Policies

Artificial Intervertebral Disc: Lumbar Spine, #592

Policy[1]

Commercial Members: Managed Care (HMO and POS), PPO, and Indemnity Medicare HMO Blue℠ and Medicare PPO Blue℠ Members

Prior Authorization Request Form: Artificial Intervertebral Disc: Cervical Spine
This form must be completed and faxed to: Medical and Surgical: 1-888-282-0780; Medicare Advantage: 1-800-447-2994
Click here for Artificial Intervertebral Disc: Cervical Spine Prior Authorization Request Form, #952

Cervical disc arthroplasty may be considered **MEDICALLY NECESSARY** when **ALL** of the following criteria are met:

1. The device is approved by FDA;
2. The individual is skeletally mature;
3. The individual has intractable cervical radicular pain or myelopathy
   a. which has failed at least 6 weeks of conservative nonoperative treatment, including active pain management program or protocol, under the direction of a physician, with pharmacotherapy that addresses neuropathic pain and other pain sources **AND** physical therapy; **OR**
   b. if the individual has severe or rapidly progressive symptoms of nerve root or spinal cord compression requiring hospitalization or immediate surgical treatment;
4. Degeneration is documented by magnetic resonance imaging (MRI), computed tomography (CT), **OR** myelography;
5. Cervical degenerative disc disease is from C3-C7; **AND**
6. The individual is free from contraindication to cervical disc arthroplasty.

Simultaneous cervical disc arthroplasty at a second contiguous level may be considered **MEDICALLY NECESSARY** if the above criteria are met for each disc level, and the device is FDA-approved for 2 levels (ie, Mobi-C, Prestige LP).

Subsequent cervical disc arthroplasty at an adjacent level may be considered **MEDICALLY NECESSARY** when **ALL** of the following are met:

1. Criteria 1 to 6 above are met; **AND**
2. The device is FDA-approved for 2 levels; **AND**
3. The planned subsequent procedure is at a different cervical level than the initial cervical artificial disc replacement; **AND**
4. Clinical documentation that the initial cervical disc arthroplasty is fully healed.

Cervical disc arthroplasty is considered **INVESTIGATIONAL** for **ALL** other indications, including the following:

- Disc implantation at more than 2 levels
- Combined use of an artificial cervical disc and fusion
- Prior surgery at the treated level
- Previous fusion at another cervical level
- Translational instability
- Anatomical deformity (eg, ankylosing spondylitis)
- Rheumatoid arthritis or other autoimmune disease
- Presence of facet arthritis
- Active infection,
- Metabolic bone disease (eg, osteoporosis, osteopenia, osteomalacia)
- Neck or arm pain of unknown etiology
- Absence of neck and/or arm pain
- Progressive neurological deficit or deterioration
- Paget's disease, osteomalacia or any other metabolic bone disease
- Malignancy.
- There is radiological evidence of **ANY** of the following:
    - clinically significant cervical instability, such as kyphotic deformity or spondylolisthesis (e.g., > 3.5 mm subluxation or > 11 degrees angulation)
    - significant cervical anatomical deformity or compromised vertebral bodies at the index level (e.g., ankylosing spondylitis, rheumatoid arthritis, or compromise due to current or past trauma)
    - spinal metastases.
- Non-FDA–approved cervical disc prosthesis.

Prior Authorization Information

Inpatient

- For services described in this policy, precertification/preauthorization **IS REQUIRED** for all products if the procedure is performed **inpatient**.

Outpatient

- For services described in this policy, see below for products where prior authorization **might be required** if the procedure is performed **outpatient**.

	Outpatient
Commercial Managed Care (HMO and POS)	Prior authorization is **required**.*
Commercial PPO	Prior authorization is **required**.*
Medicare HMO Blue℠	Prior authorization is **required**.*
Medicare PPO Blue℠	Prior authorization is **required**.*

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CPT Codes / HCPCS Codes / ICD Codes

Inclusion or exclusion of a code does not constitute or imply member coverage or provider reimbursement. Please refer to the member's contract benefits in effect at the time of service to determine coverage or non-coverage as it applies to an individual member.

Providers should report all services using the most up-to-date industry-standard procedure, revenue, and diagnosis codes, including modifiers where applicable.

The following codes are included below for informational purposes only; this is not an all-inclusive list.

The above medical necessity criteria MUST be met for the following codes to be covered for Commercial Members: Managed Care (HMO and POS), PPO, Indemnity, Medicare HMO Blue and Medicare PPO Blue:

CPT Codes

CPT codes:	Code Description
22856	Total disc arthroplasty (artificial disc), anterior approach, including discectomy with end plate preparation (includes osteophytectomy 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 osteophytectomy for nerve root or spinal cord decompression and microdissection); second level, cervical (List separately in addition to code for primary procedure)

ICD-10 Procedure Codes

ICD-10 PCS-procedure codes:	Code Description
0RR30JZ	Replacement of Cervical Vertebral Disc with Synthetic Substitute, Open Approach

The following CPT codes are considered investigational for Commercial Members: Managed Care (HMO and POS), PPO, Indemnity, Medicare HMO Blue and Medicare PPO Blue:

CPT Codes

CPT codes:	Code Description
22861	Revision including replacement of total disc arthroplasty (artificial disc), anterior approach, single interspace; cervical
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)

Description

Cervical Degenerative Disc Disease
Cervical degenerative disc disease is a manifestation of spinal spondylosis that causes deterioration of the intervertebral discs of the cervical spine. Symptoms of cervical degenerative disc disease include arm pain, weakness, and paresthesias associated with cervical radiculopathy. Disc herniation, osteophytes, kyphosis, or instability that compress the spinal cord can result in myelopathy, which is manifested by

subtle changes in gait or balance, and, in severe cases, leads to weakness in the arms or legs and numbness of the arms or hands. The prevalence of degenerative disc disease secondary to cervical spondylosis increases with age. An estimated 60% of individuals older than 40 years have radiographic evidence of cervical degenerative disc disease. By age 65, 95% of men and 70% of women have at least 1 degenerative change evident at the radiographic examination. It is estimated that approximately 5 million adults in the United States are disabled to an extent by spine-related disorders, although only a small fraction of those are clear candidates for spinal surgery.

Treatment

Anterior cervical discectomy and fusion has historically been considered the definitive surgical treatment for symptomatic degenerative disc disease of the cervical spine. The goals of anterior cervical discectomy and fusion are to relieve pressure on the spinal nerves (decompression) and to restore spinal column alignment and stability. Resolution of pain and neurologic symptoms may be expected in 80% to 100% of anterior cervical discectomy and fusion individuals. Anterior cervical discectomy and fusion involves an anterolateral surgical approach, decompression of the affected spinal level, discectomy, and placement of a PEEK (polyetheretherketone) or titanium interbody cage plus autograft or allograft bone in the prepared intervertebral space to stimulate healing and eventual fusion between the vertebral endplates. A metal anterior cervical plate is attached to the adjoining vertebral bodies to stabilize the fusion site, maintain neck lordosis, and reduce the need for prolonged postoperative brace application that is needed following anterior cervical discectomy and fusion without an anterior plate. Although there may be slight differences between autograft and allograft sources in the postoperative rate of union, clinical studies have demonstrated similar rates of postoperative fusion (90%-100%) and satisfactory outcomes using either bone source. Studies have suggested that altered adjacent-segment kinematics following fusion may lead to adjacent-level degenerative disc disease and need for secondary surgery.

Cervical disc arthroplasty is proposed as an alternative to anterior cervical discectomy and fusion for individuals with symptomatic cervical degenerative disc disease. In cervical disc arthroplasty, an artificial disc device is secured in the prepared intervertebral space rather than an interbody cage and/or bone. An anterior plate is not used to stabilize the adjacent vertebrae, and postsurgical external orthosis is usually not required. The cervical disc arthroplasty was designed to maintain anatomic disc space height, normal segmental lordosis, and physiological motion patterns at the index and adjacent cervical levels. The potential to reduce the risk of adjacent-level degenerative disc disease above or below a fusion site has been the major reason driving device development and use. Disc arthroplasty and anterior cervical discectomy and fusion have very similar surgical indications, primarily unremitting pain due to radiculopathy or myelopathy, weakness in the extremities, or paresthesia. However, the chief complaint in cervical disc arthroplasty candidates should be radicular or myelopathic symptoms in the absence of significant spondylosis or spondylolisthesis.

Summary

Several prosthetic devices are currently available for cervical disc arthroplasty. Cervical disc arthroplasty is proposed as an alternative to anterior cervical discectomy and fusion for individuals with symptomatic cervical degenerative disc disease.

For individuals who have cervical radicular pain or myelopathy who receive single-level cervical disc arthroplasty, the evidence includes randomized controlled trials (RCTs) and meta-analyses of randomized controlled trials. Relevant outcomes are symptoms, morbid events, functional outcomes, quality of life, and treatment-related morbidity. At 2-year follow-up, trials of all artificial cervical discs met noninferiority criteria compared to anterior cervical discectomy and fusion. Mid-term outcomes have been reported on five devices (Prestige ST, ProDisc-C, Bryan, Mobi-C, PCM [Porous Coated Motion]). At 4 to 5 years, the trial results have been consistent with the continued noninferiority of cervical disc arthroplasty for clinical outcomes and lower cumulative reoperation rates. Seven-year follow-up of the Prestige and ProDisc-C pivotal trials continue to show lower secondary surgery rates, although this is not a consistent finding in other reports. Serious adverse events appear to be uncommon. Heterotopic ossification can occur in a substantial proportion of spinal segments with artificial intervertebral discs but does not appear to lead to a decline in clinical outcomes. The evidence to date shows outcomes that are at least as good as the

standard treatment of anterior cervical discectomy and fusion. There have been no safety signals with discs approved by the U.S. Food and Drug Administration (FDA) for single-level cervical disc arthroplasty. The evidence is sufficient to determine that the technology results in a meaningful improvement in the net health outcome.

For individuals who have cervical radicular pain or myelopathy who receive 2-level cervical disc arthroplasty of the cervical spine, the evidence includes RCTs. The relevant outcomes are symptoms, morbid events, functional outcomes, quality of life, and treatment-related morbidity. FDA approval for the Prestige LP™ was based on superiority to 2-level anterior cervical discectomy and fusion in overall success at 2 years. The increase in overall success rates at 2 years has been maintained for those individuals who have reached the 10-year follow-up. At 2 and 4 year follow-ups, the first artificial cervical disc approved for 2 levels (Mobi-C) was found to be superior to anterior cervical discectomy and fusion for Neck Disability Index scores, Neck Disability Index success rates, reoperation rates, and overall success composite outcome. At 5 years, trial results were consistent with the continued superiority of 2-level cervical disc arthroplasty for clinical outcomes and lower cumulative reoperation rates. Adjacent-segment degeneration with Mobi-C was found in a significantly lower percentage of individuals compared with 2-level anterior cervical discectomy and fusion individuals. Based on this evidence, it can be concluded that 2 level cervical disc arthroplasty with either of these FDA approved discs is at least as beneficial as the established alternative. The evidence is sufficient to determine that the technology results in a meaningful improvement in the net health outcome.

Policy History

Date	Action
6/2022	Annual policy review. Description, summary, and references updated. Policy statements unchanged.
6/2022	Prior authorization information clarified for PPO plans. Effective 6/1/2022.
5/2021	Annual policy review. New references added.
6/2020	Annual policy review. Terminology clarified from artificial intervertebral disc arthroplasty of the cervical spine to cervical disc arthroplasty.
1/2020	Clarified coding information.
5/2019	Annual policy review. New references added.
8/2018	Outpatient prior authorization is required. Effective 8/1/2018.
5/2018	Clarified coding information
7/2017	Clarified coding information.
5/2017	New references added from Annual policy review.
2/2017	Annual policy review. Considered medically necessary for 2-level cervical disc replacement with a device that is FDA-approved for 2-levels (ie, Mobi-C, Prestige LP). Effective 2/1/2017.
12/2015	Annual policy review. New medically necessary and investigational indications described. Effective 12/1/2015.
1/2015	Clarified coding information.
8/2014	Coding information clarified.
11/2013	Medically necessary indications described. Effective 11/1/2013.
11/2011-4/2012	Medical policy ICD 10 remediation: Formatting, editing and coding updates. No changes to policy statements.
1/2011	Updated - Medical Policy Group – Neurology and Neurosurgery. No changes to policy statements.
10/20/2010	Medical Policy 585 effective 10/20/2010.

Information Pertaining to All Blue Cross Blue Shield Medical Policies

Click on any of the following terms to access the relevant information:
Medical Policy Terms of Use
Managed Care Guidelines
Indemnity/PPO Guidelines

Clinical Exception Process
Medical Technology Assessment Guidelines

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Endnotes

[1] Based on expert opinion