Cohere Medicare Advantage Policy - Cervical Spinal Fusion

Clinical Guidelines for Medical Necessity Review

Version: 3.1
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Important Notices

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Guideline Information:

Specialty Area: Disorders of the Musculoskeletal System
Guideline Name: Cohere Medicare Advantage Policy - Cervical Spinal Fusion
Type: [**X**] Adult (18+ yo) | [**X**] Pediatric (0-17 yo)

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Medical Necessity Criteria

Service: Cervical Spinal Fusion

Benefit Category

Not applicable.

Please Note: This may not be an exhaustive list of all applicable Medicare benefit categories for this item or service.

Related CMS Documents

Please refer to the CMS Medicare Coverage Database for the most current applicable CMS National Coverage.[1-8]

- Local Coverage Determination (LCD). Cervical fusion (L39741)
- Local Coverage Determination (LCD). Cervical fusion (L39758)
- Local Coverage Determination (LCD). Cervical fusion (L39762)
- Local Coverage Determination (LCD). Cervical fusion (L39770)
- Local Coverage Determination (LCD). Cervical fusion (L39773)
- Local Coverage Determination (LCD). Cervical fusion (L39788)
- Local Coverage Determination (LCD). Cervical fusion (L39793)
- Local Coverage Determination (LCD). Cervical fusion (L39799)
- Billing and Coding: Cervical fusion (A59608)
- Billing and Coding: Cervical fusion (A59624)
- Billing and Coding: Cervical fusion (A59645)
- Billing and Coding: Cervical fusion (A59632)
- Billing and Coding: Cervical fusion (A59634)
- Billing and Coding: Cervical fusion (A59664)
- Billing and Coding: Cervical fusion (A59668)
- Billing and Coding: Cervical fusion (A59674)
- Billing and Coding: Epidural steroid injections for pain management (A56651)
- Billing and Coding: Epidural steroid injections for pain management (A56681)

Recommended Clinical Approach

Cervical spinal fusion (arthrodesis) may be necessary for conditions such as fracture or dislocation, spinal deformities or stenosis, infection, tumors, and degenerative changes. Fusion can be achieved via an anterior, posterior, or combined anterior and posterior approach and may provide more rapid relief than non-surgical treatment options, preventing further spinal cord dysfunction and neurological deficits. Advanced imaging is recommended prior to the surgical intervention.[9,10]

Evaluation of Clinical Benefits and Potential Harms

Cohere Health uses the criteria below to ensure consistency in reviewing the conditions to be met for coverage of cervical spinal fusion. This process helps to prevent both incorrect denials and inappropriate approvals of medically necessary services. Specifically, limiting incorrect approvals reduces the risks associated with unnecessary procedures, such as complications from surgery, infections, and prolonged recovery times.

The potential clinical harms of using these criteria may include:

- Inadequate management of cervical spinal conditions can lead to the progression of degenerative joint disease, worsening of pain, or the progression of cervical myelopathy with permanent nerve injury and reduced mobility. For patients being treated conservatively for with cervical stenosis, minor trauma with neck hyperextension can worsen or cause myelopathic symptoms.[11] Progressive myelopathic patients who are denied surgery can have permanent neurologic deficits.
- While uncommon, the risks associated with surgical fusion procedures include infection, bleeding requiring transfusion, injury to neurovascular structures, the inherent risks of anesthesia, and the need for repeated or additional procedures due to adjacent segment disease, hardware failure, pseudoarthrosis, or infected hardware requiring removal and revision. Other risks may include permanent neurologic compromise, osteomyelitis, discitis, meningitis, gait disturbance, quadriparesis, bowel or bladder dysfunction, C5 palsy, injury to the vertebral and/or carotid arteries resulting in stroke, dislodgement of bone grafts resulting in airway compromise, and adjacent segment disease.[11,12] Bydon et al. report

reoperation rates for cervical spine fusions as 9.9% at 2.4 years. However, if patients had follow-up periods of longer than 2 years, the reoperation rate increased to 18.3%.[13]

- Smoking is a known risk factor for increased surgical compilations. Nunna et al. evaluated 17 studies representing a combined cohort of 37,897 patients and found that smoking was associated with one or more major adverse events in ≤2 level fusions.[14] Berman et al. identified that smoking significantly increases the risk of pseudoarthrosis for patients undergoing both lumbar and cervical fusions. Other perioperative complications such as infection, adjacent segment disease, and dysphagia are also increased.[15]
- Adverse effects from delayed or denied treatment can worsen patient outcomes, such as increased risk of chronic pain and disability.
- Increased healthcare costs and complications from the inappropriate use of emergency services and additional treatments.

The clinical benefits of using these criteria include:

- Degenerative cervical stenosis is a leading cause of cervical myelopathy.[11] This can result in chronic spinal cord compression and neurologic disability. Patient outcomes can be improved by ensuring timely and appropriate access to cervical spinal fusion for the management of various spinal conditions. Butterman et al. found patient-reported success rates for cervical fusion between 85-95%.[16]
- Reduction in complications and adverse effects from unnecessary procedures.
- Enhanced overall patient satisfaction and healthcare experience.

This policy includes provisions for expedited reviews and flexibility in urgent cases to mitigate risks of delayed access. Evidence-based criteria are employed to prevent inappropriate denials, ensuring that patients receive medically necessary care. The criteria aim to balance the need for effective treatment with the minimization of potential harms, providing numerous clinical benefits and helping avoid unnecessary complications from inappropriate care.

In addition, the use of these criteria is likely to decrease inappropriate denials by creating a consistent set of review criteria, thereby supporting optimal patient outcomes and efficient healthcare utilization.

Medical Necessity Criteria

Indications

Cervical spinal fusion is considered appropriate if **ALL** of the following are **TRUE**:

- Failure of conservative management (e.g., rest, analgesics, physical therapy, oral or injectable corticosteroids) must be documented for a period of greater than 3 months. Documentation should include detailed evidence of the measures taken, rather than solely a physician's statement; **AND**
- **ANY** of the following:
  - Current nicotine user with no product use for 6 weeks; and **ANY** of the following:
    - Negative urine (cotinine) lab test within 30 days; **OR**
    - Surgery is urgently required due to documented reason; **OR**
  - No history of nicotine product use within the last 12 months; **OR**
  - No lifetime history of nicotine product use[17]; **AND**
- **ANY** of the following is **TRUE**:
  - The procedure is for the decompression of symptomatic cervical nerve root impingement or central stenosis and **ANY** of the following is **TRUE**[1-8]:
    - Concomitant myelopathy or myeloradiculopathy and **ANY** of the following[18]:
      - Cervical myelopathy characterized by objective weakness and difficulty walking or an inability to walk; **OR**
      - Progression of neurological deficits during the trial of conservative treatment; **OR**
    - Isolated radiculopathy and **ANY** of the following:
      - Presenting with progressive motor weakness; **OR**
      - Significant motor weakness interfering with activities of daily living (ADLs); **OR**
      - Severe radicular pain defined as pain limiting the ability to perform ADLs and greater than or equal to 7/10 on visual analog scale (VAS) or equivalent scale and associated with confirmatory imaging (computed tomography, magnetic resonance imaging) and clinical-radiological correlation[20]; **OR**
  - **ALL** of the following are **TRUE**:

- Persistent or recurrent moderate or severe arm pain (4 or more on the visual analog scale or equivalent) present for a minimum of 12 weeks within the current episode of arm pain with documented failure to respond to multimodal conservative management[1]; **AND**
- Nerve compression negatively impacts ADLs; **AND**
- All other potential sources of pain/neurological deficit have been excluded; **AND**
- Imaging (MRI or CT) including radiologic report with evidence of central, lateral recess or foraminal stenosis at the level corresponding with clinical myotome signs or symptoms and **ANY** of the following:
  - Cervical degenerative disc disease as indicated by the presence of **ANY** of the following findings:
    - Herniated nucleus pulposus; **OR**
    - Narrowing of the intervertebral disc; **OR**
    - Disc osteophytes; **OR**
    - Facet hypertrophy; **OR**
    - Synovial cysts; **OR**
  - Tumors (primary or metastatic); **OR**
  - Post-infection radiographic findings; **OR**
  - Spinal instability as defined by subluxation or translation more than 3.5 mm on static lateral views or dynamic radiographs or sagittal plane angulation of more than 11 degrees between adjacent segments[1,20]; **OR**

- The procedure is for the decompression of symptomatic cervical canal stenosis and **ANY** of the following is **TRUE**:
  - Persistent or recurrent moderate or severe arm pain (4 or more on the visual analog scale or equivalent) present for a minimum of 12 weeks within the episode of arm pain with documented failure to respond to multimodal conservative management (as tolerated) in the absence of exceptional circumstances (below); **OR**
  - Nerve compression negatively impacts ADLs; **OR**
  - **ALL** of the following are **TRUE**:
    - Spastic gait, loss of manual dexterity, problems with sphincter control; **AND**
    - All other potential sources of pain/neurological deficit have been excluded; **AND**

- Imaging (MRI or CT) including radiologic report with evidence of central stenosis at the level corresponding with clinical signs or symptoms and including **ANY** of the following:
    - Cervical degenerative disc disease as indicated by the presence **ANY** of the following findings:
        - Herniated nucleus pulposus; **OR**
        - Narrowing of the intervertebral disc; **OR**
        - Disc osteophytes; **OR**
        - Facet hypertrophy; **OR**
        - Synovial cysts; **OR**
    - Congenital short pedicles; **OR**
    - Tumors (primary or metastatic); **OR**
    - Post-infection radiographic findings; **OR**
    - Ossification of the posterior longitudinal ligament; **OR**
    - Spinal instability defined by subluxation or translation more than 3.5 mm on static lateral views or dynamic radiographs or sagittal plane angulation of more than 11 degrees between adjacent segments[1,20]; **OR**
    - Cord compression with or without increased cord signal; **OR**
- The procedure is for the decompression or stabilization of the cervical spine and **ANY** of the following is **TRUE**:
    - The patient has traumatic injuries (fractures, dislocations, facture-dislocations, traumatic ligamentous disruption) and **ANY** of the following:
        - Fractures or dislocations that are likely to result in spinal instability without neurological defects; **OR**
        - Fractures or dislocations associated with neurological defects at the affected level; **OR**
        - Instability is present; **OR**
    - Tumors involving the spine or spinal canal and **ANY** of the following is **TRUE**[21]:
        - Malignant or benign tumors have caused instability or neurologic deficit where treatment of the tumor will likely require stabilization of the spine[22]; **OR**
        - Expected treatment of the tumor will likely cause spinal instability or neurologic deficits[21]; **OR**
        - Instability is present; **OR**

- Imaging or other studies (MRI, biopsy, bone aspirate) demonstrate infection involving the spine in the form of discitis, osteomyelitis, or epidural abscess and **ANY** of the following[21]:
  - Imaging evidence of vertebral body destruction; **OR**
  - Documentation that spinal debridement will cause vertebral instability[23,24]; **OR**
  - Instability is present; **OR**
- Deformities that include the cervical spine that include **ANY** of the following[21]:
  - Cervical kyphosis associated with cord compression or atlantoaxial (C1-C2) subluxation or basilar invagination of the odontoid process into the foramen magnum; **OR**
  - Subaxial (C2-T1) instability kyphosis, head drop syndrome, post-laminectomy deformity; **OR**
  - Symptomatic pseudarthrosis (non-union of prior fusion) with radiological report (e.g., CT or MRI) documenting non-union of prior fusion (lack of bridging bone or abnormal motion at fused segment) after 12 months since fusion surgery or with radiographic evidence of hardware failure (fracture or displacement); **OR**
  - Spinal instability after laminectomy; **OR**
  - Rheumatoid arthritis with associated instability; **OR**
  - Cervical degenerative spondylolisthesis with spinal instability (anterolisthesis/posterolisthesis) and substantial functional limitation is present such as severe neck pain, difficulty ambulating, decreased ability to perform ADLs or ability to maintain forward gaze; **OR**
  - Progression of deformity.

Non-Indications

Cervical spinal fusion is not considered appropriate if **ANY** of the following is **TRUE**:

- Isolated chronic axial cervical pain[1,18]; **OR**
- Asymptomatic myelopathy[1]; **OR**
- Loss of bladder or bowel function due to cervical canal cord compression.[1]

Level of Care Criteria

Inpatient or Outpatient

Procedure Codes (CPT/HCPCS)

CPT/HCPCS Code	Code Description
20999	Unlisted procedure, musculoskeletal system, general
22532	Arthrodesis, lateral extracavitary technique, including minimal discectomy to prepare interspace (other than for decompression); thoracic
22548	Arthrodesis, anterior transoral or extraoral technique, clivus-C1-C2 (atlas-axis), with or without excision of odontoid process
22551	Arthrodesis, anterior interbody, including disc space preparation, discectomy, osteophytectomy and decompression of spinal cord and/or nerve roots; cervical below C2
22552	Arthrodesis, anterior interbody, including disc space preparation, discectomy, osteophytectomy and decompression of spinal cord and/or nerve roots; cervical below C2, each additional interspace (List separately in addition to code for primary procedure)
22554	Arthrodesis, anterior interbody technique, including minimal discectomy to prepare interspace (other than for decompression); cervical below C2
22556	Arthrodesis, anterior interbody technique, including minimal discectomy to prepare interspace (other than for decompression); thoracic
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)
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
22610	Arthrodesis, posterior or posterolateral technique, single interspace; thoracic (with lateral transverse technique, when performed)
22614	Arthrodesis, posterior or posterolateral technique, single interspace; each additional interspace (List separately in addition to code for primary procedure)
22634	Arthrodesis, combined posterior or posterolateral technique with posterior interbody technique including laminectomy and/or discectomy sufficient to prepare interspace (other than for decompression), single interspace, lumbar; each additional interspace (List separately in addition to code for primary procedure)
22800	Arthrodesis, posterior, for spinal deformity, with or without cast; up to 6 vertebral segments
22802	Arthrodesis, posterior, for spinal deformity, with or without cast; 7 to 12 vertebral segments
22804	Arthrodesis, posterior, for spinal deformity, with or without cast; 13 or more vertebral segments
22808	Arthrodesis, anterior, for spinal deformity, with or without cast; 2 to 3 vertebral segments
22810	Arthrodesis, anterior, for spinal deformity, with or without cast; 4 to 7 vertebral segments
22812	Arthrodesis, anterior, for spinal deformity, with or without cast; 8 or more vertebral segments
22830	Exploration of spinal fusion
22840	Posterior non-segmental instrumentation (eg, Harrington rod technique, pedicle fixation across 1 interspace, atlantoaxial transarticular screw fixation, sublaminar wiring at C1, facet screw fixation) (List

	separately in addition to code for primary procedure)
22841	Internal spinal fixation by wiring of spinous processes (List separately in addition to code for primary procedure)
22842	Posterior segmental instrumentation (eg, pedicle fixation, dual rods with multiple hooks and sublaminar wires); 3 to 6 vertebral segments (List separately in addition to code for primary procedure)
22845	Anterior instrumentation; 2 to 3 vertebral segments (List separately in addition to code for primary procedure)
22846	Anterior instrumentation; 4 to 7 vertebral segments (List separately in addition to code for primary procedure)
22847	Anterior instrumentation; 8 or more vertebral segments (List separately in addition to code for primary procedure)
22849	Reinsertion of spinal fixation device
22850	Arthrodesis, lateral extracavitary technique, including minimal discectomy to prepare interspace (other than for decompression); thoracic
22853	Insertion of interbody biomechanical device(s) (eg, synthetic cage, mesh) with integral anterior instrumentation for device anchoring (eg, screws, flanges), when performed, to intervertebral disc space in conjunction with interbody arthrodesis, each interspace (List separately in addition to code for primary procedure)
22854	Insertion of intervertebral biomechanical device(s) (eg, synthetic cage, mesh) with integral anterior instrumentation for device anchoring (eg, screws, flanges), when performed, to vertebral corpectomy(ies) (vertebral body resection, partial or complete) defect, in conjunction with interbody arthrodesis, each contiguous defect (List separately

	in addition to code for primary procedure)
22859	Insertion of intervertebral biomechanical device(s) (eg, synthetic cage, mesh, methylmethacrylate) to intervertebral disc space or vertebral body defect without interbody arthrodesis, each contiguous defect (List separately in addition to code for primary procedure)
22899	Unlisted procedure, spine

Disclaimer: S Codes are non-covered per CMS guidelines due to their experimental or investigational nature.

Medical Evidence

Reitman et al. (2021), using the RAND/UCLA appropriateness method, developed recommendations for the use of cervical fusion for the treatment of degenerative conditions of the cervical spine. The criteria, produced and vetted by trained thought leaders in relevant fields, were used to determine the final ratings for the appropriateness (recommendations were deemed appropriate, uncertain, or rarely appropriate) of cervical fusion in 263 clinical scenarios. Of the 263 scenarios, 47 were rated as rarely appropriate, 66 as uncertain, and the remaining 150 as appropriate. The authors found symptom type to be most strongly correlated with the final appropriateness rating–myelopathy or radiculopathy were most strongly associated with an "appropriate" rating, while axial pain without stenosis was most strongly associated with a "rarely appropriate" rating.[18]

Gutman et al. (2018) conducted a meta-analysis of randomized controlled trials to determine whether anterior cervical discectomy and fusion (ACDF), cervical disc replacement (CDR), or minimally invasive posterior cervical foraminotomy (MI-PCF) provided the best outcomes for patients with symptomatic cervical radiculopathy. The analysis found insufficient evidence to determine which technique provided the longest-lasting symptom relief. However, the three surgical procedures were effective in treating cervical radicular symptoms, with MI-PCF having the lowest rate of adverse events and CDR requiring the lowest rate of secondary procedures.[25]

Elsabeh and Abrahams (2024) developed a set of best practice guidelines for the postoperative spine care of patients undergoing cervical and lumbar fusion. The authors compared 1010 pre-best practices protocol retrospective controls (BPP) with 750 patients enrolled in BPP. Compared to their pre-BPP counterparts, the BPP group experienced 52% fewer adverse outcomes–a reduction by 45% and 62% for lumbar fusion and cervical fusion, respectively. The authors conclude that the standardization of postoperative spine care is necessary to create uniformly accepted models for value-based care in spine surgery.[2]

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2. Centers for Medicare & Medicaid Services. Local Coverage Determination (LCD) (L39758). Cervical fusion. Revision Effective Date January 24, 2025. https://www.cms.gov/medicare-coverage-database/view/lcd.aspx?lcdid=39758

3. Centers for Medicare & Medicaid Services. Local Coverage Determination (LCD) (L39762). Cervical fusion. Revision Effective Date January 24, 2025. https://www.cms.gov/medicare-coverage-database/view/lcd.aspx?lcdid=39741&ver=8&

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Clinical Guideline Revision History/Information

Original Date: May 24, 2024		
Review History		
Version 2	06/10/2024	422.101 Disclaimer added
Version 3	03/27/2025	Annual review. Replaced previous Cervical Spinal Fusion MA policy covered indication section with the indications and non-indications from L39741 Cervical Fusion, which are identical to those in L39758, L39762, L39770, L39773, L39788, L39793, and L39799. Included the following nicotine language in the indications: ANY of the following: "Current nicotine user with no product use for 6 weeks; and ANY of the following: Negative urine (cotinine) lab test within 30 days; OR Surgery is urgently required due to documented reason; OR No history of nicotine product use within the last 12 months; OR No lifetime history of nicotine product use." Added the qualifier "including radiologic report" to the following indication: Imaging (MRI or CT) including radiologic report with evidence of central stenosis at the level corresponding with clinical signs or symptoms Added additional references (#17-25)

		Added additional citations to references with values (mm, degrees, etc.) Replaced Medical Evidence section with updated studies.
Version 3.1	06/02/2025	Per CMS update for L39788, link to LCD and reference updated. No change to criteria.