Regence

NOTE: This policy is not effective until August 1, 2026.

Medical Policy Manual Surgery, Policy No. 244

Cervical Spinal Fusion

Effective: August 1, 2026

Next Review: March 2027
Last Review: March 2026

IMPORTANT REMINDER

Medical Policies are developed to provide guidance for members and providers regarding coverage in accordance with contract terms. Benefit determinations are based in all cases on the applicable contract language. To the extent there may be any conflict between the Medical Policy and contract language, the contract language takes precedence.

PLEASE NOTE: Contracts exclude from coverage, among other things, services or procedures that are considered investigational or cosmetic. Providers may bill members for services or procedures that are considered investigational or cosmetic. Providers are encouraged to inform members before rendering such services that the members are likely to be financially responsible for the cost of these services.

DESCRIPTION

Cervical spinal fusion joins two or more vertebrae into a solid bony structure to provide intervertebral immobilization as a treatment of certain causes of pain.

MEDICAL POLICY CRITERIA

Notes: Clinical documentation to support criteria is required (See Required Documentation).

Medically Necessary

I. Posterior cervical fusion may be considered **medically necessary** when all of the following Criteria are met:

A. Plain x-rays demonstrate instability with either of the following findings:

1. Subluxation or translation of more than 3.5mm on static lateral views; or
2. Sagittal plane angulation of more than 11 degrees between adjacent spinal segments on statis or dynamic flexion/extension lateral plain x-rays; and

B. For treatment of one or more of the following indications;

1. Symptomatic cervical spondylosis with instability when all of the following are met:
    a. Plain x-rays of the cervical spine including flexion/extension lateral views have been performed and show corresponding pathological anatomy; and
    b. There is clinical documentation that a minimum of six weeks of conservative nonoperative therapy failed to adequately treat the individual's current symptoms including one or more of the following:
        i. Documented progressive motor loss or subjective worsening of symptoms during a course of conservative management when clearly documented in the medical record; or
        ii. All of the following are met:
            a.) Physical therapy or professionally-directed therapeutic independent home exercise program unless contraindication is clearly documented; and
            b.) Two or more of the following treatment modalities have been attempted:
                i.) Prescription anti-inflammatory medications and analgesics, or prescription strength doses of OTC anti-inflammatory medications or analgesics; or
                ii.) Adjunctive medications such as nerve membrane stabilizers or muscle relaxants; or
                iii.) Alternative therapies such as, but not limited to acupuncture, chiropractic manipulation, massage therapy, yoga, meditation; or
                iv.) Injection therapy of epidural or selective nerve block in the area of concern; and
    c. The individual is nicotine-free OR there is clinical documentation that the patient has been abstinent from nicotine use for at least six weeks prior to planned procedure based on attestation or laboratory results (cotinine or nicotine levels); or
2. Clinical conditions with an increased incidence of congenital or acquired cervical spinal instability when all of the following are met:
    a. Documentation of rheumatoid arthritis or a clinical condition with an increased incidence of congenital or acquired cervical spinal instability (e.g., Down syndrome, mucopolysaccharidoses, spondyloepiphyseal dysplasia, pseudoachondroplasia); and
    b. Imaging demonstrating subluxation or spinal cord compression; and
    c. The individual is nicotine-free OR there is clinical documentation that the patient has been abstinent from nicotine use for at least six weeks prior to planned procedure based on attestation or laboratory results (cotinine or nicotine levels); or
3. Concurrent stabilization procedure for either of the following;

a. Concurrent stabilization procedure with corpectomy, laminectomy, or other procedure at the cervicothoracic junction; or

b. Concurrent stabilization procedure with a laminectomy; or

4. Treatment of tumor, cyst, or infection of the cervical spine causing pathologic fracture, cord compression, or instability.

II. Anterior cervical fusion may be considered **medically necessary** when one or more of the following Criteria are met:

A. Treatment of radiculopathy including all of the following;

1. Significant pain and/or functional impairment on a daily basis; and

2. Unremitting radicular pain to shoulder girdle or upper extremity resulting in disability; and

3. Plain x-rays of the cervical spine including flexion/extension lateral views have been performed; and

4. MRI or CT demonstrates neural structure compression at the requested level(s) that is concordant with the individual's symptoms and physical exam findings that is a result of one or more of the following;

a. Herniated disc; or

b. Synovial cyst or arachnoid cyst; or

c. Central, lateral, or foraminal stenosis; or

d. Osteophytes; and

5. Objective physical exam findings including one or more of the following;

a. Dermatomal sensory deficit; or

b. Motor deficit; or

c. Reflex changes; or

d. Shoulder abduction relief sign; or

e. Nerve root tension sign; or

f. Unremitting radicular pain to shoulder girdle or upper extremity without concordant objective physical exam findings; and

6. There is clinical documentation that a minimum of six weeks of conservative nonoperative therapy failed to adequately treat the individual's current symptoms including one or more of the following:

a. Documented progressive motor loss or subjective worsening of symptoms during a course of conservative management when clearly documented in the medical record; or

b. All of the following are met:

i. Physical therapy or professionally-directed therapeutic independent home exercise program unless contraindication is clearly documented; and

ii. Two or more of the following treatment modalities have been attempted:

a.) Prescription anti-inflammatory medications and analgesics, or prescription strength doses of OTC anti-inflammatory medications or analgesics; or

b.) Adjunctive medications such as nerve membrane stabilizers or muscle relaxants; or

c.) Alternative therapies such as, but not limited to acupuncture, chiropractic manipulation, massage therapy, yoga, meditation; or

d.) Injection therapy of epidural or selective nerve block in the area of concern; and

7. The individual is nicotine-free OR there is clinical documentation that the patient has been abstinent from nicotine use for at least six weeks prior to planned procedure based on attestation or laboratory results (cotinine or nicotine levels); or

B. Treatment of myelopathy including all of the following;

1. Subjective symptoms including one or more of the following;
   a. Upper or lower extremity weakness, numbness, or pain; or
   b. Fine motor dysfunction; or
   c. Gait disturbance; or
   d. New-onset bowel or bladder dysfunction; or
   e. Frequent falls; and
2. Objective physical exam findings including one or more of the following;
   a. Grip and release test; or
   b. Ataxic gait; or
   c. Hyperreflexia; or
   d. Hoffmann sign; or
   e. Babinski sign; or
   f. Tandem walking test demonstrating ataxia; or
   g. Inverted brachial radial reflex; or
   h. Increased muscle tone or spasticity; or
   i. Clonus; or
   j. Myelopathic hand; and
3. MRI or CT demonstrates findings concordant with individual's symptoms and physical exam findings that are caused by either of the following;
   a. Cervical spinal cord compression; or

b. Cervical spinal stenosis; or

C. Treatment of tumor, cyst, or infection of the cervical spine causing pathologic fracture, cord compression, or instability.

III. Treatment of symptomatic pseudoarthrosis with anterior or posterior cervical fusion may be considered **medically necessary** when all of the following are met:

A. Previous cervical fusion surgery was performed at least six months ago at the same level; and

B. Clinical documentation demonstrating one or more of the following;

1. Treatment of unremitting neck pain including all of the following;

a. Significant level of pain or functional impairment; and

b. Post-operative physical exam findings concordant with symptoms; and;

c. Post-operative imaging performed no less than six months after the prior fusion demonstrates pseudoarthrosis at the requested level(s); and

d. The individual is nicotine-free OR there is clinical documentation that the patient has been abstinent from nicotine use for at least six weeks prior to planned procedure based on attestation or laboratory results (cotinine or nicotine levels); or

2. Treatment of radiculopathy including all of the following;

a. Significant pain and/or functional impairment on a daily basis; and

b. Unremitting radicular pain to shoulder girdle or upper extremity resulting in disability; and

c. Post-operative imaging performed no less than six months after the prior fusion demonstrates pseudoarthrosis at the requested level(s); and

d. MRI or CT demonstrates neural structure compression at the requested level(s) that is concordant with the individual's symptoms and physical exam findings that is a result of one or more of the following;

i. Herniated disc; or

ii. Synovial cyst or arachnoid cyst; or

iii. Central, lateral, or foraminal stenosis; or

iv. Osteophytes; and

e. Objective physical exam findings including one or more of the following;

i. Dermatomal sensory deficit; or

ii. Motor deficit; or

iii. Reflex changes; or

iv. Shoulder abduction relief sign; or

v. Nerve root tension sign; or

vi. Unremitting radicular pain to shoulder girdle or upper extremity without concordant objective physical exam findings; and

f. The individual is nicotine-free OR there is clinical documentation that the patient has been abstinent from nicotine use for at least six weeks prior to planned procedure based on attestation or laboratory results (cotinine or nicotine levels); or

3. Treatment of myelopathy including all of the following;
   a. Subjective symptoms including one or more of the following;
      i. Upper or lower extremity weakness, numbness, or pain; or
      ii. Fine motor dysfunction; or
      iii. Gait disturbance; or
      iv. New-onset bowel or bladder dysfunction; or
      v. Frequent falls; and
   b. Objective physical exam findings including one or more of the following;
      i. Grip and release test; or
      ii. Ataxic gait; or
      iii. Hyperreflexia; or
      iv. Hoffmann sign; or
      v. Babinski sign; or
      vi. Tandem walking test demonstrating ataxia; or
      vii. Inverted brachial radial reflex; or
      viii. Increased muscle tone or spasticity; or
      ix. Clonus; or
      x. Myelopathic hand; and
   c. Post-operative imaging performed no less than six months after the prior fusion demonstrates pseudoarthrosis at the requested level(s); and
   d. MRI or CT demonstrates findings concordant with individual's symptoms and physical exam findings that are caused by either of the following;
      i. Cervical spinal cord compression; or
      ii. Cervical spinal stenosis.

Not Medically Necessary

IV. Posterior cervical fusion is considered **not medically necessary** when Criterion I is not met or for any other indication.

V. Anterior cervical fusion is considered **not medically necessary** when Criterion II is not met or for any other indication.

VI. Cervical fusion for the treatment of pseudoarthrosis is considered **not medically necessary** when Criterion III is not met or for any other indication.

NOTE: A summary of the supporting rationale for the policy criteria is at the end of the policy.

REQUIRED DOCUMENTATION

It is critical that the documentation listed below is submitted to determine if the policy criteria are met. If any of these items are not submitted, it could impact our review and decision outcome.

- History and physical/chart notes
- Relevant physical exam findings
- Indication for the requested service
- Clinical documentation of conservative, nonoperative therapy as applicable to the policy criteria.
- If associated cognitive, behavioral, or analgesic dependence issues are present, provide psychiatric/behavioral evaluation documenting appropriate management as applicable to the policy criteria.
- Imaging has been performed and clinical documentation of the results is provided.
- If current nicotine user, documented length of abstinence or laboratory results for nicotine or cotinine levels.
- Evaluation and documentation of functional impairment, disability, and/or pain.

CROSS REFERENCES

None

BACKGROUND

There are seven cervical vertebrae, which are stacked vertically and separated by intervertebral discs that function as elastic cushions or shock absorbers. An exception exists between the first and second cervical vertebrae (C1 and C2), where no disc is present. Each disc consists of a soft inner core, called the nucleus, surrounded by a tough outer ring known as the annulus. These discs permit motion between adjacent vertebrae. The interbody space refers to the disc space located between the vertebral body bones. Together, each vertebral segment forms a bony ring, known as the spinal canal, which protects the spinal cord and spinal nerves.

A common cause of neck pain is degenerative disc disease (DDD), a condition in which the cervical discs lose elasticity, leading to settling of the spinal column and abnormal spinal motion. DDD is associated with aging and may contribute to the formation of bone spurs (spondylosis), osteoarthritis, and/or cervical disc herniation. These degenerative changes can result in nerve root compression, also referred to as radiculopathy. Typical symptoms of radiculopathy include neck and arm pain, as well as weakness, tingling, or numbness in the upper extremities. Many symptomatic patients improve with conservative treatments such as nonsteroidal anti-inflammatory drugs, steroids, epidural steroid injections, and physical therapy. When conservative management is unsuccessful, surgical intervention may be considered.

One commonly performed surgical procedure is anterior cervical discectomy with fusion (ACDF), which is conducted under general anesthesia. The procedure is performed through a small incision in the front of the neck, typically along a natural skin crease. Structures located anterior to the spine, including the trachea, esophagus, and major blood vessels, are carefully retracted to provide access to the cervical spine. Once adequate exposure is achieved, the

damaged disc is partially removed using surgical instruments in a process known as a discectomy. A portion of the disc wall is intentionally preserved to help contain the bone graft material. After the disc space is cleared, the surgeon prepares the adjacent bony surfaces for fusion. The vertebrae are gently distracted to create space for the bone graft, restore normal spinal alignment, and enlarge the neural openings to relieve pressure on compressed nerves.

EVIDENCE SUMMARY

Systematic Reviews

Youssef (2019) published a systematic review across 31 studies involving 1,238 patients who underwent posterior cervical fusion.[1] All measured outcomes, including neck pain, arm pain, functional disability, and neurological scores, improved from preoperative to postoperative assessment across all surgical indications and subgroup analyses. Many of these improvements exceeded established minimal clinically important difference thresholds, indicating that the changes were clinically meaningful as well as statistically significant.

The pooled rate of successful fusion was greater than 98%, while the rate of revision surgery was around 1%. The overall rate of complications or adverse events was 9.02%. The most commonly reported complications included axial neck pain, C5 palsy, transient neurological worsening, and wound infection. Overall, the findings demonstrate favorable clinical outcomes, high fusion success, and low revision rates following surgery.

Wang (2018) published a systematic review of 24 studies with 239 individuals who underwent surgical treatment using anterior only, combined anteroposterior, or posterior only approaches.[2] Among patients treated with an anterior only approach, most received instrumentation, with 76.5 percent undergoing anterior plating and 85.3 percent receiving cage or spacer implants. In the combined approach group, 85.1 percent underwent circumferential fixation, while 14.9 percent received anterior debridement with posterior instrumentation. Follow up ranged from six weeks to eleven years, with a mean duration of 31 months.

Fusion outcomes were excellent and clinical outcomes were similarly favorable, with most studies reporting meaningful pain improvement and neurologic recovery. Adverse event rates were low, with hardware failure reported in 4.6 percent of patients and wound complications in 4.0 percent. These findings support surgical intervention with instrumentation as a safe and effective treatment option for patients with cervical spine osteomyelitis.

Wang (2016) published a systematic review of eight studies including a total of 878 patients who underwent anterior cervical fusion.[3] Overall, anterior cervical discectomy and fusion demonstrated superior outcomes compared with anterior cervical corpectomy and fusion in several key measures. At final follow up, ACDF was associated with significantly better C2 to C7 cervical alignment, lower rates of C5 palsy, reduced intraoperative blood loss, higher fusion rates, less graft subsidence, and fewer overall complications. These findings were consistent across studies with low to moderate heterogeneity. In contrast, no significant differences were observed between ACDF and ACCF with respect to length of hospital stay, operative time, neurological recovery as measured by JOA scores, functional outcomes based on NDI scores, preoperative cervical alignment, or rates of dysphagia, hoarseness, infection, cerebrospinal fluid leakage, donor site pain, epidural hematoma, graft dislodgment, or pseudoarthrosis.

Overall, both surgical approaches were associated with good clinical outcomes for the treatment of multilevel cervical spondylotic myelopathy.

Additional systematic reviews were identified that supported the safety and efficacy of both anterior and posterior cervical fusion in certain populations.[4-8] There is enough high quality evidence to demonstrate that cervical fusion can improve health outcomes in certain populations.

PRACTICE GUIDELINE SUMMARY

North American Spine Society (NASS)[9]

NASS has published coverage policy recommendations for cervical fusion, with the most recent update issued in 2023. According to NASS, cervical fusion may be appropriate in the setting of infection, tumor, trauma, deformity, cervical myelopathy, cervical radiculopathy due to degenerative conditions, synovial facet cysts, pseudarthrosis, non-traumatic instability, and atlanto-axial osteoarthritis that has not responded to nonoperative treatment, as detailed in the guideline. Cervical fusion is not recommended for cervical radiculopathy resulting from isolated foraminal stenosis when treated with partial medial facetectomy or foraminotomy.

SUMMARY

Medically Necessary

The current research for cervical spinal fusion has shown improvement in health outcomes resulting in reduced pain and improved function in select individuals. Therefore, cervical spinal fusion is considered medically necessary in individuals who meet the policy criteria.

Not Medically Necessary

In those individuals that don't meet policy criteria, the use of cervical fusion is considered not medically necessary.

REFERENCES

1. Youssef JA, Heiner AD, Montgomery JR, et al. Outcomes of posterior cervical fusion and decompression: a systematic review and meta-analysis. *Spine J.* 2019;19(10):1714-29. PMID: 31075361
2. Wang AJ, Huang KT, Smith TR, et al. Cervical Spine Osteomyelitis: A Systematic Review of Instrumented Fusion in the Modern Era. *World Neurosurg.* 2018;120:e562-e72. PMID: 30165226
3. Wang T, Wang H, Liu S, et al. Anterior cervical discectomy and fusion versus anterior cervical corpectomy and fusion in multilevel cervical spondylotic myelopathy: A meta-analysis. *Medicine (Baltimore).* 2016;95(49):e5437. PMID: 27930523
4. Tavanaei R, Ansari A, Hatami A, et al. Postoperative complications of anterior cervical discectomy and fusion: A comprehensive systematic review and meta-analysis. *N Am Spine Soc J.* 2025;21:100596. PMID: 40145067
5. Salamanna F, Contartese D, Tschon M, et al. Sex and gender determinants following spinal fusion surgery: A systematic review of clinical data. *Front Surg.* 2022;9:983931. PMID: 36325040

6. Meng H, Jin T, Wang J, et al. Comparison of Interbody Fusion Strategies in Anterior Cervical Discectomy and Fusion: A Network Meta-Analysis and Systematic Review. *World Neurosurg.* 2024;190:65-75. PMID: 38942142
7. Awawdeh F, Salam A, Soti V. Efficacy of Anterior Cervical Discectomy and Fusion Versus Cervical Disc Arthroplasty in the Treatment of Cervical Degenerative Disc Disease, Radiculopathy, and Myelopathy: A Systematic Review. *Cureus.* 2024;16(11):e74418. PMID: 39600550
8. Sahai N, Changoor S, Dunn CJ, et al. Minimally Invasive Posterior Cervical Foraminotomy as an Alternative to Anterior Cervical Discectomy and Fusion for Unilateral Cervical Radiculopathy: A Systematic Review and Meta-analysis. *Spine (Phila Pa 1976).* 2019;44(24):1731-39. PMID: 31343619
9. Appropriate Use Criteria for Cervical Fusion: Accessed: 03/15/2026.

CODES

Codes	Number	Description
CPT	20930	Allograft, morselized, or placement of osteopromotive material, for spine surgery only (List separately in addition to code for primary procedure)
	20931	Allograft, structural, for spine surgery only (List separately in addition to code for primary procedure)
	20936	Autograft for spine surgery only (includes harvesting the graft); local (eg, ribs, spinous process, or laminar fragments) obtained from same incision (List separately in addition to code for primary procedure)
	20937	Autograft for spine surgery only (includes harvesting the graft); morselized (through separate skin or fascial incision) (List separately in addition to code for primary procedure)
	20938	Autograft for spine surgery only (includes harvesting the graft); structural, bicortical or tricortical (through separate skin or fascial incision) (List separately in addition to code for primary procedure)
	20939	Bone marrow aspiration for bone grafting, spine surgery only, through separate skin or fascial incision (List separately in addition to code for primary procedure)
	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 separate procedure)
	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)
	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

Codes	Number	Description
	22614	Arthrodesis, posterior or posterolateral technique, single interspace; each additional interspace (List separately in addition to code for primary procedure)
	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)
	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)
	22843	Posterior segmental instrumentation (eg, pedicle fixation, dual rods with multiple hooks and sublaminar wires); 7 to 12 vertebral segments (List separately in addition to code for primary procedure)
	22844	Posterior segmental instrumentation (eg, pedicle fixation, dual rods with multiple hooks and sublaminar wires); 13 or more 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
	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)
HCPCS	None	

Date of Origin: *March 2026*