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CLINICAL APPROPRIATENESS GUIDELINES

MUSCULOSKELETAL PROGRAM

Appropriate Use Criteria: Spine Surgery

Key to Revisions	Indicates
Blue underline	Insertion
~~**Red strikethrough**~~	Deletion
Yellow highlight	Substantive change

~~**EFFECTIVE JANUARY 1, 2022**~~

Proprietary

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Description and Application of the Guidelines

The AIM Clinical Appropriateness Guidelines (hereinafter “the AIM Clinical Appropriateness Guidelines” or the “Guidelines”) are designed to assist providers in making the most appropriate treatment decision for a specific clinical condition for an individual. As used by AIM, the Guidelines establish objective and evidence-based criteria for medical necessity determinations where possible. In the process, multiple functions are accomplished:

- To establish criteria for when services are medically necessary
- To assist the practitioner as an educational tool
- To encourage standardization of medical practice patterns
- To curtail the performance of inappropriate and/or duplicate services
- To advocate for patient safety concerns
- To enhance the quality of health care
- To promote the most efficient and cost-effective use of services

The AIM guideline development process complies with applicable accreditation standards, including the requirement that the Guidelines be developed with involvement from appropriate providers with current clinical expertise relevant to the Guidelines under review and be based on the most up-to-date clinical principles and best practices. Relevant citations are included in the References section attached to each Guideline. AIM reviews all of its Guidelines at least annually.

AIM makes its Guidelines publicly available on its website twenty-four hours a day, seven days a week. Copies of the AIM Clinical Appropriateness Guidelines are also available upon oral or written request. Although the Guidelines are publicly-available, AIM considers the Guidelines to be important, proprietary information of AIM, which cannot be sold, assigned, leased, licensed, reproduced or distributed without the written consent of AIM.

AIM applies objective and evidence-based criteria, and takes individual circumstances and the local delivery system into account when determining the medical appropriateness of health care services. The AIM Guidelines are just guidelines for the provision of specialty health services. These criteria are designed to guide both providers and reviewers to the most appropriate services based on a patient’s unique circumstances. In all cases, clinical judgment consistent with the standards of good medical practice should be used when applying the Guidelines. Guideline determinations are made based on the information provided at the time of the request. It is expected that medical necessity decisions may change as new information is provided or based on unique aspects of the patient’s condition. The treating clinician has final authority and responsibility for treatment decisions regarding the care of the patient and for justifying and demonstrating the existence of medical necessity for the requested service. The Guidelines are not a substitute for the experience and judgment of a physician or other health care professionals. Any clinician seeking to apply or consult the Guidelines is expected to use independent medical judgment in the context of individual clinical circumstances to determine any patient’s care or treatment.

The Guidelines do not address coverage, benefit or other plan specific issues. Applicable federal and state coverage mandates take precedence over these clinical guidelines. If requested by a health plan, AIM will review requests based on health plan medical policy/guidelines in lieu of the AIM Guidelines.

The Guidelines may also be used by the health plan or by AIM for purposes of provider education, or to review the medical necessity of services by any provider who has been notified of the need for medical necessity review, due to billing practices or claims that are not consistent with other providers in terms of frequency or some other manner.

General Clinical Guideline

Clinical Appropriateness Framework

Critical to any finding of clinical appropriateness under the guidelines for a specific diagnostic or therapeutic intervention are the following elements:

- Prior to any intervention, it is essential that the clinician confirm the diagnosis or establish its pretest likelihood based on a complete evaluation of the patient. This includes a history and physical examination and, where applicable, a review of relevant laboratory studies, diagnostic testing, and response to prior therapeutic intervention.
- The anticipated benefit of the recommended intervention should outweigh any potential harms that may result (net benefit).
- Current literature and/or standards of medical practice should support that the recommended intervention offers the greatest net benefit among competing alternatives.
- Based on the clinical evaluation, current literature, and standards of medical practice, there exists a reasonable likelihood that the intervention will change management and/or lead to an improved outcome for the patient.

If these elements are not established with respect to a given request, the determination of appropriateness will most likely require a peer-to-peer conversation to understand the individual and unique facts that would supersede the requirements set forth above. During the peer-to-peer conversation, factors such as patient acuity and setting of service may also be taken into account.

Simultaneous Ordering of Multiple Diagnostic or Therapeutic Interventions

Requests for multiple diagnostic or therapeutic interventions at the same time will often require a peer-to-peer conversation to understand the individual circumstances that support the medical necessity of performing all interventions simultaneously. This is based on the fact that appropriateness of additional intervention is often dependent on the outcome of the initial intervention.

Additionally, either of the following may apply:

- Current literature and/or standards of medical practice support that one of the requested diagnostic or therapeutic interventions is more appropriate in the clinical situation presented; or
- One of the diagnostic or therapeutic interventions requested is more likely to improve patient outcomes based on current literature and/or standards of medical practice.

Repeat Diagnostic Intervention

In general, repeated testing of the same anatomic location for the same indication should be limited to evaluation following an intervention, or when there is a change in clinical status such that additional testing is required to determine next steps in management. At times, it may be necessary to repeat a test using different techniques or protocols to clarify a finding or result of the original study.

Repeated testing for the same indication using the same or similar technology may be subject to additional review or require peer-to-peer conversation in the following scenarios:

- Repeated diagnostic testing at the same facility due to technical issues
- Repeated diagnostic testing requested at a different facility due to provider preference or quality concerns
- Repeated diagnostic testing of the same anatomic area based on persistent symptoms with no clinical change, treatment, or intervention since the previous study
- Repeated diagnostic testing of the same anatomic area by different providers for the same member over a short period of time

Repeat Therapeutic Intervention

In general, repeated therapeutic intervention in the same anatomic area is considered appropriate when the prior intervention proved effective or beneficial and the expected duration of relief has lapsed. A repeat intervention requested prior to the expected duration of relief is not appropriate unless it can be confirmed that the prior intervention was never administered.

Cervical Decompression With or Without Fusion

Description and Scope

Cervical spine surgery is most commonly performed for radiculopathy or cervical myelopathy. The goal of surgery is adequate decompression of the nerve roots and/or spinal cord and stabilization of the spine.

Cervical decompression is performed with or without a fusion procedure and may be broadly divided into anterior, posterior, or combined surgical approach. The choice of procedure depends on many factors including:

- Location of the compression
- Presence of deformity or instability
- Number of levels involved
- Patient age and surgical fitness

Laminoplasty is a related procedure for achieving decompression without the need for fusion, and is most commonly utilized to treat multilevel central stenosis or ossification of the posterior longitudinal ligament (OPLL).

This guideline addresses the following interventions when performed as **elective, non-emergent** procedures and not as part of the care of an acute or traumatic event.

- **Anterior cervical corpectomy and fusion (ACCF)** – for long anterior compression of the spinal cord from spondylosis, large disc extrusions, or ossification of the posterior longitudinal ligament
- **Anterior cervical discectomy/fusion/internal fixation (ACDF)** – decompression of the nerve roots or spinal cord by disc or osteophyte removal, with or without a fusion
- **Posterior cervical foraminotomy** – for nerve root decompression in cases of soft posterolateral disc herniation or bony foraminal stenosis
- **Posterior laminectomy with or without fusion** – for congenital stenosis, multilevel central stenosis from spondylosis, or multiple discontinuous levels where fusion is recommended to prevent kyphotic deformity. Note that a regional kyphosis (greater than 13 degrees) has been associated with unfavorable outcomes following posterior-only surgery
- **Posterior laminoplasty** – osteoplastic enlargement of the spinal canal (for example, by one sided laminectomy and hinge opening of the contralateral side)

Clinical Indications

The following general requirements apply to all indications except where they differ from the specific requirements. The specific requirements take precedence over any stated general requirement.

General ~~Requirements~~Information

The terms in the section provide operational definitions when they are referenced as requirements in the guideline.

Documentation supporting medical necessity should be submitted at the time of the request and must include the following components:

Conservative management[1] should include a combination of strategies to reduce inflammation, alleviate pain, and correct underlying dysfunction, including physical therapy **AND** at least one complementary conservative treatment strategy.

- **Physical therapy requirement** includes **ANY** of the following:
    - Physical therapy rendered by a qualified provider of physical therapy services

    - Supervised home treatment program that includes **ALL** of the following:
        - Participation in a patient-specific or tailored program
        - Initial active instruction by MD/DO/PT with redemonstration of patient ability to perform exercises
        - Compliance (documented or by clinician attestation on follow-up evaluation)
    - Exception to the physical therapy requirement in unusual circumstances (for instance, intractable pain so severe that physical therapy is not possible) when clearly documented in the medical record

- **Complementary conservative treatment requirement** includes **ANY** of the following:
    - ~~Prescription strength a~~Anti-inflammatory medications and analgesics[2]
    - Adjunctive medications such as nerve membrane stabilizers or muscle relaxants[2]
    - Epidural corticosteroid injection(s)[2]
    - Alternative therapies such as, acupuncture, chiropractic manipulation, massage therapy, activity modification, and/or a trial period of rest (e.g., from the aggravating/contributing factors) where applicable

[1] Additional condition or procedure-specific requirements may apply and can be found in the respective sections of the guideline.

[2] In the absence of contraindications

Clinical reevaluation. In most cases, reevaluation should include a physical examination. Direct contact by other methods, such as telephone communication or electronic messaging, may substitute for in-person evaluation when circumstances preclude an office visit.

Failure of conservative management requires **ALL** of the following:

- Patient has completed a full course of conservative management (as defined above) for the current episode of care
- Worsening of or no significant improvement in signs and/or symptoms upon clinical reevaluation
- More invasive forms of therapy are being considered

Documentation of compliance with a plan of therapy that includes elements from these areas is required where conservative management is appropriate. *The requirement for a period of conservative treatment as a prerequisite to a surgical procedure is waived when there is evidence of progressive nerve or spinal cord compression resulting in a significant neurologic deficit, or when myelopathy, weakness, or bladder disturbance is present.*

Reporting of symptom severity. Severity of pain and its associated impact on activities of daily living (ADLs) and instrumental ADLs (IADLs) are key factors in determining the need for intervention. For purposes of this guideline, significant pain and functional impairment refer to pain that is at least 3 out of 10 in intensity and is associated with inability to perform at least two (2) ADLs and/or IADLs.

Imaging studies. All imaging must be performed and read by an independent radiologist. If discrepancies should arise in the interpretation of the imaging, the radiologist report will supersede. The results of all imaging studies should correlate with the clinical findings in support of the requested procedure.

Osteotomy. Spinal osteotomy procedures are reported when a portion or portions of the vertebral segment or segments is (are) cut and removed in preparation for realigning the spine as part of a spinal deformity correction. These procedures may be required for congenital, developmental, and degenerative spinal deformities.

Corpectomy typically reflects a longitudinal resection of the vertebral body from disc space to disc space often resulting in a destabilization of the complex. In the cervical spine, at least 50% of the vertebral body is removed. In the thoracic/lumbar spine, at least 30% of the corpus is removed.

General Recommendations

Tobacco cessation. To reduce the risk of pseudoarthrosis, adherence to a tobacco cessation program resulting in abstinence from tobacco for at least 6 weeks prior to spinal surgery is recommended.

Cervical Decompression

Cervical decompression with or without fusion may be indicated to treat ANY of the following conditions:

Instability

Instability of the cervical spine due to **ANY** of the following conditions, where instability is caused by the condition itself, or when treatment of the condition is anticipated to result in instability (i.e., resection or debridement)

- Tumor of the spine or spinal canal
- Infection (osteomyelitis, discitis, or spinal abscess)
- Fracture or dislocation (may be traumatic or pathologic)
- Nontraumatic atlantoaxial (C1-C2) instability or subluxation (greater than 5 mm as documented by imaging) in **ANY** of the following:
    - Connective tissue disorders such as rheumatoid arthritis
    - Down syndrome
    - Os odontoideum
    - Skeletal dysplasia
- Symptomatic, non-traumatic cervical spondylosis as demonstrated by **EITHER** of the following radiographic findings:
    - Sagittal plane angulation of greater than 11 degrees between adjacent segments
    - Subluxation or translation of greater than 3 mm on static lateral views or dynamic radiographs

Spondylotic cervical myelopathy

Spondylotic cervical myelopathy when **BOTH** of the following requirements are met:

- Clinical signs and symptoms of myelopathy which may include: loss of dexterity, urinary urgency, new-onset bowel or bladder incontinence, frequent falls, hyperreflexia, Hoffmann sign, increased tone or spasticity, gait abnormality, or pathologic Babinski sign
- Imaging studies which demonstrate cervical cord compression

Cervical radiculopathy

Cervical radiculopathy when **ALL** of the following requirements are met:

- Progressive neurologic deficits (with or without associated pain) ~~OR~~ or unremitting severe radicular pain (with or without associated neurologic deficits)
- Failure of at least 6 weeks of conservative therapy
- Imaging studies which demonstrate nerve root compression correlating with the distribution of signs and symptoms

Ossification of the posterior longitudinal ligament

Ossification of the posterior longitudinal ligament (OPLL), with or without kyphosis, when **BOTH** of the following requirements are met:

- Clinical signs and symptoms of myelopathy which may include: loss of dexterity, urinary urgency, new-onset bowel or bladder incontinence, frequent falls, hyperreflexia, Hoffmann sign, increased tone or spasticity, gait abnormality, or pathologic Babinski sign
- Imaging studies which demonstrate cervical cord compression

Cervical synovial cyst

Cervical synovial cyst (**BOTH** are required)

- Radicular pain (with or without demonstrable neurologic deficits) which has not responded to at least 6 weeks of conservative management
- Documentation of a synovial cyst on CT or MRI performed within the past 6 months which correlates with symptoms and exam findings

Degenerative cervical kyphosis

Degenerative cervical kyphosis when **BOTH** of the following requirements are met:

- Clinical signs and symptoms of myelopathy which may include: loss of dexterity, urinary urgency, new-onset bowel or bladder incontinence, frequent falls, hyperreflexia, Hoffmann sign, increased tone or spasticity, gait abnormality, or pathologic Babinski sign
- Imaging studies which demonstrate cervical cord compression

Pseudoarthrosis

Pseudoarthrosis when **ALL** of the following are demonstrated:

- Advanced imaging studies highly suggestive of nonunion at a motion segment at which a fusion had been previously attempted. This includes lack of bridging bone and/or dynamic motion demonstrated on flexion-extension radiographs
- At least 9 months have elapsed since the prior procedure, unless there is evidence of hardware breakage or loosening
- The patient experienced significant relief of symptoms following the procedure
- Recurrent symptoms or functional impairment has not responded to at least 6 weeks of conservative management following confirmation of the diagnosis

Implant/Instrumentation failure

Implant/Instrumentation failure demonstrated on standard or advanced imaging showing malposition or other evidence of failure (e.g., subsidence, surrounding radiolucency, dislocation/subluxation, vertebral body fracture, or hardware breakage)

Failed cervical disc arthroplasty

Cervical decompression and/or fusion (for replacement or revision of the arthroplasty, see Cervical Disc Arthroplasty) may be considered medically necessary at the index level after a prior cervical disc arthroplasty when **EITHER** A and B **OR** C and D are present:

A. There is evidence of implant/device failure demonstrated on standard or advanced imaging showing malposition or other evidence of failure (e.g., subsidence, surrounding radiolucency, dislocation/subluxation, vertebral body fracture, or hardware breakage); **and**

B. Symptoms can be attributed to implant failure or other implant related mechanical complications

OR

C. Clinical symptoms persist or recur in the absence of implant failure; **and**

D. Criteria are met under cervical radiculopathy or myelopathy (as above)

Progressive neck pain or deformity

Progressive neck pain or deformity following prior posterior cervical decompressive laminectomy or laminoplasty

Cervical Laminectomy

Laminectomy may ~~also~~ be indicated for treatment of the following conditions:

Cordotomy

Biopsy, excision, or evacuation and imaging suggests ANY of the following:

- Tumor or metastatic neoplasm
- Infectious process (for example, epidural abscess)
- Arteriovenous malformation
- Malignant or non-malignant mass

Cervical Laminoplasty

Multilevel spinal stenosis

Cervical laminoplasty may be indicated for treatment of multilevel spinal stenosis of the cervical spine, when **ALL** of the following requirements are met:

- Clinical signs and symptoms of myelopathy which may include: loss of dexterity, urinary urgency, new-onset bowel or bladder incontinence, frequent falls, hyperreflexia, Hoffmann sign, increased tone or spasticity, gait abnormality, or pathologic Babinski sign
- Imaging studies which demonstrate cervical cord compression
- Neutral to lordotic cervical alignment with no greater than 13 degrees of kyphosis

Exclusions

Indications other than those addressed in this guideline are considered **not medically necessary** including, but not limited to, the following:

- Isolated neck pain and spinal stenosis without MRI evidence of intrinsic cord compression
- Asymptomatic spinal stenosis without MRI evidence of intrinsic cord compression
- Cervical/Thoracic laminectomy when criteria above are not met

Selected References

1. Bono CM, Ghiselli G, Gilbert TJ. An evidence-based clinical guideline for the diagnosis and treatment of cervical radiculopathy from degenerative disorders. The spine journal: official journal of the North American Spine Society. 2011;11(1):64-72.
2. Engquist M, Lofgren H, Oberg B. Surgery versus nonsurgical treatment of cervical radiculopathy: a prospective, randomized study comparing surgery plus physiotherapy with physiotherapy alone with a 2-year follow-up. Spine. 2013;38(20):1715-22.
3. Engquist M, Lofgren H, Oberg B. A 5- to 8-year randomized study on the treatment of cervical radiculopathy: anterior cervical decompression and fusion plus physiotherapy versus physiotherapy alone. J Neurosurg Spine. 2017;26(1):19-27.

4. Gebremariam L, Koes BW, Peul WC, et al. Evaluation of treatment effectiveness for the herniated cervical disc: a systematic review. Spine. 2012;37(2):E109-18.
5. Kadanka Z, Bednarik J, Novotny O. Cervical spondylotic myelopathy: conservative versus surgical treatment after 10 years. Eur Spine J. 2011;20(9):1533-8.
6. Lebl DR, Bono CM. Update on the Diagnosis and Management of Cervical Spondylotic Myelopathy. The Journal of the American Academy of Orthopaedic Surgeons. 2015;23(11):648-60.
7. Peolsson A, Soderlund A, Engquist M. Physical function outcome in cervical radiculopathy patients after physiotherapy alone compared with anterior surgery followed by physiotherapy: a prospective randomized study with a 2-year follow-up. Spine. 2013;38(4):300-7.

Codes

The following code list is not meant to be all-inclusive. Authorization requirements will vary by health plan. Please consult the applicable health plan for guidance on specific procedure codes.

Specific CPT codes for services should be used when available. Nonspecific or not otherwise classified codes may be subject to additional documentation requirements and review.

CPT/HCPCS

0095T ..... Removal of total disc arthroplasty (artificial disc), anterior approach, each additional interspace, cervical (List separately in addition to code for primary procedure)

22210 ..... Osteotomy of spine, posterior or posterolateral approach, 1 vertebral segment; cervical

22216 ..... Osteotomy of spine, posterior or posterolateral approach, 1 vertebral segment; each additional vertebral segment (List separately in addition to primary procedure)

22220 ..... Osteotomy of spine, including discectomy, anterior approach, single vertebral segment; cervical

22226 ..... Osteotomy of spine, including discectomy, anterior approach, single vertebral segment; each additional vertebral segment (List separately in addition to code for primary procedure)

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 separate 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

22614 ..... Arthrodesis, posterior or posterolateral technique, single interspace; each additional interspace (List separately in addition to code for primary procedure)

22632 ..... Arthrodesis, posterior interbody technique, including laminectomy and/or discectomy to prepare interspace (other than for decompression), 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; each additional interspace ~~and segment~~ (List separately in addition to code for primary procedure)

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)

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)

22848 ..... Pelvic fixation (attachment of caudal end of instrumentation to pelvic bony structures) other than sacrum (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)

22864 ..... Removal of total disc arthroplasty (artificial disc), anterior approach, single interspace; cervical

63001 ..... Laminectomy with exploration and/or decompression of spinal cord and/or cauda equina, without facetectomy, foraminotomy or discectomy (e.g., spinal stenosis), 1 or 2 vertebral segments; cervical

63003 ..... Laminectomy with exploration and/or decompression of spinal cord and/or cauda equina, without facetectomy, foraminotomy or discectomy (e.g., spinal stenosis), 1 or 2 vertebral segments; thoracic

63015 ..... Laminectomy with exploration and/or decompression of spinal cord and/or cauda equina, without facetectomy, foraminotomy or discectomy (e.g., spinal stenosis), more than 2 vertebral segments; cervical

63016 ..... Laminectomy with exploration and/or decompression of spinal cord and/or cauda equina, without facetectomy, foraminotomy or discectomy (e.g., spinal stenosis), more than 2 vertebral segments; thoracic

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)

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)

63045 ..... Laminectomy, facetectomy and foraminotomy (unilateral or bilateral with decompression of spinal cord, cauda equina and/or nerve root[s], [e.g., spinal or lateral recess stenosis]), single vertebral segment; cervical

63046 ..... Laminectomy, facetectomy and foraminotomy (unilateral or bilateral with decompression of spinal cord, cauda equina and/or nerve root[s], [e.g., spinal or lateral recess stenosis]), single vertebral segment; thoracic

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)

63050 ..... Laminoplasty, cervical, with decompression of the spinal cord, 2 or more vertebral segments

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 [e.g., wire, suture, mini-plates], when performed)

63055 ..... Transpedicular approach with decompression of spinal cord, equina and/or nerve root(s) (eg, herniated intervertebral disc), single segment; thoracic

63075 ..... Discectomy, anterior, with decompression of spinal cord and/or nerve root(s), including osteophytectomy; cervical, single interspace

63076 ..... Discectomy, anterior, with decompression of spinal cord and/or nerve root(s), including osteophytectomy; cervical, each additional interspace (List separately in addition to code for primary procedure)

63081 ..... Vertebral corpectomy (vertebral body resection), partial or complete, anterior approach with decompression of spinal cord and/or nerve root(s); cervical, single segment

63082 ..... Vertebral corpectomy (vertebral body resection), partial or complete, anterior approach with decompression of spinal cord and/or nerve root(s); cervical, each additional segment (List separately in addition to code for primary procedure)

63185 ..... Laminectomy with rhizotomy; 1 or 2 segments

63190 ..... Laminectomy with rhizotomy; more than 2 segments

63191 ..... Laminectomy with section of spinal accessory nerve

63194 ..... Laminectomy with cordotomy, with section of 1 spinothalamic tract, 1 stage; cervical

63196 ..... Laminectomy with cordotomy, with section of both spinothalamic tracts, 1 stage; cervical

63198 ..... Laminectomy with cordotomy with section of both spinothalamic tracts, 2 stages within 14 days; cervical

63250 ..... Laminectomy for excision or occlusion of arteriovenous malformation of spinal cord; cervical

63265 ..... Laminectomy for excision or evacuation of intraspinal lesion other than neoplasm, extradural; cervical

63270 ..... Laminectomy for excision of intraspinal lesion other than neoplasm, intradural; cervical

63275 ..... Laminectomy for biopsy/excision of intraspinal neoplasm; extradural, cervical

63280 ..... Laminectomy for biopsy/excision of intraspinal neoplasm; intradural, extramedullary, cervical

63285 ..... Laminectomy for biopsy/excision of intraspinal neoplasm; intradural, intramedullary, cervical

63300 ..... Vertebral corpectomy (vertebral body resection), partial or complete, for excision of intraspinal lesion, single segment; extradural, cervical

63304 ..... Vertebral corpectomy (vertebral body resection), partial or complete, for excision of intraspinal lesion, single segment; intradural, cervical

63308 ..... Vertebral corpectomy (vertebral body resection), partial or complete, for excision of intraspinal lesion, single segment; each additional segment (List separately in addition to codes for single segment)

Cervical Disc Arthroplasty

Description and Scope

Cervical disc arthroplasty, also known as cervical artificial disc replacement ~~(CADR)~~, was developed as an alternative to cervical fusion for treatment of cervical radiculopathy due to severe degenerative disc disease.

For appropriately chosen indications, ~~CADR~~ cervical disc arthroplasty has shown promising results in the available data, indicating at least equivalence to cervical fusion following adequate decompression.

This guideline addresses cervical disc arthroplasty when performed as an **elective, non-emergent** procedure and not as part of the care of an acute or traumatic event.

Clinical Indications

The following general requirements apply to all indications except where they differ from the specific requirements. The specific requirements take precedence over any stated general requirement.

General Requirements

The terms in the section provide operational definitions when they are referenced as requirements in the guideline.

Documentation supporting medical necessity should be submitted at the time of the request and must include the following components:

Conservative management[1] should include a combination of strategies to reduce inflammation, alleviate pain, and correct underlying dysfunction, including physical therapy **AND** at least one complementary conservative treatment strategy.

- **Physical therapy requirement** includes **ANY** of the following:
    - Physical therapy rendered by a qualified provider of physical therapy services
    - Supervised home treatment program that includes **ALL** of the following:
        - Participation in a patient-specific or tailored program
        - Initial active instruction by MD/DO/PT with redemonstration of patient ability to perform exercises
        - Compliance (documented or by clinician attestation on follow-up evaluation)
    - Exception to the physical therapy requirement in unusual circumstances (for instance, intractable pain so severe that physical therapy is not possible) when clearly documented in the medical record
- **Complementary conservative treatment requirement** includes **ANY** of the following:
    - ~~Prescription strength a~~Anti-inflammatory medications and analgesics[2]
    - Adjunctive medications such as nerve membrane stabilizers or muscle relaxants[2]
    - Epidural corticosteroid injection(s)[2]
    - Alternative therapies such as acupuncture, chiropractic manipulation, massage therapy, activity modification, and/or a trial period of rest (e.g., from the aggravating/contributing factors) where applicable

[1] Additional condition or procedure-specific requirements may apply and can be found in the respective sections of the guideline.

[2] In the absence of contraindications

Clinical reevaluation. In most cases, reevaluation should include a physical examination. Direct contact by other methods, such as telephone communication or electronic messaging, may substitute for in-person evaluation when circumstances preclude an office visit.

Failure of conservative management requires **ALL** of the following:

- Patient has completed a full course of conservative management (as defined above) for the current episode of care
- Worsening of or no significant improvement in signs and/or symptoms upon clinical reevaluation
- More invasive forms of therapy are being considered

Documentation of compliance with a plan of therapy that includes elements from these areas is required where conservative management is appropriate. *The requirement for a period of conservative treatment as a prerequisite to a surgical procedure is waived when there is evidence of progressive nerve or spinal cord compression resulting in a significant neurologic deficit, or when myelopathy, weakness, or bladder disturbance is present.*

Reporting of symptom severity. Severity of pain and its associated impact on activities of daily living (ADLs) and instrumental ADLs (IADLs) are key factors in determining the need for intervention. For purposes of this guideline, significant pain and functional impairment refer to pain that is at least 3 out of 10 in intensity and is associated with inability to perform at least two (2) ADLs and/or IADLs.

Imaging studies. All imaging must be performed and read by an independent radiologist. If discrepancies should arise in the interpretation of the imaging, the radiologist report will supersede. The results of all imaging studies should correlate with the clinical findings in support of the requested procedure.

General Recommendations

Tobacco cessation. To reduce the risk of pseudoarthrosis, adherence to a tobacco cessation program resulting in abstinence from tobacco for at least 6 weeks prior to spinal surgery is recommended.

Cervical ~~Artificial~~ Disc ~~Replacement~~Arthroplasty

Cervical ~~artificial~~ disc ~~replacement~~ arthroplasty~~(CADR)~~ may be indicated for the following diagnoses:

Radiculopathy

Radiculopathy related to nerve root compression caused by one or two-level degenerative disease between C3-C4 and C6-C7, with or without neck pain, when **BOTH** of the following requirements are met:

- Objective neurologic findings which correlate with a cervical nerve root impingement, and/or unremitting radicular pain which has not responded to at least 6 weeks of appropriate conservative management
- Imaging studies demonstrating nerve root compression due to herniated disc or spondylotic osteophyte correlating with the distribution of signs and symptoms

Additional requirements (radiculopathy)

- The individual is skeletally mature as documented by growth plate closure
- An FDA-approved cervical artificial intervertebral device is used in accordance with FDA labeling and will be implanted using an anterior approach

Myelopathy or myeloradiculopathy

Myelopathy or myeloradiculopathy related to central spinal stenosis caused by one or two-level degenerative disease between C3-C4 and C6-C7, with or without neck pain, when **BOTH** of the following requirements are met:

- Clinical signs and symptoms of myelopathy which may include: loss of dexterity, urinary urgency, new-onset bowel or bladder incontinence, frequent falls, hyperreflexia, Hoffmann sign, increased tone or spasticity, gait abnormality, or pathologic Babinski sign
- Imaging studies demonstrating cervical cord compression due to herniated nucleus pulposus or osteophyte formation

Additional requirements (myelopathy)

- The individual is skeletally mature as documented by growth plate closure
- An FDA-approved cervical artificial intervertebral device is used in accordance with FDA labeling and will be implanted using an anterior approach

~~Revision or replacement of a~~ Failed cervical disc arthroplasty ~~prosthesis~~

Revision or replacement of a cervical artificial disc (for fusion, see Cervical Decompression) at the index level may be considered medically necessary when **EITHER** A and B **OR** C and D are present:

A. There is evidence of implant/device failure demonstrated on standard or advanced imaging showing malposition or other evidence of failure (e.g., subsidence, surrounding radiolucency, dislocation/subluxation, vertebral body fracture, or hardware breakage); **and**

B. Symptoms can be attributed to implant failure or other implant related mechanical complications

OR

C. Clinical symptoms persist or recur in the absence of implant failure; **and**

D. Criteria are met under cervical radiculopathy or myelopathy (as above)

~~Simultaneous~~ Two-level Cervical ~~Artificial~~ Disc ~~Replacement~~Arthroplasty

Two-level arthroplasty (simultaneous or subsequent to one previously performed)

Two-level ~~Simultaneous~~ cervical ~~artificial~~ disc arthroplasty ~~replacement~~ may be considered medically necessary when performed at two (2) contiguous levels simultaneously or at a second contiguous level to a previously performed arthroplasty when ~~requires that~~ the criteria are~~be~~ met for each disc level, and ~~that~~ the device being utilized is FDA-approved for two (2) levels (e.g., Mobi-C®, Prestige LP™, and Simplify® Disc).

Contraindications

- Active systemic infection or infection localized to the site of implantation
- Osteoporosis defined as dual energy x-ray absorptiometry (DEXA) bone density measured T-score of negative 2.5 or lower
- Marked cervical instability on neutral resting lateral or flexion/extension radiographs with greater than or equal to 3 mm translation or greater than 11 degrees of angular difference to either adjacent level
- Clinically compromised vertebral bodies at the affected level due to current or past trauma, anatomic deformity, or cervical spine malignancy
- Focal kyphosis at the level of planned arthroplasty
- Moderate or severe spondylosis at the level to be treated, characterized by bridging osteophytes, loss of greater than 50% of normal disc height, or severely limited range of motion (i.e., less than 2 degrees) at the affected level
- Severe facet joint arthropathy
- Ossification of the posterior longitudinal ligament (OPLL)

- Sensitivity or allergy to implant materials

Exclusions

Indications other than those addressed in this guideline are considered **not medically necessary** including, but not limited to, the following:

- Cervical total disc arthroplasty at more than two (2) levels or at two (2) non-contiguous levels
- Hybrid constructs in a single procedure, involving cervical fusion with cervical total disc arthroplasty
- Cervical total disc arthroplasty in an individual with a previous fusion at another cervical level

Selected References

1. Bono CM, Ghiselli G, Gilbert TJ. An evidence-based clinical guideline for the diagnosis and treatment of cervical radiculopathy from degenerative disorders. The spine journal : official journal of the North American Spine Society. 2011;11(1):64-72.
2. McAfee PCR, C.; Gilder, K.; Eisermann, L.; Cunningham, B. A meta-analysis of comparative outcomes following cervical arthroplasty or anterior cervical fusion: Results from 4 prospective multicenter randomized clinical trials and up to 1226 patients. Spine. 2012;37(11):943-52.

Codes

The following code list is not meant to be all-inclusive. Authorization requirements will vary by health plan. Please consult the applicable health plan for guidance on specific procedure codes.

Specific CPT codes for services should be used when available. Nonspecific or not otherwise classified codes may be subject to additional documentation requirements and review.

CPT/HCPCS

0095T ..... Removal of total disc arthroplasty (artificial disc), anterior approach, each additional interspace, cervical (List separately in addition to code for primary procedure)

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)

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)

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

Lumbar Disc Arthroplasty

Description and Scope

Lumbar disc arthroplasty, also known as lumbar artificial disc surgery or total disc arthroplasty, was developed as an alternative to lumbar fusion for treatment of back pain due to severe degenerative disc disease.

The procedure is similar to lumbar interbody fusion, in that an anterior approach is required. Unlike fusion, motion at the level of disc replacement is maintained, which would seem to be advantageous in terms of preventing secondary degenerative changes and preserving spine mechanics.

This guideline addresses lumbar disc arthroplasty when performed as an **elective, non-emergent** procedure and not as part of the care of an acute or traumatic event.

Clinical Indications

The following general requirements apply to all indications except where they differ from the specific requirements. The specific requirements take precedence over any stated general requirement.

General ~~Requirements~~Information

The terms in the section provide operational definitions when they are referenced as requirements in the guideline.

Documentation supporting medical necessity should be submitted at the time of the request and must include the following components:

Conservative management[1] should include a combination of strategies to reduce inflammation, alleviate pain, and correct underlying dysfunction, including physical therapy **AND** at least one complementary conservative treatment strategy.

- **Physical therapy requirement** includes **ANY** of the following:
    - Physical therapy rendered by a qualified provider of physical therapy services
    - Supervised home treatment program that includes **ALL** of the following:
        - Participation in a patient-specific or tailored program
        - Initial active instruction by MD/DO/PT with redemonstration of patient ability to perform exercises
        - Compliance (documented or by clinician attestation on follow-up evaluation)
    - Exception to the physical therapy requirement in unusual circumstances (for instance, intractable pain so severe that physical therapy is not possible) when clearly documented in the medical record
- **Complementary conservative treatment requirement** includes **ANY** of the following:
    - ~~Prescription strength a~~Anti-inflammatory medications and analgesics[2]
    - Adjunctive medications such as nerve membrane stabilizers or muscle relaxants[2]
    - Epidural corticosteroid injection(s)[2]
    - Alternative therapies such as acupuncture, chiropractic manipulation, massage therapy, activity modification, and/or a trial period of rest (e.g., from the aggravating/contributing factors) where applicable

[1] Additional condition or procedure-specific requirements may apply and can be found in the respective sections of the guideline.

[2] In the absence of contraindications

Clinical reevaluation. In most cases, reevaluation should include a physical examination. Direct contact by other methods, such as telephone communication or electronic messaging, may substitute for in-person evaluation when circumstances preclude an office visit.

Failure of conservative management requires **ALL** of the following:

- Patient has completed a full course of conservative management (as defined above) for the current episode of care
- Worsening of or no significant improvement in signs and/or symptoms upon clinical reevaluation
- More invasive forms of therapy are being considered

Documentation of compliance with a plan of therapy that includes elements from these areas is required where conservative management is appropriate. *The requirement for a period of conservative treatment as a prerequisite to a surgical procedure is waived when there is evidence of progressive nerve or spinal cord compression resulting in a significant neurologic deficit, or when cauda equina syndrome or conus medullaris syndrome is present, and urgent intervention is indicated*.

Reporting of symptom severity. Severity of pain and its associated impact on activities of daily living (ADLs) and instrumental ADLs (IADLs) are key factors in determining the need for intervention. For purposes of this guideline, significant pain and functional impairment refer to pain that is at least 3 out of 10 in intensity and is associated with inability to perform at least two (2) ADLs and/or IADLs.

Imaging studies. All imaging must be performed and read by an independent radiologist. If discrepancies should arise in the interpretation of the imaging, the radiologist report will supersede. The results of all imaging studies should correlate with the clinical findings in support of the requested procedure.

General Recommendations

Tobacco cessation. To reduce the risk of pseudoarthrosis, adherence to a tobacco cessation program resulting in abstinence from tobacco for at least 6 weeks prior to spinal surgery is recommended.

Lumbar ~~Artificial~~ Disc ~~Replacement~~Arthroplasty

Lumbar ~~artificial~~ disc ~~replacement~~ arthroplasty may be indicated when ALL of the following requirements are met:

- Primary complaint of axial pain determined to be of discogenic origin
- Symptoms for at least 6 months, which have not responded to a multifaceted program of conservative treatment over that period of time
- Presence of single or dual (when using 2-level FDA-approved implant) level, advanced disc disease at L3-L4, L4-L5, or L5-SI, as documented by MRI and plain radiographs demonstrating moderate to severe degeneration of the disc with Modic changes (peridiscal bone signal above and below the disc space in question)
- At least moderate pain and disability ideally documented by a visual analog scale (VAS) pain score of 40 or higher (out of 100, or 4 out of 10) or with functional limitation of one or more IADL
- Any underlying psychiatric disorder, such as depression, should be diagnosed and the management optimized prior to surgical intervention
- Age between 18 and 60 years
- Absence of symptomatic degenerative disc disease at all other lumbar levels, as documented by normal radiographs, and MRI showing no abnormalities or mild degenerative changes

- Use of an FDA-approved implant for the intended level

Contraindications

- Significant facet arthropathy at the ~~operated~~ index level
- Disease above L3-L4 or L4-L5 depending on FDA-approved levels
- Bony lumbar spinal stenosis
- Pars defect
- Prior fusion at intended level
- Poorly managed psychiatric disorder
- Chronic radiculopathy (unremitting pain with predominance of leg pain symptoms greater than back pain symptoms persisting a minimum of one year)
- Clinically compromised vertebral bodies at affected level due to current or past trauma
- Lytic spondylolisthesis or degenerative spondylolisthesis of grade greater than 1
- Allergy or sensitivity to implant materials (cobalt, chromium, molybdenum, polyethylene, titanium)
- Presence of infection or tumor
- Osteopenia or osteoporosis (defined as DEXA bone density measured T-score less than or equal to -1.0)

Exclusions

Indications other than those addressed in this guideline are considered **not medically necessary** including, but not limited to, the following:

- Disc replacement at more than one spinal level (unless FDA approved for more than one level, e.g., prodisc® L Total Disc Replacement)
- ~~Arthroplasty below, or in combination with, spinal fusion or other stabilizing type procedure~~
- Prior spine surgery of any form at the target level
- Prior lumbar fusion
- Isolated radicular compression syndromes, especially due to disc herniation
- Hybrid lumbar total disc arthroplasty/lumbar fusion (lumbar total disc arthroplasty at one level at the same time as lumbar fusion at a different level)
- Arthroplasty using devices other than those which are FDA approved, or use of an FDA-approved device in a manner which does not meet FDA requirements

Selected References

1. Jacobs W, Van der Gaag NA, Tuschel A, et al. Total disc replacement for chronic back pain in the presence of disc degeneration. The Cochrane database of systematic reviews. 2012(9):Cd008326.
2. National Institute for Health and Care Excellence, Low back pain and sciatica in over 16s: assessment and management, (2016) London UK,
3. Nie H, Chen G, Wang X, et al. Comparison of Total Disc Replacement with lumbar fusion: a meta-analysis of randomized controlled trials. Journal of the College of Physicians and Surgeons--Pakistan : JCPSP. 2015;25(1):60-7.
4. Skold 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):2288-95.

Codes

The following code list is not meant to be all-inclusive. Authorization requirements will vary by health plan. Please consult the applicable health plan for guidance on specific procedure codes.

Specific CPT codes for services should be used when available. Nonspecific or not otherwise classified codes may be subject to additional documentation requirements and review.

CPT/HCPCS

0163T ..... Total disc arthroplasty (artificial disc), anterior approach, including discectomy to prepare interspace (other than for decompression), each additional interspace, lumbar (List separately in addition to code for primary procedure)

0164T ..... Removal of total disc arthroplasty, (artificial disc), anterior approach, each additional interspace, lumbar (List separately in addition to code for primary procedure)

0165T ..... Revision including replacement of total disc arthroplasty (artificial disc), anterior approach, each additional interspace, lumbar (List separately in addition to code for primary procedure)

22857 ..... Total disc arthroplasty (artificial disc), anterior approach, including discectomy to prepare interspace (other than for decompression), single interspace, lumbar

22862 ..... Revision including replacement of total disc arthroplasty (artificial disc), anterior approach, single interspace; lumbar

22865 ..... Removal of total disc arthroplasty (artificial disc), anterior approach,single interspace; lumbar

Lumbar Discectomy, Foraminotomy, and Laminotomy

Description and Scope

Lumbar decompression procedures, performed alone or in combination with spinal fusion, are designed to relieve symptoms of neural compression.

Lumbar discectomy involves removal of the disc, in whole or part. Foraminotomy and laminotomy involve removal of a portion of the bony arch, or lamina, on the dorsal surface of a vertebra. These are typically performed to access the disc space and relieve pressure on the nerve roots and spinal cord.

This guideline addresses lumbar discectomy, foraminotomy, and laminotomy when performed as **elective, non-emergent** procedures and not as part of the care of an acute or traumatic event.

Clinical Indications

The following general requirements apply to all indications except where they differ from the specific requirements. The specific requirements take precedence over any stated general requirement.

General Requirements

The terms in the section provide operational definitions when they are referenced as requirements in the guideline.

Documentation supporting medical necessity should be submitted at the time of the request and must include the following components:

Conservative management[1] should include a combination of strategies to reduce inflammation, alleviate pain, and correct underlying dysfunction, including physical therapy **AND** at least one complementary conservative treatment strategy.

- **Physical therapy requirement** includes **ANY** of the following:
    - Physical therapy rendered by a qualified provider of physical therapy services
    - Supervised home treatment program that includes **ALL** of the following:
        - Participation in a patient-specific or tailored program
        - Initial active instruction by MD/DO/PT with redemonstration of patient ability to perform exercises
        - Compliance (documented or by clinician attestation on follow-up evaluation)
    - Exception to the physical therapy requirement in unusual circumstances (for instance, intractable pain so severe that physical therapy is not possible) when clearly documented in the medical record
- **Complementary conservative treatment** requirement includes **ANY** of the following:
    - ~~Prescription strength a~~Anti-inflammatory medications and analgesics[2]
    - Adjunctive medications such as nerve membrane stabilizers or muscle relaxants[2]
    - Epidural corticosteroid injection(s)[2]
    - Alternative therapies such as acupuncture, chiropractic manipulation, massage therapy, activity modification, and/or a trial period of rest (e.g., from the aggravating/contributing factors) where applicable

[1] Additional condition or procedure-specific requirements may apply and can be found in the respective sections of the guideline.

[2] In the absence of contraindications

Clinical reevaluation. In most cases, reevaluation should include a physical examination. Direct contact by other methods, such as telephone communication or electronic messaging, may substitute for in-person evaluation when circumstances preclude an office visit.

Failure of conservative management requires **ALL** of the following:

- Patient has completed a full course of conservative management (as defined above) for the current episode of care
- Worsening of or no significant improvement in signs and/or symptoms upon clinical reevaluation
- More invasive forms of therapy are being considered

Documentation of compliance with a plan of therapy that includes elements from these areas is required where conservative management is appropriate. *The requirement for a period of conservative treatment as a prerequisite to a surgical procedure is waived when there is evidence of progressive nerve or spinal cord compression resulting in a significant neurologic deficit, or when cauda equina syndrome or conus medullaris syndrome is present, and urgent intervention is indicated*.

Reporting of symptom severity. Severity of pain and its associated impact on activities of daily living (ADLs) and instrumental ADLs (IADLs) are key factors in determining the need for intervention. For purposes of this guideline, significant pain and functional impairment refer to pain that is at least 3 out of 10 in intensity and is associated with inability to perform at least two (2) ADLs and/or IADLs.

Imaging studies. All imaging must be performed and read by an independent radiologist. If discrepancies should arise in the interpretation of the imaging, the radiologist report will supersede. The results of all imaging studies should correlate with the clinical findings in support of the requested procedure.

Lumbar Discectomy, Foraminotomy, and Laminotomy

Acute neurologic deterioration

Acute neurologic deterioration including signs and symptoms of cauda equina syndrome or rapid progression of neurologic deficits confirmed by imaging, regardless of underlying pathology

Lumbar herniated intervertebral disc

Initial lumbar herniated disc when ALL of the following criteria are met:

- Radicular pain (radiculitis/radiculopathy) with significant functional impairment and/or physical exam findings that correlate with radiculopathy or nerve root compression such as:
    - Nerve root tension sign
    - Dermatomal sensory loss
    - Motor strength deficit (myotomal)
    - Abnormal reflex changes
- Documentation of nerve root compression or thecal sac impingement on MRI or other advanced imaging performed within the past 6 months that correlates with clinical findings
- All other reasonable sources of pain have been ruled out
- Failure of at least 6 weeks of conservative management

Note: See also Lumbar Laminectomy guideline.

Recurrent lumbar herniated disc when ALL of the following criteria are met:

- Requirements for initial herniation
- Failure of at least 12 weeks of conservative management

Exclusions

Indications other than those addressed in this guideline are considered **not medically necessary** including, but not limited to, the following:

- Axial low back pain without a neural component
- Disc bulge or herniation without nerve compression
- Asymptomatic disc herniation
- Spinal stenosis that is asymptomatic, or with symptoms limited to low back pain
- ~~Use of bone-anchored annular closure devices (e.g., Barricaid®, InGlose®, Xclose®, or Disc Annular Repair Technology [DART] System)~~

Selected References

1. Ammendolia C, Stuber KJ, Rok E, et al. Nonoperative treatment for lumbar spinal stenosis with neurogenic claudication. Cochrane Database Syst Rev. 2013(8):CD010712.
2. Delitto A, Piva SR, Moore CG, et al. Surgery versus nonsurgical treatment of lumbar spinal stenosis: a randomized trial. Ann Intern Med. 2015;162(7):465-73.
3. Dhall SS, Choudhri TF, Eck JC, et al. Guideline update for the performance of fusion procedures for degenerative disease of the lumbar spine. Part 5: correlation between radiographic outcome and function. Journal of neurosurgery Spine. 2014;21(1):31-6.
4. Fritz JM, Lurie JD, Zhao W, et al. Associations between physical therapy and long-term outcomes for individuals with lumbar spinal stenosis in the SPORT study. Spine J. 2014;14(8):1611-21.
5. Ghogawala Z, Resnick DK, Watters WC, et al. Guideline update for the performance of fusion procedures for degenerative disease of the lumbar spine. Part 2: assessment of functional outcome following lumbar fusion. Journal of neurosurgery Spine. 2014;21(1):7-13.
6. Kaiser MG, Eck JC, Groff MW, et al. Guideline update for the performance of fusion procedures for degenerative disease of the lumbar spine. Part 17: bone growth stimulators as an adjunct for lumbar fusion. Journal of neurosurgery Spine. 2014;21(1):133-9.
7. Kovacs FM, Urrutia G, Alarcon JD. Surgery versus conservative treatment for symptomatic lumbar spinal stenosis: a systematic review of randomized controlled trials. Spine. 2011;36(20):E1335-51.
8. Lewis RA, Williams NH, Sutton AJ, et al. Comparative clinical effectiveness of management strategies for sciatica: systematic review and network meta-analyses. Spine J. 2015;15(6):1461-77.
9. National Institute for Health and Care Excellence, Low back pain and sciatica in over 16s: assessment and management, (2016) London UK,
10. Zaina F, Tomkins-Lane C, Carragee E, et al. Surgical versus non-surgical treatment for lumbar spinal stenosis. The Cochrane database of systematic reviews. 2016(1):Cd010264.

Codes

The following code list is not meant to be all-inclusive. Authorization requirements will vary by health plan. Please consult the applicable health plan for guidance on specific procedure codes.

Specific CPT codes for services should be used when available. Nonspecific or not otherwise classified codes may be subject to additional documentation requirements and review.

CPT/HCPCS

63030 ..... Laminotomy (hemilaminectomy), with decompression of nerve root(s), including partial facetectomy, foraminotomy and/or excision of herniated intervertebral disc; single interspace, lumbar

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)

63042 ..... Laminotomy (hemilaminectomy), with decompression of nerve root(s), including partial facetectomy, foraminotomy and/or excision of herniated intervertebral disc, reexploration, single interspace; lumbar

63044 ..... Laminotomy (hemilaminectomy), with decompression of nerve root(s), including partial facetectomy, foraminotomy and/or excision of herniated intervertebral disc, reexploration, single interspace; each additional lumbar interspace (List separately in addition to code for primary procedure)

63056 ..... Transpedicular approach with decompression of spinal cord, equina and/or nerve root(s) (eg, herniated intervertebral disc), single segment; lumbar (including transfacet, or lateral extraforaminal approach) (eg, far lateral herniated intervertebral disc)

63057 ..... Transpedicular approach with decompression of spinal cord, equina and/or nerve root(s) (eg, herniated intervertebral disc), single segment; each additional segment, thoracic or lumbar (List separately in addition to code for primary procedure)

~~C9757~~ ..... ~~Laminotomy (hemilaminectomy), with decompression of nerve root(s), including partial facetectomy, foraminotomy and excision of herniated intervertebral disc, and repair of annular defect with implantation of bone anchored annular closure device, including annular defect measurement, alignment and sizing assessment, and image guidance; 1 interspace, lumbar~~

Lumbar Fusion and Treatment of Spinal Deformity (including Scoliosis and Kyphosis)

Description and Scope

Lumbar fusion is one of the most commonly performed procedures in spinal surgery, and a well-established treatment for spinal instability resulting from a variety of conditions. In the majority of techniques, a bone graft is utilized to join two or more adjacent vertebral bodies into a single unit, which permanently immobilizes the involved section of the spine.

Techniques to achieve lumbar spinal fusion are numerous, and include different surgical approaches (anterior, posterior, lateral) to the spine, different areas of fusion (intervertebral body (interbody), transverse process (posterolateral), different fusion materials (bone graft and/or metal instrumentation), and a variety of ancillary techniques to augment fusion.

Lumbar fusion has been widely used to treat back pain associated with degenerative disc disease and spinal stenosis in the absence of instability. A large number of fusion operations are also performed for nonspecific low back pain which has not responded to standard treatment. Evidence to support the efficacy of fusion in treating these common conditions has been inconsistent, and many experts agree that the procedure is overused.

This guideline addresses lumbar and thoracolumbar fusion when performed as **elective, non-emergent** procedures and not as part of the care of an acute or traumatic event such as fracture (excluding periprosthetic fracture).

Clinical Indications

The following general requirements apply to all indications except where they differ from the specific requirements. The specific requirements take precedence over any stated general requirement.

General ~~Requirements~~Information

Discography results will not be used as a determining factor of medical necessity for any requested procedures.

When fusion at more than one level is planned, the criteria below apply to each level of lumbar fusion being considered. These criteria also apply to lumbar fusion of a level adjacent to a prior lumbar fusion.

Staged, multi-session* spinal fusions are considered **not medically necessary** for fusion involving fewer than three (3) levels, unless being performed for treatment of severe scoliosis or other spinal deformities. The current standard of care for lumbar spinal fusion is a single-session, including multiple approach techniques.

**Multi-session is defined as procedures occurring on different days or requiring an additional anesthesia session.*

The terms in the section provide operational definitions when they are referenced as requirements in the guideline.

Documentation supporting medical necessity should be submitted at the time of the request and must include the following components:

Conservative management[1] should include a combination of strategies to reduce inflammation, alleviate pain, and correct underlying dysfunction, including physical therapy **AND** at least one complementary conservative treatment strategy.

- **Physical therapy requirement** includes **ANY** of the following:
    - Physical therapy rendered by a qualified provider of physical therapy services
    - Supervised home treatment program that includes **ALL** of the following:

        - Participation in a patient-specific or tailored program
        - Initial active instruction by MD/DO/PT with redemonstration of patient ability to perform exercises
        - Compliance (documented or by clinician attestation on follow-up evaluation)
    - Exception to the physical therapy requirement in unusual circumstances (for instance, intractable pain so severe that physical therapy is not possible) when clearly documented in the medical record
- **Complementary conservative treatment requirement** includes **ANY** of the following:
    - ~~Prescription strength a~~Anti-inflammatory medications and analgesics[2]
    - Adjunctive medications such as nerve membrane stabilizers or muscle relaxants[2]
    - Epidural corticosteroid injection(s)[2]
    - Alternative therapies such as acupuncture, chiropractic manipulation, massage therapy, activity modification, and/or a trial period of rest (e.g., from the aggravating/contributing factors) where applicable

[1] Additional condition or procedure-specific requirements may apply and can be found in the respective sections of the guideline.

[2] In the absence of contraindications

Clinical reevaluation. In most cases, reevaluation should include a physical examination. Direct contact by other methods, such as telephone communication or electronic messaging, may substitute for in-person evaluation when circumstances preclude an office visit.

Failure of conservative management requires **ALL** of the following:

- Patient has completed a full course of conservative management (as defined above) for the current episode of care
- Worsening of or no significant improvement in signs and/or symptoms upon clinical reevaluation
- More invasive forms of therapy are being considered

Documentation of compliance with a plan of therapy that includes elements from these areas is required where conservative management is appropriate. *The requirement for a period of conservative treatment as a prerequisite to a surgical procedure is waived when there is evidence of progressive nerve or spinal cord compression resulting in a significant neurologic deficit, or when cauda equina syndrome or conus medullaris syndrome is present, and urgent intervention is indicated.*

Reporting of symptom severity. Severity of pain and its associated impact on activities of daily living (ADLs) and instrumental ADLs (IADLs) are key factors in determining the need for intervention. For purposes of this guideline, significant pain and functional impairment refer to pain that is at least 3 out of 10 in intensity and is associated with inability to perform at least two (2) ADLs and/or IADLs.

Imaging studies. All imaging must be performed and read by an independent radiologist. If discrepancies should arise in the interpretation of the imaging, the radiologist report will supersede. The results of all imaging studies should correlate with the clinical findings in support of the requested procedure.

Osteotomy. Spinal osteotomy procedures are reported when a portion or portions of the vertebral segment or segments is (are) cut and removed in preparation for realigning the spine as part of a spinal deformity correction. These procedures may be required for congenital, developmental, and degenerative spinal deformities.

Corpectomy typically reflects a longitudinal resection of the vertebral body from disc space to disc space often resulting in a destabilization of the complex. In the cervical spine, at least 50% of the vertebral body is removed. In the thoracic/lumbar spine, at least 30% of the corpus is removed.

General Recommendations

Tobacco cessation. To reduce the risk of pseudoarthrosis, adherence to a tobacco cessation program resulting in abstinence from tobacco for at least 6 weeks prior to spinal surgery is recommended.

Lumbar Fusion

Lumbar fusion with or without decompression may be indicated to treat ANY of the following conditions:

Disc herniation

Recurrent, same level, disc herniation when **ALL** of the following are demonstrated:

- At least 3 months have elapsed since the prior procedure
- The patient experienced significant relief of symptoms following the procedure
- Recurrent symptoms or functional impairment have not responded to at least 12 weeks of conservative management
- Neural compression correlating with the clinical presentation and instability is demonstrated on imaging studies

Note: Fusion for same-level disc herniation without instability may be considered following two (2) prior discectomies at that level.

Failed lumbar disc arthroplasty

Implant failure demonstrated on standard or advanced imaging showing malposition or other evidence of failure (e.g., subsidence, surrounding radiolucency, dislocation/subluxation, vertebral body fracture)

In the absence of imaging demonstrating implant failure, **ALL** of the following are required:

- At least 6 months have elapsed since the most recent disc implant procedure, following which the patient experienced significant relief of symptoms
- Symptoms of radicular pain, neurogenic claudication, or worsening refractory back pain correlate with imaging findings of neural compression
- Impairment or loss of function has not responded to a minimum of 12 weeks of conservative management since the previous surgery

Flat back syndrome

Flat back syndrome (iatrogenic or degenerative) when **ALL** of the following are demonstrated:

- Presence of intractable back pain, neurogenic claudication or neurological deficit
- Failure of 6 months of conservative management
- Decompensated sagittal imbalance demonstrated on standing radiography, defined as mismatch between pelvic incidence (PI) and lumbar lordosis (LL) of more than 10 degrees and sagittal vertical axis (SVA) greater than 5 cm

Implant/Instrumentation failure

Implant/Instrumentation failure demonstrated on standard or advanced imaging showing malposition or other evidence of failure (e.g., subsidence, surrounding radiolucency, dislocation/subluxation, vertebral body fracture, or hardware breakage)

Instability

Instability due to **ANY** of the following conditions, where instability is caused by the condition itself, or when treatment of the condition is anticipated to result in instability (i.e., resection or debridement)

- Tumor of the spine or spinal canal
- Infection (osteomyelitis, discitis, or spinal abscess)
- Fracture or dislocation; may be traumatic or pathologic
- Degenerative spondylolisthesis with flexion and extension lateral spine x-rays* showing a fixed ~~slip~~ anterolisthesis of greater than or equal to 3 mm, or movement of greater than or equal to 3 mm and symptoms or functional impairment have not responded to at least 6 weeks of conservative management.

*The interpretation by the surgeon of office based flexion-extension lateral spine x-rays to evaluate for the presence or absence of anterior-posterior lumbar instability must be properly recorded and documented in the medical records. Verbal attestation will not be sufficient to meet the requirements.

Isthmic spondylolisthesis

Isthmic spondylolisthesis when **ALL** of the following conditions have been met:

- Congenital (Wiltse I) or acquired pars defect (Wiltse II) documented on x-ray
- Failure of at least 3 months of conservative management
- **ANY** of the following:
    - Persistent back pain (with or without neurogenic symptoms) with functional impairment
    - Listhesis greater than 50% in children, 75% in mature adolescents or progressed by more than 30%
    - Progressive postural deformity or gait abnormality
    - Persistent functional impairment
    - Neurological symptoms

Lumbar synovial cyst

Lumbar synovial cyst when **ALL** of the following conditions have been met:

- Radicular pain (with or without demonstrable neurologic deficits) or neurogenic claudication which has not responded to at least 6 weeks of conservative management
- Documentation of a synovial cyst on CT or MRI performed within the past 6 months which correlates with symptoms and exam findings

Pseudoarthrosis

Pseudoarthrosis when **ALL** of the following are demonstrated:

- Advanced imaging studies highly suggestive of nonunion at a motion segment at which a fusion had been previously attempted
- At least 9 months have elapsed since the prior procedure
- The patient experienced significant relief of symptoms following the procedure
- Recurrent symptoms or functional impairment has not responded to at least 12 weeks of conservative management following confirmation of the diagnosis

Scheuermann's kyphosis

Scheuermann's kyphosis (SK) when **ALL** of the following are demonstrated:

- Diagnosis established by radiography or advanced imaging
    - Dorsal kyphosis with wedging of greater than 5 degrees of 3 successive vertebrae, with or without endplate irregularities and Schmorl's nodes
- Six (6) months of initial conservative management has failed to improve symptoms
- Thoracic kyphosis is greater than 60 degrees or thoracolumbar kyphosis is greater than 20 degrees
- ~~**ANY**~~ **EITHER** of the following clinical considerations:
    - Intractable pain and/or loss of function assessed with a validated patient centered outcome measure
    - ~~Associated neurological deficits~~
    - Deformity that affects quality of life

Scoliosis ~~(lumbar or thoracolumbar)~~

Progressive ~~**non-degenerative**~~**adolescent idiopathic scoliosis** ~~(includes juvenile, neuromuscular, congenital, and adolescent idiopathic scoliosis)~~ when **EITHER** of the following is present:

- Skeletally immature: Cobb angle greater than 40 degrees (Thoracic, Thoracolumbar, Lumbar)
- Skeletally mature: Cobb angle greater than 50 degrees (Thoracic, Thoracolumbar, Lumbar)
- ~~Spinal cord compression with neurogenic claudication or radicular pain that results in significant functional impairment in a patient who has failed at least 3 months of conservative management~~

Juvenile, neuromuscular, congenital scoliosis when **EITHER** of the following is present:

- Progressive deformity (e.g., greater than 10 degrees of change) that leads to sagittal or frontal plane imbalance
- Neurologic compromise

Severe degenerative scoliosis with a minimum Cobb angle of 30 degrees, or sagittal vertical axis greater than 5 cm, and **EITHER** of the following:

- Documented progression of deformity with persistent axial (non-radiating) pain and functional impairment, unresponsive to at least 3 months of conservative management
- Persistent and significant neurogenic symptoms (claudication or radicular pain) with functional impairment, unresponsive to at least 3 months of conservative management

Spinal stenosis

Lumbar fusion may be indicated as an adjunct to decompression for treatment of spinal stenosis (central or foraminal) when **ANY of the following** (1-4) **are present AND ALL additional criteria** (5-7):

1. ~~i~~Instability (anterolisthesis) is demonstrated on imaging studies*, or anticipated due to **EITHER** of the following:
    - Facet joint excision greater than 50% bilaterally or 75% unilaterally at the level fused
    - Resection of the pars interarticularis at the level fused
2. **Indirect decompression is planned with an anterior approach** and provided the procedure is not being done solely for degenerative disc disease (discogenic or axial low back pain)
3. Adjacent-level stenosis, e.g., stenosis that has developed above or below a previous fusion
4. Recurrent stenosis, e.g., stenosis that has developed at a level previously operated

Additional criteria (**ALL** are required)

~~2.~~5. Neurogenic claudication or radicular pain with significant functional impairment

~~3.~~6. Failure to respond to at least 6 weeks of conservative management

7. Documentation of central/lateral recess/or foraminal stenosis on MRI, CT, or CT myelography performed within the past 6 months

**Instability may be demonstrated by flexion and extension lateral spine x-rays showing a fixed ~~slip~~ anterolisthesis of greater than or equal to 3 mm, or movement of greater than or equal to 3 mm. The interpretation by the surgeon of office based flexion-extension lateral spine x-rays to evaluate for the presence or absence of anterior-posterior lumbar instability must be properly recorded and documented in the medical records. Verbal attestation will not be sufficient to meet the requirements.*

Exclusions

Indications other than those addressed in this guideline are considered **not medically necessary** including, but not limited to, the following:

- Isolated axial low back pain, with or without imaging findings of degenerative disc disease, annular tears, disc bulges, protrusion, extrusion, or sequestration
- Chronic nonspecific low back pain
- Facet joint syndrome
- Degenerative lumbar spondylosis without stenosis or spondylolisthesis
- ~~Anterior lumbar interbody fusion for indirect decompression of foraminal stenosis in the absence of spinal instability or other indication for fusion as listed above~~

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Codes

The following code list is not meant to be all-inclusive. Authorization requirements will vary by health plan. Please consult the applicable health plan for guidance on specific procedure codes.

Specific CPT codes for services should be used when available. Nonspecific or not otherwise classified codes may be subject to additional documentation requirements and review.

CPT/HCPCS

0164T ..... Removal of total disc arthroplasty, (artificial disc), anterior approach, each additional interspace, lumbar (List separately in addition to code for primary procedure)

22206 ..... Osteotomy of spine, posterior or posterolateral approach, 3 columns, 1 vertebral segment (e.g., pedicle/vertebral body subtraction); thoracic

22207 ..... Osteotomy of spine, posterior or posterolateral approach, 3 columns, 1 vertebral segment (e.g., pedicle/vertebral body subtraction); lumbar

22208 ..... Osteotomy of spine, posterior or posterolateral approach, 3 columns, 1 vertebral segment (e.g., pedicle/vertebral body subtraction); each additional vertebral segment (List separately in addition to code for primary procedure)

22212 ..... Osteotomy of spine, posterior or posterolateral approach, 1 vertebral segment; thoracic

22214 ..... Osteotomy of spine, posterior or posterolateral approach, 1 vertebral segment; lumbar

22216 ..... Osteotomy of spine, posterior or posterolateral approach, 1 vertebral segment; each additional vertebral segment (List separately in addition to primary procedure)

22222 ..... Osteotomy of spine, including discectomy, anterior approach, single vertebral segment; thoracic

22224 ..... Osteotomy of spine, including discectomy, anterior approach, single vertebral segment; lumbar

22226 ..... Osteotomy of spine, including discectomy, anterior approach, single vertebral segment; each additional vertebral segment (List separately in addition to code for primary procedure)

22533 ..... Arthrodesis, lateral extracavitary technique, including minimal discectomy to prepare interspace (other than for decompression); lumbar

22534 ..... Arthrodesis, lateral extracavitary technique, including minimal discectomy to prepare interspace (other than for decompression); thoracic or lumbar, each additional vertebral segment (List separately in addition to code for primary procedure)

22558 ..... Arthrodesis, anterior interbody technique, including minimal discectomy to prepare interspace (other than for decompression); lumbar

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)

22610 ..... Arthrodesis, posterior or posterolateral technique, single interspace; thoracic (with lateral transverse technique, when performed)

22612 ..... Arthrodesis, posterior or posterolateral technique, single interspace; lumbar (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)

22630 ..... Arthrodesis, posterior interbody technique, including laminectomy and/or discectomy to prepare interspace (other than for decompression), single interspace; lumbar

22632 ..... Arthrodesis, posterior interbody technique, including laminectomy and/or discectomy to prepare interspace (other than for decompression), single interspace; each additional interspace (List separately in addition to code for primary procedure)

22633 ..... 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

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; each additional interspace ~~and segment~~ (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

22818 ..... Kyphectomy, circumferential exposure of spine and resection of vertebral segment(s) (including body and posterior elements); single or 2 segments

22819 ..... Kyphectomy, circumferential exposure of spine and resection of vertebral segment(s) (including body and posterior elements); 3 or more 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)

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)

22848 ..... Pelvic fixation (attachment of caudal end of instrumentation to pelvic bony structures) other than sacrum (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)

22865 ..... Removal of total disc arthroplasty (artificial disc), anterior approach, single interspace; lumbar

63052..... Laminectomy, facetectomy, or foraminotomy (unilateral or bilateral with decompression of spinal cord, cauda equina and/or nerve root[s] [eg, spinal or lateral recess stenosis]), during posterior interbody arthrodesis, lumbar; single vertebral segment (List separately in addition to code for primary procedure)

63053..... Laminectomy, facetectomy, or foraminotomy (unilateral or bilateral with decompression of spinal cord, cauda equina and/or nerve root[s] [eg, spinal or lateral recess stenosis]), during posterior interbody arthrodesis, lumbar; each additional vertebral segment (List separately in addition to code for primary procedure)

63085 ..... Vertebral corpectomy (vertebral body resection), partial or complete, transthoracic approach with decompression of spinal cord and/or nerve root(s); thoracic, single segment

63086 ..... Vertebral corpectomy (vertebral body resection), partial or complete, transthoracic approach with decompression of spinal cord and/or nerve root(s); thoracic, each additional segment (List separately in addition to code for primary procedure)

63087 ..... Vertebral corpectomy (vertebral body resection), partial or complete, combined thoracolumbar approach with decompression of spinal cord, cauda equina or nerve root(s), lower thoracic or lumbar; single segment

63088 ..... Vertebral corpectomy (vertebral body resection), partial or complete, combined thoracolumbar approach with decompression of spinal cord, cauda equina or nerve root(s), lower thoracic or lumbar; each additional segment (List separately in addition to code for primary procedure)

63090 ..... Vertebral corpectomy (vertebral body resection), partial or complete, transperitoneal or retroperitoneal approach with decompression of spinal cord, cauda equina or nerve root(s), lower thoracic, lumbar, or sacral; single segment

63091 ..... Vertebral corpectomy (vertebral body resection), partial or complete, transperitoneal or retroperitoneal approach with decompression of spinal cord, cauda equina or nerve root(s), lower thoracic, lumbar, or sacral; each additional segment (List separately in addition to code for primary procedure)

63101 ..... Vertebral corpectomy (vertebral body resection), partial or complete, lateral extracavitary approach with decompression of spinal cord and/or nerve root(s) (e.g., for tumor or retropulsed bone fragments); thoracic, single segment

63102 ..... Vertebral corpectomy (vertebral body resection), partial or complete, lateral extracavitary approach with decompression of spinal cord and/or nerve root(s) (e.g., for tumor or retropulsed bone fragments); lumbar, single segment

63103 ..... Vertebral corpectomy (vertebral body resection), partial or complete, lateral extracavitary approach with decompression of spinal cord and/or nerve root(s) (e.g., for tumor or retropulsed bone fragments); thoracic or lumbar, each additional segment (List separately in addition to code for primary procedure)

63301 ..... Vertebral corpectomy (vertebral body resection), partial or complete, for excision of intraspinal lesion, single segment; extradural, thoracic by transthoracic approach

63302 ..... Vertebral corpectomy (vertebral body resection), partial or complete, for excision of intraspinal lesion, single segment; extradural, thoracic by thoracolumbar approach

63303 ..... Vertebral corpectomy (vertebral body resection), partial or complete, for excision of intraspinal lesion, single segment; extradural, lumbar or sacral by transperitoneal or retroperitoneal approach

63305 ..... Vertebral corpectomy (vertebral body resection), partial or complete, for excision of intraspinal lesion, single segment; intradural, thoracic by transthoracic approach

63306 ..... Vertebral corpectomy (vertebral body resection), partial or complete, for excision of intraspinal lesion, single segment; intradural, thoracic by thoracolumbar approach

63307 ..... Vertebral corpectomy (vertebral body resection), partial or complete, for excision of intraspinal lesion, single segment; intradural, lumbar or sacral by transperitoneal or retroperitoneal approach

63308 ..... Vertebral corpectomy (vertebral body resection), partial or complete, for excision of intraspinal lesion, single segment; each additional segment (List separately in addition to codes for single segment)

Lumbar Laminectomy

Description and Scope

Lumbar decompression procedures, performed alone or in combination with spinal fusion, are designed to relieve symptoms of neural compression. Laminectomy is the most widely utilized, and involves removal of a portion of the bony arch, or lamina, on the dorsal surface of a vertebra. Removal of the lamina on only one side of the bone is referred to as a hemilaminectomy. The most common indication for laminectomy is spinal stenosis; a chronic narrowing of the spinal canal due to degenerative arthritis and disc degeneration.

In addition to spinal fusion, it is not uncommon for a laminectomy to be performed in combination with other decompression procedures, including removal of the intervertebral disc (discectomy).

This guideline addresses lumbar laminectomy when performed as an **elective, non-emergent** procedure and not as part of the care of an acute or traumatic event.

Clinical Indications

The following general requirements apply to all indications except where they differ from the specific requirements. The specific requirements take precedence over any stated general requirement.

General Requirements

The terms in the section provide operational definitions when they are referenced as requirements in the guideline.

Documentation supporting medical necessity should be submitted at the time of the request and must include the following components:

Conservative management[1] should include a combination of strategies to reduce inflammation, alleviate pain, and correct underlying dysfunction, including physical therapy **AND** at least one complementary conservative treatment strategy.

- **Physical therapy requirement** includes **ANY** of the following:
  - Physical therapy rendered by a qualified provider of physical therapy services
  - Supervised home treatment program that includes **ALL** of the following:
    - Participation in a patient-specific or tailored program
    - Initial active instruction by MD/DO/PT with redemonstration of patient ability to perform exercises
    - Compliance (documented or by clinician attestation on follow-up evaluation)
  - Exception to the physical therapy requirement in unusual circumstances (for instance, intractable pain so severe that physical therapy is not possible) when clearly documented in the medical record
- **Complementary conservative treatment** requirement includes **ANY** of the following:
  - ~~Prescription strength a~~Anti-inflammatory medications and analgesics[2]
  - Adjunctive medications such as nerve membrane stabilizers or muscle relaxants[2]
  - Epidural corticosteroid injection(s) [2]
  - Alternative therapies such as acupuncture, chiropractic manipulation, massage therapy, activity modification, and/or a trial period of rest (e.g., from the aggravating/contributing factors) where applicable

[1] Additional condition or procedure-specific requirements may apply and can be found in the respective sections of the guideline.

[2] In the absence of contraindications

Clinical reevaluation. In most cases, reevaluation should include a physical examination. Direct contact by other methods, such as telephone communication or electronic messaging, may substitute for in-person evaluation when circumstances preclude an office visit.

Failure of conservative management requires **ALL** of the following:

- Patient has completed a full course of conservative management (as defined above) for the current episode of care
- Worsening of or no significant improvement in signs and/or symptoms upon clinical reevaluation
- More invasive forms of therapy are being considered

Documentation of compliance with a plan of therapy that includes elements from these areas is required where conservative management is appropriate. *The requirement for a period of conservative treatment as a prerequisite to a surgical procedure is waived when there is evidence of progressive nerve or spinal cord compression resulting in a significant neurologic deficit, or when cauda equina syndrome or conus medullaris syndrome is present, and urgent intervention is indicated.*

Reporting of symptom severity. Severity of pain and its associated impact on activities of daily living (ADLs) and instrumental ADLs (IADLs) are key factors in determining the need for intervention. For purposes of this guideline, significant pain and functional impairment refer to pain that is at least 3 out of 10 in intensity and is associated with inability to perform at least two (2) ADLs and/or IADLs.

Imaging studies. All imaging must be performed and read by an independent radiologist. If discrepancies should arise in the interpretation of the imaging, the radiologist report will supersede. The results of all imaging studies should correlate with the clinical findings in support of the requested procedure.

Lumbar Laminectomy

Acute neurologic deterioration

Acute neurologic deterioration including signs and symptoms of cauda equina or conus medullaris syndrome or rapid progression of neurologic deficits confirmed by imaging, regardless of underlying pathology

Lumbar disc herniation

Laminectomy may be considered medically necessary when **ALL** of the following criteria are met:

- Radicular pain (radiculitis/radiculopathy) with significant functional impairment and/or physical exam findings that correlate with radiculopathy or nerve root compression such as:
    - Nerve root tension sign
    - Dermatomal sensory loss
    - Motor strength deficit (myotomal)
    - Abnormal reflex changes
- Documentation of nerve root compression or thecal sac impingement on MRI or other advanced imaging performed within the past 6 months that correlates with clinical findings and that shows a large central disc herniation in the spinal canal
- Laminotomy increases the relative risk of iatrogenic neurological deficit
- All other reasonable sources of pain have been ruled out
- Failure of at least 6 weeks of conservative management

Lumbar spinal stenosis (with or without spondylolisthesis)

Laminectomy may be considered medically necessary when **ALL** of the following criteria are met:

- Neurogenic claudication or radicular pain (VAS at least 4) with significant functional impairment
- Symptoms aggravated by standing and/or walking
- Symptoms alleviated by sitting and/or forward flexion
- Failure to respond to at least 6 weeks of conservative management
- Documentation of central/lateral recess/or foraminal stenosis on MRI, CT, or CT myelography performed within the past 6 months

Lumbar synovial cyst

Lumbar synovial cyst removal may be considered medically necessary when **ALL** of the following criteria are met:

- Radicular pain (with or without demonstrable neurologic deficits) or neurogenic claudication which has not responded to at least 6 weeks of conservative management
- Documentation of a synovial cyst on CT or MRI performed within the past 6 months which correlates with symptoms and exam findings
- No evidence for instability at the level(s) of the cyst

Dorsal rhizotomy

Dorsal rhizotomy as a treatment for spasticity (for example, cerebral palsy)

Tethered cord syndrome

Tethered cord syndrome (TCS) is a group of motor and sensory signs and symptoms related to a disorder of the conus medullaris, usually the result of direct mechanical traction on the conus. Tethered cord syndrome can be primary or secondary.

Criteria for untethering of the caudal spinal cord, ANY of the following:

- Patients with primary TCS: Positive imaging and progressive neurogenic bladder (demonstrated by urodynamic studies), and **ANY** of the following:
    - New onset or progressive lower extremity weakness and/or gait changes
    - Unexplained and persistent new onset back pain of at least 6 weeks duration
    - Progressive scoliosis with Cobbs angle greater than 40 degrees
- Patients with a dermal sinus tract and tethered cord on MRI
- Patients with normal positioning of the conus, i.e., occult tethered cord syndrome (OTCS), if they have unexplained urinary incontinence, as well as abnormal and deteriorating urodynamic studies (UDS)

Relative contraindications

- Unstable medical condition that would put the patient a risk for anesthesia or surgery
- Asymptomatic patients with a complex pathology such as chaotic lipomas and anterior sacral meningoceles, can be observed and the surgery deferred until early symptoms and signs appear

Exclusions

- Prophylactic surgery in asymptomatic patients (i.e., patients with no signs and symptoms despite a low conus medullaris, or a normally positioned conus and a fatty filum on imaging)
- Low back pain as the only criteria, without urinary symptoms and with normal imaging and normal urodynamic studies.

Biopsy, excision, or evacuation when imaging suggests ANY of the following:

- Tumor or metastatic neoplasm
- Infectious process (for example, epidural abscess)
- Arteriovenous malformation
- Malignant or non-malignant mass

Exclusions

Indications other than those addressed in this guideline are considered **not medically necessary** including, but not limited to, the following:

- Axial low back pain without a neural component
- Disc bulge or herniation without nerve compression
- Spinal stenosis that is asymptomatic, or with symptoms limited to low back pain
- Annular tears
- Lumbar laminectomy when criteria above are not met

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10. Zaina F, Tomkins-Lane C, Carragee E, et al. Surgical versus non-surgical treatment for lumbar spinal stenosis. The Cochrane database of systematic reviews. 2016(1):Cd010264.

Codes

The following code list is not meant to be all-inclusive. Authorization requirements will vary by health plan. Please consult the applicable health plan for guidance on specific procedure codes.

Specific CPT codes for services should be used when available. Nonspecific or not otherwise classified codes may be subject to additional documentation requirements and review.

CPT/HCPCS

63005 ..... 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; lumbar, except for spondylolisthesis

63012 ..... Laminectomy with removal of abnormal facets and/or pars inter-articularis with decompression of cauda equina and nerve roots for spondylolisthesis, lumbar (Gill type procedure)

63017 ..... 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; lumbar

63047 ..... 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; lumbar

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)

63052 ..... Laminectomy, facetectomy, or foraminotomy (unilateral or bilateral with decompression of spinal cord, cauda equina and/or nerve root[s] [eg, spinal or lateral recess stenosis]), during posterior interbody arthrodesis, lumbar; single vertebral segment (List separately in addition to code for primary procedure)

63053 ..... Laminectomy, facetectomy, or foraminotomy (unilateral or bilateral with decompression of spinal cord, cauda equina and/or nerve root[s] [eg, spinal or lateral recess stenosis]), during posterior interbody arthrodesis, lumbar; each additional vertebral segment (List separately in addition to code for primary procedure)

63185 ..... Laminectomy with rhizotomy; 1 or 2 segments

63190 ..... Laminectomy with rhizotomy; more than 2 segments

63200 ..... Laminectomy, with release of tethered spinal cord, lumbar

63252 ..... Laminectomy for excision or occlusion of arteriovenous malformation of spinal cord; thoracolumbar

63267 ..... Laminectomy for excision or evacuation of intraspinal lesion other than neoplasm, extradural; lumbar

63272 ..... Laminectomy for excision of intraspinal lesion other than neoplasm, intradural; lumbar

63277 ..... Laminectomy for biopsy/excision of intraspinal neoplasm; extradural, lumbar

63282 ..... Laminectomy for biopsy/excision of intraspinal neoplasm; intradural, extramedullary, lumbar

63287 ..... Laminectomy for biopsy/excision of intraspinal neoplasm; intradural, intramedullary, thoracolumbar

63290 ..... Laminectomy for biopsy/excision of intraspinal neoplasm; combined extradural-intradural lesion, any level

Noninvasive Electrical Bone Growth Stimulation

Description

Bone growth stimulators, also known as osteogenesis stimulators, are utilized to promote bone healing in spinal fusion through delivery of electrical current to the fusion site. Noninvasive devices are worn externally, beginning at any time from the date of surgery until up to 6 months after surgery.

Clinical Indications

Thoracic or Lumbar Fusion

Noninvasive electrical stimulation of the spine to augment primary thoracic or lumbar spinal fusion is considered medically necessary in individuals at high risk for pseudoarthrosis in **ANY** of the following scenarios:

- Fusion revision (e.g., repeat surgery due to prior unhealed fusion attempt) when at least 6 months have passed since the original surgery and imaging studies confirm that healing has not progressed in the preceding 3 months
- Fusion performed at two (2) or more adjacent levels*

  **Defined as 2 or more motion segments (3 vertebrae); alternatively, one level includes the upper and lower vertebral segment and the intervening disc space, e.g., L4-L5 is one level.*
- Presence of **ANY** of the following risk factors:
  - Diabetes
  - Metabolic bone disease (including osteoporosis, osteopenia, and bone disease secondary to renal disease, nutritional deficiency, or conditions in which bone healing is likely to be compromised
  - Immunocompromised
  - Systemic vascular disease
  - History of long term use of corticosteroids
  - Active nicotine use

Cervical Fusion

Noninvasive electrical stimulation of the spine to augment spinal fusion in all regions of the cervical spine is considered medically necessary in individuals at high risk for pseudoarthrosis in **ANY** of the following scenarios:

- Fusion revision (e.g., repeat surgery due to prior unhealed fusion attempt) when at least 6 months has passed since the original surgery and imaging studies confirm that healing has not progressed in the preceding 3 months
- Fusion performed at three (3) or more adjacent levels** for cervical fusion when **ANY** of the following risk factors are present:
  - Diabetes
  - Osteoporosis
  - Active nicotine use

  ***Defined as 3 or more motion segments (4 vertebrae)*

Exclusions

Indications other than those addressed in this guideline are considered **not medically necessary** including, but not limited to, the following:

- Treatment of spondylolysis or pars interarticularis defect
- Semi-invasive electrical bone growth stimulation for any indication
- As an adjunct for primary bone healing of a spinal fracture
- As a nonsurgical treatment of an established pseudoarthrosis

Codes

The following code list is not meant to be all-inclusive. Authorization requirements will vary by health plan. Please consult the applicable health plan for guidance on specific procedure codes.

Specific CPT codes for services should be used when available. Nonspecific or not otherwise classified codes may be subject to additional documentation requirements and review.

CPT/HCPCS

20974 ..... Electrical stimulation to aid bone healing; noninvasive (nonoperative)

E0748..... Osteogenesis stimulator, electrical, non-invasive, spinal applications

Vertebroplasty/Kyphoplasty

Description

Vertebral augmentation procedures have been developed as a treatment option for debilitating pain due to bony destruction of the vertebral body. These are interventional techniques in which bone cement is injected via percutaneous insertion of a needle into the vertebral body under image guidance. The most commonly utilized material is polymethylmethacrylate (PMMA).

Vertebroplasty involves direct injection of material into the bone to stabilize an area of collapse, while kyphoplasty utilizes inflatable bone tamps to create a cavity, thus reducing the fracture and creating a space into which material is then injected.

The objective in both procedures is to alleviate pain and strengthen bone. Their efficacy has been well established for treatment of pain related to malignant lytic bone lesions. The evidence regarding their use in treating pain due to osteoporotic fractures and other bone pathology is less compelling.

Clinical Indications

Percutaneous Vertebroplasty or Kyphoplasty

Percutaneous vertebroplasty or kyphoplasty of the cervical, lumbar, or thoracic region may be considered medically necessary for treatment of the following conditions:

Osteolytic vertebral metastasis, myeloma, or plasmacytoma

Osteolytic vertebral metastasis, myeloma, or plasmacytoma with severe back pain related to destruction of the vertebral body NOT involving the major part of the cortical bone, where chemotherapy or radiation therapy has failed to relieve symptoms

Vertebral hemangiomas

Vertebral hemangiomas with severe pain or nerve compression, or aggressive radiologic signs, when radiation therapy has failed to relieve symptoms

Eosinophilic granuloma

Eosinophilic granuloma with pain and spinal instability

Vertebral compression fracture

Vertebral compression fracture due to osteoporosis or osteopenia when **ALL** of the following requirements are met:

- Recent onset of back pain localized to the fracture site which has not responded to at least 6 weeks of conservative medical management*

  ***Conservative management** should include, but is not limited to, initial bed rest with progressive activity, analgesics, physical therapy, bracing and exercises to correct postural deformity and increase muscle tone, salmon calcitonin, bisphosphonates, and calcium supplementation.*
- Tenderness to palpation directly over the fracture site
- Advanced imaging studies confirming a non-traumatic, acute compression fracture
- Recent imaging studies (MRI or CT) which eliminate disc herniation or other causes of spine pain

- Absence of imaging findings which would confer unacceptable risk to the spinal cord or related structures, including **ALL** of the following:
    - Spinal stenosis of greater than 20% due to retropulsed fragments
    - Vertebral body collapse to less than one third (33%) original height
    - Vertebral plana (collapse greater than 90%)
    - Anatomical damage of the vertebra that prevents safe access of the needle to the vertebral body
    - Burst fracture with retropulsed fragments demonstrated by imaging

Contraindications

- Severe cardiopulmonary disease
- Coagulation disorders
- Known allergy to any of the materials used in either procedure
- Active or incompletely treated infection

Exclusions

Indications other than those addressed in this guideline are considered **not medically necessary** including, but not limited to, the following:

- Prophylaxis in patients deemed to be at risk but with no evidence of acute vertebral fracture
- Non-pathologic, acute traumatic fractures of the vertebra
- Compression fractures shown by the medical record to be more than one year old
- Asymptomatic vertebral compression fracture
- Percutaneous sacroplasty is considered **not medically necessary** for all indications due to lack of conclusive evidence indicating a positive impact to overall health outcomes

Selected References

1. McGuire R. AAOS Clinical Practice Guideline: the Treatment of Symptomatic Osteoporotic Spinal Compression Fractures. The Journal of the American Academy of Orthopaedic Surgeons. 2011;19(3):183-4.
2. Washington State Health Care Authority, Vertebroplasty, Kyphoplasty and Sacroplasty Health Technology Assessment, (2010) Olympia WA, 126 pgs

Codes

The following code list is not meant to be all-inclusive. Authorization requirements will vary by health plan. Please consult the applicable health plan for guidance on specific procedure codes.

Specific CPT codes for services should be used when available. Nonspecific or not otherwise classified codes may be subject to additional documentation requirements and review.

CPT/HCPCS

0200T ..... Percutaneous sacral augmentation (sacroplasty), unilateral injection(s), including the use of a balloon or mechanical device, when used, 1 or more needles

0201T ..... Percutaneous sacral augmentation (sacroplasty), bilateral injections, including the use of a balloon or mechanical device, when used, 2 or more needles

22510 ..... Percutaneous vertebroplasty (bone biopsy included when performed), 1 vertebral body, unilateral or bilateral injection, inclusive of all imaging guidance; cervicothoracic

22511 ..... Percutaneous vertebroplasty (bone biopsy included when performed), 1 vertebral body, unilateral or bilateral injection, inclusive of all imaging guidance; lumbosacral [when specified as lumbar]

22512 ..... Percutaneous vertebroplasty (bone biopsy included when performed), 1 vertebral body, unilateral or bilateral injection, inclusive of all imaging guidance; each additional cervicothoracic or lumbosacral vertebral body [when specified as other than sacral] (List separately in addition to code for primary procedure)

22513 ..... Percutaneous vertebral augmentation, including cavity creation (fracture reduction and bone biopsy included when performed) using mechanical device (e.g., kyphoplasty), 1 vertebral body, unilateral or bilateral cannulation, inclusive of all imaging guidance; thoracic

22514 ..... Percutaneous vertebral augmentation, including cavity creation (fracture reduction and bone biopsy included when performed) using mechanical device (e.g., kyphoplasty), 1 vertebral body, unilateral or bilateral cannulation, inclusive of all imaging guidance; lumbar

22515 ..... Percutaneous vertebral augmentation, including cavity creation (fracture reduction and bone biopsy included when performed) using mechanical device (e.g., kyphoplasty), 1 vertebral body, unilateral or bilateral cannulation, inclusive of all imaging guidance; each additional thoracic or lumbar vertebral body (List separately in addition to code for primary procedure)

Bone Graft Substitutes and Bone Morphogenetic Proteins

Description and Scope

Iliac crest bone graft has long been the standard adjunct utilized in spinal fusion surgery. Morbidity associated with bone graft harvest has led to the development of alternative strategies for facilitating the fusion, including bone morphogenetic proteins, demineralized bone matrix, and graft expanders such as synthetic bone graft and allograft tissue.

Demineralized bone matrix (DBM) is comprised of allograft bone, typically harvested from cadavers, from which inorganic material has been removed. DBM products are produced as putty, paste, and flexible sheets which are placed during the fusion procedure to induce new bone formation and facilitate healing.

Recombinant human bone morphogenetic protein (rhBMP-2) is one of a family of naturally occurring proteins which stimulate bone growth. It has been produced for commercial use utilizing recombinant DNA technology, and has shown some promise in facilitating bone graft healing.

This guideline addresses medical necessity for demineralized bone matrix and recombinant human bone morphogenetic protein when used as adjuncts to spinal fusion procedures.

General Considerations

Bone graft substitutes are typically used in patients who are at risk for graft failure (nonunion or pseudoarthrosis) and for those in whom autograft is not a viable option.

Established risk factors for pseudoarthrosis include the following:

- Diabetes
- Metabolic bone disease (including osteoporosis, osteopenia, and bone disease secondary to renal disease, nutritional deficiency, or conditions in which bone healing is likely to be compromised)
- Immunocompromised
- Systemic vascular disease
- History of long term corticosteroid use
- Active nicotine use

Clinical Indications

Demineralized Bone Matrix

Bone graft substitutes containing demineralized bone matrix (DBM) and synthetic bone graft extenders are considered medically necessary when used as bone graft extenders or in place of a bone graft when autograft is not available.

Recombinant Human Bone Morphogenetic Protein-2

Recombinant human bone morphogenetic protein-2 (rhBMP-2) may be considered medically necessary in skeletally mature persons undergoing the following instrumented lumbar fusion procedures with restrictions as noted:

Anterior lumbar interbody fusion (ALIF) or lateral lumbar interbody fusion (i.e., XLIF)

- Appropriate in all patients other than males with reproductive intent

Posterolateral or intertransverse lumbar fusion when autograft is not feasible for ANY of the following reasons:

- Autograft tissue is not available due to prior autograft
- There is insufficient autograft tissue for the intended procedure
- The patient is not an appropriate candidate for autograft due to **ANY** of the following:
    - Increased risk for complications from harvesting procedure, including anatomic disruption at donor site, or comorbid conditions known to increase surgical risk
    - Poor quality bone (osteopenia/osteoporosis)
    - Obesity
    - Infection or fracture at donor site
    - Lumbar pseudoarthrosis
    - Lumbar fusion greater than or equal to 2 levels

Exclusions

Indications other than those addressed in this guideline are considered **not medically necessary** as an adjunct to spinal fusion including, but not limited to, the following:

- Use of rhBMP-2 as an adjunct to cervical or thoracic spinal fusion procedures
- Use of rhBMP-2 as an adjunct to posterior lumbar interbody fusion (PLIF) or transforaminal lumbar interbody fusion (TLIF)
- Use of mesenchymal stem cell therapy, progenitor cells, or bone marrow aspirates
- Porous hydroxyapatite bone graft substitute

Codes

The following code list is not meant to be all-inclusive. Authorization requirements will vary by health plan. Please consult the applicable health plan for guidance on specific procedure codes.

Specific CPT codes for services should be used when available. Nonspecific or not otherwise classified codes may be subject to additional documentation requirements and review.

CPT/HCPCS

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)

~~20932~~ ..... ~~Allograft, includes templating, cutting, placement and internal fixation, when performed; osteoarticular, including articular surface and contiguous bone (List separately in addition to code for primary procedure)~~

~~20933~~ ..... ~~Allograft, includes templating, cutting, placement and internal fixation, when performed; hemicortical intercalary, partial (ie, hemicylindrical) (List separately in addition to code for primary procedure)~~

~~20934~~ ..... ~~Allograft, includes templating, cutting, placement and internal fixation, when performed; intercalary, complete (ie, cylindrical) (List separately in addition to code for primary procedure)~~

20936 ..... Autograft for spine surgery only (includes harvesting the graft); local (e.g., 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)

C9359..... Porous purified collagen matrix bone void filler (Integra Mozaik Osteoconductive Scaffold Putty, Integra OS Osteoconductive Scaffold Putty), per 0.5 cc

C9362..... Porous purified collagen matrix bone void filler (Integra Mozaik Osteoconductive Scaffold Strip), per 0.5 cc

History

Status	Review Date	Effective Date	Action
Revised	11/11/2021	09/11/2022	Independent Multispecialty Physician Panel (IMPP) review. Cervical decompression with or without fusion, cervical disc arthroplasty: added criteria for when revision or replacement may be medically necessary. New indication for 2-level cervical disc arthroplasty at a 2nd contiguous level to a previously performed arthroplasty. Lumbar disc arthroplasty: added requirement to manage underlying psychiatric disorder; added contraindications (i.e., prior fusion, poorly managed psychiatric disorder, chronic radiculopathy) and exclusion for prior lumbar fusion. Lumbar fusion: removed "associated neurological deficits" as a clinical consideration for Scheuermann's kyphosis; expanded scoliosis indication to include thoracic for progressive adolescent idiopathic, increased Cobb angle to greater than 50 degrees in skeletally mature patients; revised spinal stenosis to require surgeon's interpretation of flexion-extension lateral spine x-ray documented in the medical record, added indications for recurrent and adjacent-level stenosis after a prior fusion, and planned indirect decompression via anterior approach. Removed CPT codes 20932, 20933, 20934, and HCPCS code C9757.
Revised	11/11/2021	06/12/2022 for commercial and Medicare; 09/11/2022 for Medicaid	Independent Multispecialty Physician Panel (IMPP) review. Added indication for 2-level lumbar disc arthroplasty when using a 2-Level FDA-approved implant (exception added under exclusions). Lumbar discectomy: removed exclusion for annular closure devices. Lumbar fusion: removed exclusion for anterior lumbar interbody fusion for indirect lumbar decompression in the absence of instability. Updated references.
Updated	–	01/01/2022	2022 Annual CPT code update: added 63052 and 63053; description changes for 22600, 22610, 22612, 22614, 22633, 22634, 63048.
Revised	05/26/2021	11/07/2021	~~Independent Multispecialty Physician Panel (~~IMPP~~)~~ review. Clarification allows for use of an additional FDA-approved device (Simplify Disc) for two-level cervical artificial disc replacement. Updated references.
Revised	12/03/2020	09/12/2021	IMPP review. Aligned conservative care definitions across musculoskeletal surgery and spine imaging guidelines. Added a more rigorous definition of the supervised home PT requirement for cervical and lumbar surgery, and removed cognitive behavioral therapy as a conservative care modality. Added standard conservative management requirement for instability to align with spinal stenosis indications. New comprehensive indication for tethered cord syndrome.
Revised	07/08/2020	03/14/2021	IMPP review. Added exclusion for use of bone-anchored annular closure devices (lumbar discectomy/foraminotomy/laminotomy). Added HCPCS code C9757.
Updated	–	01/01/2021	2021 Annual CPT code update: removed 63180 and 63182.
Revised	–	05/17/2020	Added CPT codes 0200T and 0201T.

Status	Review Date	Effective Date	Action
Revised	06/10/2019	02/09/2020	IMPP review. Modified conservative management requirements to include physical therapy or home therapy plus a complementary modality for all spine procedures. Decreased duration of conservative management requirement and added age, level, and sign/symptom requirements for lumbar disc arthroplasty. Decreased duration of conservative management requirement for lumbar fusion and lumbar laminectomy in patients with spinal stenosis. Added active nicotine use as a risk factor for pseudoarthrosis in graft failure (bone growth stimulation and bone graft substitutes). Added thoracic fusion for noninvasive electric stimulation. For lumbar fusion, added indication for implant/instrumentation failure, added juvenile and congenital to adolescent idiopathic scoliosis, and added exclusion for anterior lumbar interbody fusion for foraminal stenosis without evidence of instability. For lumbar laminectomy, aligned lumbar disc herniation criteria with discectomy and added indication for synovial cyst.
Revised	–	01/01/2020	2020 Annual CPT code update: removed 0375T.
Revised	09/12/2018	05/18/2019	IMPP review. Reporting of symptom severity expanded to include instrumental ADLs. Removed nicotine-free documentation requirement from tobacco cessation. Added exclusions for cervical/thoracic laminectomy and lumbar laminectomy when criteria not met. Added radicular pain clarification to initial lumbar herniated disc criteria (lumbar discectomy/foraminotomy/laminotomy). For lumbar fusion, added criteria for flat back deformity and isthmic spondylolisthesis; added indication for Scheuermann's kyphosis. Added risk factor criteria for cervical noninvasive bone growth stimulation.
Revised	09/12/2018	01/01/2019	IMPP review. Added indications for non-traumatic atlantoaxial instability (cervical decompression). Added indications/criteria for the appropriate use of laminectomy for cordotomy (cervical laminectomy); biopsy, excision, or evacuation (cervical/lumbar laminectomy); and dorsal rhizotomy (lumbar laminectomy). Code updates: added 0095T, 22210, 22216, 22220, 22226, 22532, 22548, 22556, 22590, 22595, 63003, 63016, 63046, 63055, 63180, 63182, 63185, 63190, 63191, 63194, 63196, 63198, 63250, 63265, 63270, 63275, 63280, 63285, 63300, 63304, 63308 (cervical decompression); added 0095T, 0098T, 0375T (cervical disc arthroplasty); added 0163T, 0164T, 0165T (lumbar disc arthroplasty); added 0164T and removed 22210, 22220, 63300, 63304 (lumbar fusion); added 63185, 63190, 63200, 63252, 63267, 63272, 63277, 63282, 63287, 63290 (lumbar laminectomy); added 20932, 20933, 20934, 20939, C9359, C9362 (bone graft substitutes).
Revised	07/11/2018	03/09/2019	IMPP review. Added the General Clinical Guideline.
Revised	12/12/2017	07/01/2018	IMPP review. Added osteotomy and corpectomy to definitions, and clarified instrumentation failure to include implants and imaging evidence for cervical decompression and lumbar fusion. Added *anterolisthesis* to specify source of instability and removed *need for bilateral or wide decompression* for lumbar fusion in treatment of spinal stenosis.
Created	06/13/2017	11/01/2017	IMPP review. Original effective date.