Corporate Medical Policy

Lumbar Spine Fusion Surgery

File Name:	lumbar_spine_fusion_surgery
Origination:	9/2010
Last CAP Review:	5/2016
Next CAP Review:	5/2017
Last Review:	5/2016

Description of Procedure or Service

Low back pain is a common affliction affecting over 80% of the general population at some time in the course of life. Although much of low back pain does not have a precisely identifiable cause, low back pain can be caused by a variety of conditions including degenerative disc disease, muscle strain, skeletal trauma, infection and tumor. Most cases of low back pain without an identifiable cause improve with conservative therapy including physical therapy, exercise, and/or analgesics. When the spine becomes unstable, for example, due to spondylolisthesis, trauma, infection or tumor, and for certain other identified causes of chronic, unremitting back pain, a fusion procedure is often recommended to provide stability or pain relief to the affected portion of the spine.

Arthrodesis (fusion) procedures in the lumbar (lower) spine are surgical procedures that join two or more lumbar vertebrae together into one solid bony structure. These procedures may be used to treat spine instability, cord compression due to severe degenerative disc disease, fractures in the lumbar spine or destruction of the vertebrae by infection or tumor. There are several methods or approaches to this surgery.

The most common approach to arthrodesis (fusion) of the lumbar spine is the posterior approach. After the vertebrae are exposed through the back, pressure on the nerve roots and/or spinal cord is removed ("decompressed"). This usually includes removing part or all of the nearby lamina bone, facet joints, any free disc fragments, or filing down any nearby bone spurs to relieve the nerves inside the spinal canal of tension and pressure. Additional decompression for the nerve roots and spinal cord may be required by cutting a larger opening in the neural foramina, the openings through which the spinal nerves pass out from the spinal cord to the limbs. This procedure is called "foraminotomy."

In preparation for the spinal fusion, a layer of bone off the back surfaces of the affected spinal column is removed. Small strips of bone called bone grafts are then removed from the top rim of the pelvis and placed over the now exposed bone surfaces of the spinal column. As healing occurs, the bone strips will fuse across the spaces in between the vertebral bodies, such as the disc spaces or the facet joint spaces.

To reinforce the fusion procedure, the bones may be fixated in place using a combination of metal screws, rods, and plates. This instrumentation holds together the vertebrae to be fused, to prevent them from moving during the bone healing process.

Other approaches to the lumbar spinal fusion include: 1) Anterior/anterolateral approach: The decompression of the nerves and intervertebral fusion is similar to the posterior approach, except that the intervertebral space is fused by approaching the spine through the abdomen instead of the lower back. 2) Anterior/ Posterior Lumbar Fusion: The intervertebral space is fused by approaching the spine through both the abdomen and the lower back. 3) Lateral extracavitary approach: The intervertebral space is fused by approaching the spine from the side or laterally.

For conditions such as disc herniation and spinal stenosis, medical literature suggests that back surgery with and without fusion result in similar improvement in symptoms over time. For these same conditions, decompression surgery alone is often equally as effective as decompression with arthrodesis (fusion) surgery.

Related Polices
Axial Lumbosacral Interbody Fusion
Bone Morphogenetic Protein
Electrical Bone Growth Stimulation
Artificial Intervertebral Disc
Interspinous Fixation (Fusion) Devices

This policy addresses specifically the circumstances under which arthrodesis (fusion) surgery of the lumbar spine is considered medically necessary in adults. It does not address decompression surgery. Pediatric and adolescent cases will be addressed on an individual consideration basis.

******Note: This Medical Policy is complex and technical. For questions concerning the technical language and/or specific clinical indications for its use, please consult your physician.***

Policy

BCBSNC will provide coverage for Lumbar Spinal Fusion when it is determined to be medically necessary because the medical criteria and guidelines shown below are met.

Benefits Application

This medical policy relates only to the services or supplies described herein. Please refer to the Member's Benefit Booklet for availability of benefits. Member's benefits may vary according to benefit design; therefore member benefit language should be reviewed before applying the terms of this medical policy.

When Lumbar Spine Fusion Surgery is covered

BCBSNC will provide coverage for Lumbar Spinal Fusion procedures for any one of the following conditions:

1. Spinal fracture with instability or neural compression
2. Spinal repair surgery for dislocation, tumor or infection (including abscess, osteomyelitis, discitis, tuberculosis, or fungal infection) when debridement is necessary and the extent of the debridement to help eradicate the infection creates or could create an unstable spine.
3. Spinal stenosis with ALL of the following:
   a. Associated spondylolisthesis demonstrated on plain x-rays or other imaging; **and**
   b. Any one of the following:
      - Neurogenic claudication or radicular pain that results in significant functional impairment in a patient who has failed at least 3 months of conservative care and has documentation of central/lateral recess/or foraminal stenosis on MRI or other imaging. **or**
      - Severe or rapidly progressive symptoms of motor loss, neurogenic claudication or cauda equina syndrome.
4. Severe, progressive idiopathic scoliosis (i.e., lumbar or thoracolumbar) with Cobb angle > 40 degrees.
5. Severe degenerative scoliosis with any one of the following:
   a. Documented progression of deformity with persistent axial (non-radiating) pain and impairment or loss of function unresponsive to at least 3 months of

conservative therapy. **or**

b. Persistent and significant neurogenic symptoms (claudication or radicular pain) with impairment or loss of function, unresponsive to at least 3 months of conservative care.

6. Isthmic spondylolisthesis, either congenital (Wiltse type I) or acquired pars defect (Wiltse II), documented on x-ray, and with persistent back pain (with or without neurogenic symptoms), with impairment or loss of function, unresponsive to at least 6 months of conservative nonsurgical care.
7. Recurrent, same level, disc herniation, at least 6 months after previous disc surgery, with recurrent neurogenic symptoms (radicular pain or claudication), with impairment or loss of function, unresponsive to at least 3 months of conservative nonsurgical care, and with neural structure compression documented by appropriate imaging, and in a patient who had experienced significant interval relief of prior symptoms.
8. Adjacent Segment Degeneration, at least 6 months after previous fusion, with recurrent neurogenic symptoms (radicular pain or claudication), with impairment or loss of function, unresponsive to at least 3 months of conservative nonsurgical care, and with neural structure compression documented by appropriate imaging, and in a patient who had experienced significant interval relief of prior symptoms.
9. Pseudarthrosis, documented radiographically, no less than 6 months after initial fusion, with persistent axial back pain, with or without neurogenic symptoms, with impairment or loss of function, in a patient who had experienced significant interval relief of prior symptoms.
10. Iatrogenic or degenerative flatback syndrome with significant sagittal imbalance; when fusion is performed with spinal osteotomy.

Please Note:
This policy addresses specifically the circumstances under which arthrodesis (fusion) surgery of the lumbar spine is considered medically necessary. It does not address decompression surgery.

When Lumbar Spine Fusion Surgery is not covered

BCBSNC will not provide coverage for lumbar spine arthrodesis (fusion) surgery when it is considered **not medically necessary**.

1. Lumbar spine arthrodesis (fusion) surgery is considered **not medically necessary** unless one of the above conditions is met.

2. Lumbar spinal fusion is also considered **not medically necessary** if the sole indication is any one or more of the following conditions:
   - Disc Herniation
   - Degenerative Disc Disease
   - Initial discectomy/laminectomy for neural structure decompression
   - Facet Syndrome

Policy Guidelines

Conservative nonsurgical therapy for the duration specified must include the following:

-Use of prescription strength analgesics (including anti-inflammatory medications if not contraindicated), **and**

-Participation in physical therapy (including active exercise), **and**

-Evaluation and appropriate management of associated cognitive, behavioral or addiction issues when present.

Significant functional impairment or loss of function may include documentation of the following: Inability or significantly decreased ability to perform normal daily activities of work, school or at-home duties.

Persistent debilitating pain is defined as:

a. Significant level of pain on a daily basis defined on a Visual Analog Scale (VAS) as greater than 4; **and**
b. Pain on a daily basis that has a documented impact on activities of daily living in spite of optimal conservative non-surgical therapy as outlined above and appropriate for the patient.

Billing/Coding/Physician Documentation Information

This policy may apply to the following codes. Inclusion of a code in this section does not guarantee that it will be reimbursed. For further information on reimbursement guidelines, please see Administrative Policies on the Blue Cross Blue Shield of North Carolina web site at www.bcbsnc.com. They are listed in the Category Search on the Medical Policy search page.

Applicable service codes: *20930, 20931, 20936, 20937, 20938, 22533, 22534, 22558,22585,22612, 22614, 22630, 22632, 22633, 22634, 22800,22802, 22804, 22808, 22810, 22812, 22840, 22841, 22842, 22843, 22844, 22845, 22846, 22847, 22848, 22849, 22851,.*

BCBSNC may request medical records for determination of medical necessity. When medical records are requested, letters of support and/or explanation are often useful, but are not sufficient documentation unless all specific information needed to make a medical necessity determination is included.

Scientific Background and Reference Sources

Weinstein JN, et al. Surgical versus nonsurgical treatment for lumbar degenerative spondylolisthesis. *New England Journal of Medicine* 2007; 356(22):2257-70.

Deyo RA, Mirza SK, Martin BI, et al. Trends, major complications, and charges associated with surgery for lumbar spinal stenosis in older adults. *JAMA*. 2010;303(13):1259-1265

North American Spine Society (NASS) Diagnosis and treatment of degenerative lumbar spinal stenosis. NASS Clinical Practice Guidelines [Internet] Burr Ridge, IL: North American Spine Society 2007 Jun. Accessed October 7, 2009 from http://www.spine.org/.

Brox JI, et al. Lumbar instrumented fusion compared with cognitive intervention and exercises in patients with chronic back pain after previous surgery for disc herniation: a prospective randomized controlled study. *Pain* 2006;122(1-2):145-55

Thome C, et al. Outcome after less-invasive decompression of lumbar spinal stenosis: a randomized comparison of unilateral laminotomy, bilateral laminotomy, and laminectomy. *Journal of Neurosurgery: Spine* 2005; 3(2):129-41.

Transfeldt EE, Mehbod AA. Evidence-based medicine analysis of isthmic spondylolisthesis treatment including reduction versus fusion in situ for high-grade slips. Spine 2007; 32(19 Suppl):S126-9.

Specialty Matched Consultants – 8/2010

Senior Medical Director - 9/2010

Specialty Matched Consultants – 1/2011

Senior Medical Director – 1/2011

Specialty Matched Consultant Advisory Panel – 5/2011

Rasmussen C, et al. Rates of lumbar disc surgery before and after implementation of multidisciplinary nonsurgical spine clinics. *Spine* 2005:30:2469-2473.

Fairbank J, et al. Randomised controlled trial to compare surgical stabilization of the lumbar spine with an intensive rehabilitation programme for patients with chronic low back pain: the MRC spine stabilization trial. *BMJ*, doi:10.1136/bmj.38441.620417.BF (published 23 May 2005)

Bono CM, Lee CK. Critical analysis of trends in fusion for degenerative disc disease over the past 20 years. *Spine*; 29(4):455-463.

Grob D, et al. Degenerative lumbar spinal stenosis. *The Journal of Bone and Joint Surgery.* 1995. 77-A(7):1036-1041.

Specialty Matched Consultant Advisory Panel 5/2012

Chou R, et al. Interventional therapies, surgery, and interdisciplinary rehabilitation for low back pain: an evidence-based clinical practice guideline from the American Pain Society. Spine 2009; 34(10):1066-77.

Weinstein JN, et al. Surgical versus nonoperative treatment for lumbar spinal stenosis four-year results of the Spine Patient Outcomes Research Trial. Spine 2010;35(14):1329-38.

Weinstein JN, et al. Surgical compared with nonoperative treatment for lumbar degenerative spondylolisthesis. four-year results in the Spine Patient Outcomes Research Trial (SPORT) randomized and observational cohorts. Journal of Bone and Joint Surgery. American Volume 2009;91(6):1295-304.

Kreiner DS, et al. Diagnosis and treatment of degenerative lumbar spinal stenosis. Evidence-based clinical guidelines for multidisciplinary spine care [Internet] North American Spine Society. 2011 Accessed at: http://www.spine.org/. [created 2008] [place access date here]

Hu SS, Tribus CB, Diab M, Ghanayem AJ. Spondylolisthesis and spondylolysis. Journal of Bone and Joint Surgery. American Volume 2008;90(3):656-71.

Parker SL, et al. Determination of minimum clinically important difference in pain, disability, and quality of life after extension of fusion for adjacent-segment disease. Journal of Neurosurgery: Spine 2012;16(1):61-7.

Ploumis A, Transfledt EE, Denis F. Degenerative lumbar scoliosis associated with spinal stenosis. Spine Journal 2007;7(4):428-36.

Tran de QH, Duong S, Finlayson RJ. Lumbar spinal stenosis: a brief review of the nonsurgical management. Canadian Journal of Anaesthesia 2010;57(7):694-703.

Chou R, et al. Diagnosis and treatment of low back pain: a joint clinical practice guideline from the American College of Physicians and the American Pain Society. Annals of Internal Medicine 2007;147(7):478-91.

Brox JI, Nygaard OP, Holm I, Keller A, Ingebrigtsen T, Reikeras O. Four-year follow-up of surgical versus non-surgical therapy for chronic low back pain. Annals of the Rheumatic Diseases 2010;69(9):1643-8.

Fu KM, et al. Morbidity and mortality in the surgical treatment of 10,329 adults with degenerative lumbar stenosis. Journal of Neurosurgery: Spine 2010;12(5):443-6.

Sansur CA, et al. Morbidity and mortality in the surgical treatment of 10,242 adults with spondylolisthesis. Journal of Neurosurgery: Spine 2010;13(5):589-93.

Specialty Matched Consultant Advisory Panel 5/2013

Specialty Matched Consultant Advisory Panel 5/2014

BCBSA Medical Policy Reference Manual [Electronic Version]. 7.01.141, 5/22/14

BCBSA Medical Policy Reference Manual [Electronic Version]. 7.01.141, 11/13/2014

Specialty Matched Consultant Advisory Panel 5/2015

Specialty Matched Consultant Advisory Panel 5/2016

BCBSA Medical Policy Reference Manual [Electronic Version]. 7.01.141, 5/19/2016

Policy Implementation/Update Information

9/28/10 New policy written. BCBSNC will provide coverage for Lumbar Spinal Fusion when it is determined to be medically necessary because the medical criteria and guidelines are met. Notice given 9/28/2010. Policy effective 1/1/2011. (btw)

2/1/11 The following sentence in the "Description" section was revised from "For conditions such as **degenerative disc disease** and spinal stenosis, medical literature suggests that back surgery with and without fusion result in similar improvement in symptoms over time." to "For conditions such as **disc herniation** and spinal stenosis, medical literature suggests that back surgery with and without fusion result in similar improvement in symptoms over time." Added verbiage indicating that this policy is specific to **adults** and the following statement; "**Pediatric and adolescent cases will be addressed on an individual consideration basis."** In the "When Covered" section revised number 2. from; "Spinal repair surgery for dislocation, abscess or tumor" to "Spinal repair surgery for dislocation, tumor or **infection (including abscess, osteomyelitis, discitis, or fungal infection) when debridement is necessary and the extent of the debridement to help eradicate the infection creates or could create an unstable spine**." In 4.b. second bullet changed the statement from "Severe or rapidly progressive symptoms of neurogenic claudication or cauda equina syndrome." to "Severe or rapidly progressive symptoms of **motor loss**, neurogenic claudication or cauda equina syndrome." Number 7 revised from "Spondylolisthesis, isthmic (type II), with documented progression of slippage," to "Isthmic spondylolisthesis, either congenital (Wiltse type I) or acquired pars defect (Wiltse II), documented on x-ray". Added number 11. "Iatrogenic or degenerative flatback syndrome with significant sagittal imbalance; when fusion is performed with spinal osteotomy." Reviewed with Senior Medical Director 1/20/2011. (btw)

6/21/11 Specialty Matched Consultant Advisory Panel review 5/25/2011. No change to policy statement. References added. (btw)

1/1/12 Added new 2012 CPT codes, 22633 and 22634 to "Billing/Coding" section. (btw)

1/24/12 CPT code 22624 corrected to 22634 in Billing/Coding section. (btw)

9/18/12 Specialty Matched Consultant Advisory Panel review. No change to policy intent. References added. (btw)

7/16/13 Specialty Matched Consultant Advisory Panel review 5/15/2013. No change to policy. References added. (btw)

6/10/14 Specialty Matched Consultant Advisory Panel review 5/27/2014. No change to policy. (btw)

2/24/15 Reference added. Senior Medical Director review. Added tuberculosis to statement 2 under When Covered section. Added "other imaging" to statement 3a under When Covered section. (sk)

10/1/15 Specialty Matched Consultant Advisory Panel review 5/26/2015. (sk)

7/1/16 Specialty Matched Consultant Advisory Panel review 5/25/2016. Reference added. (sk)