



MASSACHUSETTS

Blue Cross Blue Shield of Massachusetts is an independent Licensee of the Blue Cross and Blue Shield Association

Medical Policy Axial Lumbosacral Interbody Fusion

Table of Contents

- [Policy: Commercial](#)
- [Policy: Medicare](#)
- [Authorization Information](#)
- [Coding Information](#)
- [Description](#)
- [Policy History](#)
- [Information Pertaining to All Policies](#)
- [References](#)

Policy Number: 404

BCBSA Reference Number: 7.01.130

NCD/LCD: NA

Related Policies

- Interspinous Distraction Devices (Spacers), #[584](#)
- Total Facet Arthroplasty , #[174](#)
- Ultrasound Accelerated Fracture Healing Device, #[497](#)

Policy

**Commercial Members: Managed Care (HMO and POS), PPO, and Indemnity
Medicare HMO BlueSM and Medicare PPO BlueSM Members**

Axial lumbosacral interbody fusion (axial LIF) is considered [INVESTIGATIONAL](#).

Prior Authorization Information

Inpatient

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

Outpatient

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

	Outpatient
Commercial Managed Care (HMO and POS)	This is not a covered service.
Commercial PPO and Indemnity	This is not a covered service.
Medicare HMO Blue SM	This is not a covered service.
Medicare PPO Blue SM	This is not a covered service.

CPT Codes / HCPCS Codes / ICD Codes

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

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

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

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

CPT Codes

CPT Codes	Description
22586	Arthrodesis, pre-sacral interbody technique, including disc space preparation, discectomy, with posterior instrumentation, with image guidance, includes bone graft when performed, L5-S1 interspace

Description

Axial lumbosacral interbody fusion (also called pre-sacral, trans-sacral or paracoccygeal interbody fusion) is a minimally invasive technique designed to provide anterior access to the L4-S1 disc spaces for interbody fusion, while minimizing damage to muscular, ligamentous, neural, and vascular structures. It is performed under fluoroscopic guidance.

The procedure for one level axial lumbosacral interbody fusion (axial LIF) is as follows (1): Under fluoroscopic monitoring, a blunt guide pin introducer is passed through a 15- to 20-mm incision lateral to the coccyx and advanced along the midline of the anterior surface of the sacrum. A guide pin is introduced and tapped into the sacrum. A series of graduated dilators are advanced over the guide pin, and a dilator sheath attached to the last dilator is left in place to serve as a working channel for the passage of instruments. A cannulated drill is passed over the guide pin into the L5-S1 disc space to rest on the inferior endplate of L5. It is followed by cutters alternating with tissue extractors, and the nucleus pulposus is debulked under fluoroscopic guidance. Next, bone graft material is injected to fill the disc space. The threaded rod is placed over the guide pin and advanced through the sacrum into L5. The implant is designed to distract the vertebral bodies and restore disc and neural foramen height.

Additional graft material is injected into the rod, where it enters into the disc space through holes in the axial rod. A rod plug is then inserted to fill the cannulation of the axial rod. Percutaneous placement of pedicle or facet screws may be used to provide supplemental fixation. An advantage of axial LIF is that it allows preservation of the annulus and all paraspinous soft tissue structures. However, there is an increased need for fluoroscopy and an inability to address intracanal pathology or visualize the discectomy procedure directly. Complications of the axial approach may include perforation of the bowel and injury to blood vessels and/or nerves.

Summary

The available published evidence on axial LIF consists of case series. This evidence is insufficient to evaluate whether axial LIF is as effective or as safe as other surgical approaches to lumbosacral interbody fusion, due to the variable natural history of the disorder and the subjective nature of the main outcomes. In addition, there are a relatively large number of adverse event reports in the MAUDE database for axial LIF, which raises the possibility of an increased risk of complications. Controlled trials are needed to better define the benefits and risks of this procedure compared to alternative treatment options. Due to limited evidence and concerns about the safety and efficacy of the axial approach, axial LIF is considered investigational.

Policy History

Date	Action
1/2019	Clarified coding information.
1/2018	Clarified coding information.
5/2016	New references added from BCBSA National medical policy.
12/2015	Added coding language.
12/2014	New references added from BCBSA National medical policy.
2/2014	New references added from BCBSA National medical policy.
12/2012	Updated to add new CPT code 22586.
9/2012	Updated with New medical policy describing ongoing non-coverage. Information was transferred from medical policy 617, Minimally Invasive Lumbar Interbody Fusion.
1/2012	Reviewed at MPG – Neurology and Neurosurgery, no changes in coverage were made.
12/1/2011	New policy, effective 12/1/2011

Information Pertaining to All Blue Cross Blue Shield Medical Policies

Click on any of the following terms to access the relevant information:

[Medical Policy Terms of Use](#)

[Managed Care Guidelines](#)

[Indemnity/PPO Guidelines](#)

[Clinical Exception Process](#)

[Medical Technology Assessment Guidelines](#)

References

1. Shen FH, Samartzis D, Khanna AJ, et al. Minimally invasive techniques for lumbar interbody fusions. *Orthop Clin North Am.* Jul 2007;38(3):373-386. PMID 17629985
2. U.S. Food and Drug Administration Center for Devices and Radiological Health. Premarket Notification [510(K)] Summary. TranS1® AxiaLIF® Fixation System. http://www.accessdata.fda.gov/cdrh_docs/pdf7/K073514.pdf. Accessed September 5, 2014.
3. U.S. Food and Drug Administration Center for Devices and Radiological Health. Premarket Notification [510(K)] Summary. TranS1® AxiaLIF® II System. http://www.accessdata.fda.gov/cdrh_docs/pdf7/K073643.pdf. Accessed September 5, 2014.
4. Tobler WD, Gerszten PC, Bradley WD, et al. Minimally invasive axial presacral L5-s1 interbody fusion: two-year clinical and radiographic outcomes. *Spine (Phila Pa 1976).* Sep 15 2011;36(20):E1296-1301. PMID 21494201
5. Zeilstra DJ, Miller LE, Block JE. Axial lumbar interbody fusion: a 6-year single-center experience. *Clin Interv Aging.* 2013;8:1063-1069. PMID 23976846
6. Whang PG, Sasso RC, Patel VV, et al. Comparison of axial and anterior interbody fusions of the L5-S1 segment: a retrospective cohort analysis. *J Spinal Disord Tech.* Dec 2014;26(8):437-443. PMID 24196923
7. Gerszten PC, Tobler W, Raley TJ, et al. Axial presacral lumbar interbody fusion and percutaneous posterior fixation for stabilization of lumbosacral isthmic spondylolisthesis. *J Spinal Disord Tech.* Apr 2012;25(2):E36-40. PMID 21964453
8. Marchi L, Oliveira L, Coutinho E, et al. Results and complications after 2-level axial lumbar interbody fusion with a minimum 2-year follow-up. *J Neurosurg Spine.* Sep 2012;17(3):187-192. PMID 22803626
9. Patil SS, Lindley EM, Patel VV, et al. Clinical and radiological outcomes of axial lumbar interbody fusion. *Orthopedics.* Dec 2010;33(12):883. PMID 21162514
10. Gundanna MI, Miller LE, Block JE. Complications with axial presacral lumbar interbody fusion: A 5-year postmarketing surveillance experience. *SAS J.* 2011;5(3):90-94. PMID 25802673
11. Lindley EM, McCullough MA, Burger EL, et al. Complications of axial lumbar interbody fusion. *J Neurosurg Spine.* Sep 2011;15(3):273-279. PMID 21599448
12. North American Spine Society. Diagnosis and treatment of degenerative lumbar spondylolisthesis. 2014; <https://www.spine.org/Documents/ResearchClinicalCare/Guidelines/Spondylolisthesis.pdf>. Accessed April 13, 2016.
13. Resnick DK, Choudhri TF, Dailey AT, et al. Guidelines for the performance of fusion procedures for degenerative disease of the lumbar spine. Part 11: interbody techniques for lumbar fusion. *J Neurosurg Spine.* Jun 2005;2(6):692-699. PMID 16028739

14. National Institute for Health and Clinical Excellence (NICE). Transaxial interbody lumbosacral fusion, IPG 387. 2011; <http://www.nice.org.uk/nicemedia/live/13025/53631/53631.pdf>. Accessed September 5, 2014.