

Corporate Medical Policy

Positional Magnetic Resonance Imaging (MRI)

File Name: positional_magnetic_resonance_imaging_(mri)
Origination: 08/2007
Last Review: 5/2023

Description of Procedure or Service

Positional magnetic resonance imaging (MRI) allows imaging of the patient in various positions, including sitting and standing. This technology is being evaluated for the diagnosis of patients with position dependent back pain.

Determining the cause of back pain is a complex task. In some patients, extensive evaluation with various imaging modalities does not lead to a definitive diagnosis. Some recent studies have suggested that imaging the body in various positions with loading of the spine may lead to more accurate diagnosis. This loading can be accomplished by having the patient stand upright or sit. Also, imaging can be completed with the patient in the position that causes the symptom(s). This is being evaluated in suspected nerve root compression and in some cases of spondylolisthesis.

An open MRI system has been developed that allows imaging of the patient in various positions. The imaging can be conducted with partial or full weight-bearing. Dynamic-kinetic imaging (images obtained during movement) can also be obtained with this system. Conventional MR imaging of the spine is typically completed with the patient in a recumbent position. Weight-bearing can be simulated by imaging in the supine position with a special axial loading device.

One concern with positional MRI is the field strength of the scanners. Today's clinical MRI scanners may operate at a field strength between 0.1 Tesla (T) to 3 T and are classified as either low-field (<0.5 T), midfield (0.5-1.0 T), or high-field (>1.0 T). Low-field MRI is typically used in open scanners. Open scanners are designed for use during interventional or intraoperative procedures, when a conventional design is contraindicated (e.g., an obese or claustrophobic patient), or for changes in patient positioning.

In general, higher field strength results in an increase in signal-to-noise ratio, spatial resolution, contrast and speed. Thus, low-field scanners produce poorer-quality images compared with high-field scanners, and the longer acquisition times with low-field scanners increases the possibility of image degradation due to patient movement. However, field strength has less of an effect on the contrast-to-noise ratio, which determines the extent to which adjacent structures can be distinguished from one another.

******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 not provide coverage for positional (non-recumbent or upright) magnetic resonance imaging (MRI). It is considered investigational. BCBSNC does not cover investigational services.

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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 Positional MRI is covered

Not applicable.

When Positional MRI is not covered

Positional (non-recumbent or upright) magnetic resonance imaging (MRI) is considered investigational, including its use in the evaluation of patients with cervical, thoracic, or lumbosacral back pain.

Policy Guidelines

For individuals who have position-dependent back or neck pain who receive positional MRI, the evidence includes comparative studies. Relevant outcomes are test accuracy, symptoms, functional outcomes, and quality of life. Comparisons of results from positional MRI with results from supine MRI or standing x-ray have indicated that positional MRI provides additional diagnostic data. However, no studies have been identified describing clinical outcomes of patients whose treatments were selected based on these new data. The clinical benefit of basing treatment decisions, including surgery, on these additional findings needs to be established. The evidence is insufficient to determine the effects of the technology on health outcomes.

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 codes: 76498

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

Washington State Department of Labor and Industries. Health Technology Assessment: Standing, Weight-Bearing, Positional, or Upright Magnetic Resonance Imaging. May 31, 2006. Retrieved July 2, 2007 from <http://www.lni.wa.gov/ClaimsIns/Files/OMD/StandMriTAMay2006.pdf>

Hailey D. *Open magnetic resonance imaging (MRI) scanners* [Issues in emerging health technologies issue 92]. Ottawa: Canadian Agency for Drugs and Technologies in Health; 2006.

Weishaupt D, Schmid MR, Zanetti M, Boos N, Romanowski B, Kissling RO, et al. Positional MR imaging of the lumbar spine: does it demonstrate nerve root compromise not visible at conventional MR imaging? *Radiology* 2000; 215(1):247-53.

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Jinkins JR, Dworkin JS, Green CA, Greenhalgh JF, Gianni M, Gelbien M, et al. Upright, Weight-bearing, Dynamic-kinetic Magnetic Resonance Imaging of the Spine--Review of the First Clinical Results. *J HK Coll Radiol* 2003;6:55-74

BCBSA Medical Policy Reference Manual [Electronic Version]. 6.01.48, 2/15/07

BCBSA Medical Policy Reference Manual [Electronic Version]. 6.01.48, 4/9/08

BCBSA Medical Policy Reference Manual [Electronic Version]. 6.01.48, 4/08/2010

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BCBSA Medical Policy Reference Manual [Electronic Version]. 6.01.48, 4/10/14

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Specialty Matched Consultant Advisory Panel 6/2015

BCBSA Medical Policy Reference Manual [Electronic Version]. 6.01.48, 9/10/15

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Specialty Matched Consultant Advisory Panel 5/2021

Medical Director review 5/2021

Specialty Matched Consultant Advisory Panel 5/2022

Medical Director review 5/2022

Specialty Matched Consultant Advisory Panel 5/2023

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Policy Implementation/Update Information

8/27/07	New policy issued. Positional (non-recumbent or upright) magnetic resonance imaging (MRI) is considered investigational, including its use in the evaluation of patients with cervical, thoracic, or lumbosacral back pain. (adn)
6/16/08	Specialty Matched Consultant Advisory Panel review 5/15/08. No change to policy statement. (adn)
6/22/10	Policy Number(s) removed (amw)
9/14/10	Description section revised. Policy Guidelines updated. Policy status changed to "Active policy, no longer scheduled for routine literature review." (adn)
10/30/12	Added CPT 76498 to Billing/Coding section. Revised policy guidelines section. No change to policy statement. Converted policy from active archive status to active status. (lpr)
2/24/15	Reference added. No change to policy statement. (lpr)
7/28/15	Specialty Matched Consultant Advisory Panel review 6/24/2015. Reference added. No change to policy statement. (lpr)
10/30/15	Policy Guidelines section updated. Reference added. No change to policy statement. (lpr)

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- 7/26/16 Specialty Matched Consultant Advisory Panel review 6/29/2016. No change to policy statement. (an)
- 6/30/17 Reference added. Specialty Matched Consultant Advisory Panel review 5/31/2017. No change to policy statement. (an)
- 6/29/18 Specialty Matched Consultant Advisory Panel review 5/23/2018. No change to policy statement. (an)
- 6/11/19 Policy Guidelines section updated. Reference added. Specialty Matched Consultant Advisory Panel review 5/15/2019. No change in policy statement. (an)
- 6/9/20 Reference added. Specialty Matched Consultant Advisory Panel review 5/20/2020. No change in policy statement. (eel)
- 6/1/21 References added. Specialty Matched Consultant Advisory Panel review 5/2021. Medical Director review 5/2021. No change in policy statement. (bb)
- 5/31/22 References added. Specialty Matched Consultant Advisory Panel review 5/2022. Medical Director review 5/2022. No change in policy statement. (tt)
- 5/30/23 References added. Specialty Matched Consultant Advisory Panel review 5/2023. Medical Director review 5/2023. No change in policy statement. (tt)

Medical policy is not an authorization, certification, explanation of benefits or a contract. Benefits and eligibility are determined before medical guidelines and payment guidelines are applied. Benefits are determined by the group contract and subscriber certificate that is in effect at the time services are rendered. This document is solely provided for informational purposes only and is based on research of current medical literature and review of common medical practices in the treatment and diagnosis of disease. Medical practices and knowledge are constantly changing and BCBSNC reserves the right to review and revise its medical policies periodically.