04-70540-10

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Reviewed: 02/26/26

Revised: 03/15/26

Subject: Functional Magnetic Resonance Imaging (fMRI)

THIS MEDICAL COVERAGE GUIDELINE IS NOT AN AUTHORIZATION, CERTIFICATION, EXPLANATION OF BENEFITS, OR A GUARANTEE OF PAYMENT, NOR DOES IT SUBSTITUTE FOR OR CONSTITUTE MEDICAL ADVICE. ALL MEDICAL DECISIONS ARE SOLELY THE RESPONSIBILITY OF THE PATIENT AND PHYSICIAN. BENEFITS ARE DETERMINED BY THE GROUP CONTRACT, MEMBER BENEFIT BOOKLET, AND/OR INDIVIDUAL SUBSCRIBER CERTIFICATE IN EFFECT AT THE TIME SERVICES WERE RENDERED. THIS MEDICAL COVERAGE GUIDELINE APPLIES TO ALL LINES OF BUSINESS UNLESS OTHERWISE NOTED IN THE PROGRAM EXCEPTIONS SECTION.

Position Statement | Billing/Coding | Reimbursement | Program Exceptions | Definitions | Related Guidelines | Other | References | Update

DESCRIPTION:

Before neurological surgery for seizure disorders or resection of brain tumors, localization of certain areas of the brain, such as language and motor centers (referred to as “eloquent areas”), it is important to minimize or avoid damage or disruption to these areas. There is increased potential for damage or disruption of structures adjacent to the area of surgical interest. There are several methods that may be used to identify eloquent areas of the brain, including Wada test and direct electrical stimulation. Both of these tests are invasive and require involvement of various specialists.

Functional magnetic resonance imaging (fMRI) is proposed as a noninvasive alternative method for location of eloquent brain areas. Functional MRI allows regional mapping of human cognitive functions such as motor skills, vision, language, and memory function. Functional MRI is accomplished by imaging the active patient during the performance of specific tasks. Functional MRI uses sequences based on T2-weighted blood oxygen. Images are collected as various activities are conducted. Laterality indices are calculated, reflecting the interhemispheric difference between activated volumes in the left and right hemispheric regions of interest. These studies are often done on MR scanners with field strengths of 1.5 Tesla or greater. The functional MRI images are processed by computer and interpreted by a physician. The information from the fMRI may be used in neurosurgical planning.

Summary and Analysis of Evidence: Functional magnetic resonance imaging (fMRI) using blood oxygenation level dependent imaging (BOLD) technique is a proven and useful tool for localizing eloquent cortex in relation to a focal brain lesion, such as a neoplasm or vascular malformation (ACR–ASNR–SPR, 2022).

POSITION STATEMENT:

Functional MRI (fMRI) **meets the definition of medical necessity** for the following indications:

Pre-operative/procedural evaluation

In the following where fMRI may have a significant role in the mapping a lesion in relation to eloquent cortex (e.g., language, motor, sensory and visual centers).

- Focal brain lesion for presurgical planning
- Brain tumor for radiation treatment planning
- Pre-operative evaluation for epilepsy surgery.

Post-operative/procedural evaluation

- Therapeutic follow-up. (A documented medical reason must clearly explain the medical necessity for follow-up).

BILLING/CODING INFORMATION:

CPT Coding:

70554	Magnetic resonance imaging, brain, functional MRI; including test selection and administration of repetitive body part movement and/or visual stimulation, not requiring physician or psychologist administration
70555	Magnetic resonance imaging, brain, functional MRI; requiring physician or psychologist administration of entire neurofunctional testing
96020	Neurofunctional testing selection and administration during noninvasive imaging functional brain mapping, with test administered entirely by a physician or other qualified health care professional (i.e., psychologist), with review of test results and report

REIMBURSEMENT INFORMATION:

Refer to section entitled **POSITION STATEMENT**.

PROGRAM EXCEPTIONS:

Federal Employee Plan (FEP): Follow FEP guidelines.

Medicare Advantage products: No Local Coverage Determination (LCD) were found at the time of the last guideline reviewed date. The following National Coverage Determination (NCD) was reviewed on the last guideline reviewed date: Magnetic Resonance Imaging (220.2), located at cms.gov.

If this Medical Coverage Guideline contains a step therapy requirement, in compliance with Florida law 627.42393, members or providers may request a step therapy protocol exemption to this requirement if based on medical necessity. The process for requesting a protocol exemption can be found at Coverage Protocol Exemption Request.

DEFINITIONS:

No guideline specific definitions apply.

RELATED GUIDELINES:

None applicable.

OTHER:

Other names used to report functional MRI:

Blood oxygen level dependent magnetic resonance imaging (MRI)
fMRI
Functional MR Imaging

REFERENCES:

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COMMITTEE APPROVAL:

This Medical Coverage Guideline (MCG) was approved by the Florida Blue Medical Policy and Coverage Committee on 02/26/26.

GUIDELINE UPDATE INFORMATION:

08/15/07	New Medical Coverage Guideline.
01/21/08	Updated Program Exceptions.
05/15/08	Scheduled review. No change in position statements. Updated description section, and references.
05/15/09	Annual review. No change in position statements. Updated references.
05/21/09	Removed Federal Employee Plan (FEP) from BCBSF Radiology Management program exception statement. Added FEP program exception statement: FEP is excluded from the National Imaging Associates (NIA) review; follow FEP guidelines.
07/01/09	Updated BCBSF Radiology Management program exception; added BlueSelect.
01/01/10	Revised BCBSF Radiology Management program exception section.
05/15/11	Scheduled review; no change in position statement. Updated references.

01/01/13	Annual HCPCS coding update; revised 96020 code descriptor.
05/11/14	Revision: Program Exceptions section updated.
03/15/15	Annual review; revised position statement. Updated references.
06/15/18	Revision; revised position statement. Added position statement for post-operative follow-up. Updated references.
02/15/20	Review/revision. Revised position statement; pre-operative evaluation and post-operative follow-up. Updated references.
05/15/22	Review/update. No change in position statement. Updated references.
07/01/22	Revision to Program Exceptions section.
12/09/23	Review: position statements and references updated.
03/15/24	Review; no change in position statement. Updated program exceptions and references.
03/15/25	Review; no change in position statement. Updated references.
03/15/26	Review; no change in position statement.