MAGNETOENCEPHALOGRAPHY AND MAGNETIC SOURCE IMAGING

Coverage for services, procedures, medical devices and drugs are dependent upon benefit eligibility as outlined in the member's specific benefit plan. This Medical Coverage Guideline must be read in its entirety to determine coverage eligibility, if any.

The section identified as “Description” defines or describes a service, procedure, medical device or drug and is in no way intended as a statement of medical necessity and/or coverage.

The section identified as “Criteria” defines criteria to determine whether a service, procedure, medical device or drug is considered medically necessary or experimental or investigational.

State or federal mandates, e.g., FEP program, may dictate that any drug, device or biological product approved by the U.S. Food and Drug Administration (FDA) may not be considered experimental or investigational and thus the drug, device or biological product may be assessed only on the basis of medical necessity.

Medical Coverage Guidelines are subject to change as new information becomes available.

For purposes of this Medical Coverage Guideline, the terms “experimental” and “investigational” are considered to be interchangeable.

Description:

Magnetoencephalography (MEG) is a noninvasive functional imaging technique in which the magnetic forces associated with brain electrical activity are recorded externally on the scalp. This differs from a standard EEG in that it records the magnetic fields instead of the electrical activity. The recorded data provides an estimated location of the electrical activity. This information from the MEG is superimposed on an anatomic image of the brain, typically an MRI scan, to produce a functional/anatomic image of the brain, referred to as magnetic source imaging (MSI). The principal advantage of MSI is that while the measurement of electrical activity is affected by surrounding brain structures, magnetic fields are not, allowing for a high-resolution functional anatomical image.
MAGNETOENCEPHALOGRAPHY AND MAGNETIC SOURCE IMAGING (cont.)

Criteria:

- Magnetoencephalography/magnetic source imaging is considered *medically necessary* for determining the laterality of language function, as a substitute for the Wada test, in individuals undergoing diagnostic workup for evaluation of surgery for epilepsy, brain tumors, and other indications requiring brain resection.

- Magnetoencephalography/magnetic source imaging is considered *medically necessary* as part of the preoperative evaluation of individuals with intractable epilepsy (seizures refractory to at least two first-line anticonvulsants) when standard techniques, such as MRI and EEG, do not provide satisfactory localization of epileptic lesions.

- Magnetoencephalography/magnetic source imaging for all other indications not previously listed is considered *experimental or investigational* based upon insufficient scientific evidence to permit conclusions concerning the effect on health outcomes.

Resources:


MAGNETOENCEPHALOGRAPHY AND MAGNETIC SOURCE IMAGING (cont.)

Resources: (cont.)


