



MEDICAL COVERAGE GUIDELINES
SECTION: RADIOLOGY

ORIGINAL EFFECTIVE DATE: 11/03/05
LAST REVIEW DATE: 10/16/18
LAST CRITERIA REVISION DATE: 11/26/13
ARCHIVE DATE:

MAGNETOENCEPHALOGRAPHY AND MAGNETIC SOURCE IMAGING

Non-Discrimination Statement and Multi-Language Interpreter Services information are located at the end of this document.

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.

This Medical Coverage Guideline provides information related to coverage determinations only and does not imply that a service or treatment is clinically appropriate or inappropriate. The provider and the member are responsible for all decisions regarding the appropriateness of care. Providers should provide BCBSAZ complete medical rationale when requesting any exceptions to these guidelines.

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.

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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.

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 or if above criteria not met is considered **experimental or investigational** based upon insufficient scientific evidence to permit conclusions concerning the effect on health outcomes.



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Resources:

Literature reviewed 10/16/18. We do not include marketing materials, poster boards and non-published literature in our review.

The BCBS Association Medical Policy Reference Manual (MPRM) policy is included in our guideline review. References cited in the MPRM policy are not duplicated on this guideline.

1. 6.01.21 BCBS Association Medical Policy Reference Manual. Magnetoencephalography and Magnetic Source Imaging. Re-issue date 09/13/2018, issue date 12/01/1999.
2. BCBS Association Technology Assessment Program. Magnetoencephalography and Magnetic Source Imaging: Presurgical Localization of Epileptic Lesions and Presurgical Functional Mapping. August 2003;18(6).
3. California Technology Assessment Forum. Magnetoencephalography and Magnetic Source Imaging: Presurgical Locations for Epileptic Lesions and Presurgical Functional Mapping. *Blue Shield of California Foundation*. June 9, 2004.
4. Chuang NA, Otsubo H, Pang EW, Chuang SH. Pediatric magnetoencephalography and magnetic source imaging. *Neuroimaging Clin N Am*. 2006;16(1):193-210, ix-x.
5. Grondin R, Chuang S, Otsubo H, et al. The role of magnetoencephalography in pediatric epilepsy surgery. *Childs Nerv Syst*. 2006;22(8):779-785.
6. Knowlton RC, Elgavish R, Howell J, et al. Magnetic source imaging versus intracranial electroencephalogram in epilepsy surgery: a prospective study. *Ann Neurol*. 2006;59(5):835-842.
7. Lee D, Sawrie SM, Simos PG, Killen J, Knowlton RC. Reliability of language mapping with magnetic source imaging in epilepsy surgery candidates. *Epilepsy Behav*. 2006;8(4):742-749.
8. Widdess-Walsh P, Diehl B, Najm I. Neuroimaging of focal cortical dysplasia. *J Neuroimaging*. 2006;16(3):185-196.



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Non-Discrimination Statement:

Blue Cross Blue Shield of Arizona (BCBSAZ) complies with applicable Federal civil rights laws and does not discriminate on the basis of race, color, national origin, age, disability or sex. BCBSAZ provides appropriate free aids and services, such as qualified interpreters and written information in other formats, to people with disabilities to communicate effectively with us. BCBSAZ also provides free language services to people whose primary language is not English, such as qualified interpreters and information written in other languages. If you need these services, call (602) 864-4884 for Spanish and (877) 475-4799 for all other languages and other aids and services.

If you believe that BCBSAZ has failed to provide these services or discriminated in another way on the basis of race, color, national origin, age, disability or sex, you can file a grievance with: BCBSAZ's Civil Rights Coordinator, Attn: Civil Rights Coordinator, Blue Cross Blue Shield of Arizona, P.O. Box 13466, Phoenix, AZ 85002-3466, (602) 864-2288, TTY/TDD (602) 864-4823, crc@azblue.com. You can file a grievance in person or by mail or email. If you need help filing a grievance BCBSAZ's Civil Rights Coordinator is available to help you. You can also file a civil rights complaint with the U.S. Department of Health and Human Services, Office for Civil Rights electronically through the Office for Civil Rights Complaint Portal, available at <https://ocrportal.hhs.gov/ocr/portal/lobby.jsf>, or by mail or phone at: U.S. Department of Health and Human Services, 200 Independence Avenue SW., Room 509F, HHH Building, Washington, DC 20201, 1-800-368-1019, 800-537-7697 (TDD). Complaint forms are available at <http://www.hhs.gov/ocr/office/file/index.html>

Multi-Language Interpreter Services:

Spanish: Si usted, o alguien a quien usted está ayudando, tiene preguntas acerca de Blue Cross Blue Shield of Arizona, tiene derecho a obtener ayuda e información en su idioma sin costo alguno. Para hablar con un intérprete, llame al 602-864-4884.

Navajo: Díí kwe'é atah nilínigíí Blue Cross Blue Shield of Arizona haada yit'éego bina'idííkidgo éí doodago Háida bíjá anilyeedígíí t'áadoo le'é yina'idííkidgo beehaz'áanii hólo díí t'áa hazaadk'ehjí háká a'doowolgo bee haz'á doo baqah ilínigóó. Ata' halne'ígíí kojí' bich'í' hodíilnih 877-475-4799.

Chinese: 如果您，或是您正在協助的對象，有關於插入項目的名稱 Blue Cross Blue Shield of Arizona 方面的問題，您有權利免費以您的母語得到幫助和訊息。洽詢一位翻譯員，請撥電話 在此插入數字 877-475-4799。

Vietnamese: Nếu quý vị, hay người mà quý vị đang giúp đỡ, có câu hỏi về Blue Cross Blue Shield of Arizona quý vị sẽ có quyền được giúp và có thêm thông tin bằng ngôn ngữ của mình miễn phí. Để nói chuyện với một thông dịch viên, xin gọi 877-475-4799.

Arabic:

إن كان لديك أو لدى شخص تساعد أسئلة بخصوص Blue Cross Blue Shield of Arizona، فلديك الحق في الحصول على المساعدة والمعلومات الضرورية بلغتك من دون أية تكلفة. للتحدث مع مترجم اتصل بـ 877-475-4799.



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Multi-Language Interpreter Services: (cont.)

Tagalog: Kung ikaw, o ang iyong tinutulangan, ay may mga katanungan tungkol sa Blue Cross Blue Shield of Arizona, may karapatan ka na makakuha ng tulong at impormasyon sa iyong wika ng walang gastos. Upang makausap ang isang tagasalin, tumawag sa 877-475-4799.

Korean: 만약 귀하 또는 귀하가 돕고 있는 어떤 사람이 Blue Cross Blue Shield of Arizona 에 관해서 질문이 있다면 귀하는 그러한 도움과 정보를 귀하의 언어로 비용 부담없이 얻을 수 있는 권리가 있습니다. 그렇게 통역사와 얘기하기 위해서는 877-475-4799 로 전화하십시오.

French: Si vous, ou quelqu'un que vous êtes en train d'aider, a des questions à propos de Blue Cross Blue Shield of Arizona, vous avez le droit d'obtenir de l'aide et l'information dans votre langue à aucun coût. Pour parler à un interprète, appelez 877-475-4799.

German: Falls Sie oder jemand, dem Sie helfen, Fragen zum Blue Cross Blue Shield of Arizona haben, haben Sie das Recht, kostenlose Hilfe und Informationen in Ihrer Sprache zu erhalten. Um mit einem Dolmetscher zu sprechen, rufen Sie bitte die Nummer 877-475-4799 an.

Russian: Если у вас или лица, которому вы помогаете, имеются вопросы по поводу Blue Cross Blue Shield of Arizona, то вы имеете право на бесплатное получение помощи и информации на вашем языке. Для разговора с переводчиком позвоните по телефону 877-475-4799.

Japanese: ご本人様、またはお客様の身の回りの方でも、Blue Cross Blue Shield of Arizona についてご質問がございましたら、ご希望の言語でサポートを受けたり、情報を入手したりすることができます。料金はかかりません。通訳とお話される場合、877-475-4799 までお電話ください。

Farsi:

اگر شما، یا کسی که شما به او کمک میکنید ، سوال در مورد Blue Cross Blue Shield of Arizona ، داشته باشید حق این را دارید که کمک و اطلاعات به زبان خود را به طور رایگان دریافت نمایید 877-475-4799 [تماس حاصل نمایید.]

Assyrian:

Blue Cross Blue Shield of Arizona ... 877-475-4799

Serbo-Croatian: Ukoliko Vi ili neko kome Vi pomažete ima pitanje o Blue Cross Blue Shield of Arizona, imate pravo da besplatno dobijete pomoć i informacije na Vašem jeziku. Da biste razgovarali sa prevodiocem, nazovite 877-475-4799.

Thai: หากคุณ หรือคนที่คุณกำลังช่วยเหลือถามเกี่ยวกับ Blue Cross Blue Shield of Arizona คุณมีสิทธิที่จะได้รับความช่วยเหลือและข้อมูลในภาษา ของคุณได้โดยไม่ค่าใช้จ่าย โปรดสอบถาม โทร 877-475-4799