Effective for dates of service on or after April 1, 2013, refer to:
https://www.bcbsal.org/providers/policies/careCore.cfm

Name of Policy:  
Magnetic Resonance Imaging (MRI) of the Temporomandibular Joint (TMJ)

Policy #:  284       Latest Review Date: February 2013
Category: Radiology     Policy Grade: A

Background/Definitions:
As a general rule, benefits are payable under Blue Cross and Blue Shield of Alabama health plans only in cases of medical necessity and only if services or supplies are not investigational, provided the customer group contracts have such coverage.

The following Association Technology Evaluation Criteria must be met for a service/supply to be considered for coverage:

1. The technology must have final approval from the appropriate government regulatory bodies;
2. The scientific evidence must permit conclusions concerning the effect of the technology on health outcomes;
3. The technology must improve the net health outcome;
4. The technology must be as beneficial as any established alternatives;
5. The improvement must be attainable outside the investigational setting.

Medical Necessity means that health care services (e.g., procedures, treatments, supplies, devices, equipment, facilities or drugs) that a physician, exercising prudent clinical judgment, would provide to a patient for the purpose of preventing, evaluating, diagnosing or treating an illness, injury or disease or its symptoms, and that are:

1. In accordance with generally accepted standards of medical practice; and
2. Clinically appropriate in terms of type, frequency, extent, site and duration and considered effective for the patient’s illness, injury or disease; and
3. Not primarily for the convenience of the patient, physician or other health care provider; and
4. Not more costly than an alternative service or sequence of services at least as likely to produce equivalent therapeutic or diagnostic results as to the diagnosis or treatment of that patient’s illness, injury or disease.
Description of Procedure or Service:
Magnetic resonance imaging (MRI) is a technique that affords anatomic images in multiple planes and may provide information on tissue characterization. Lauterbur published the first magnetic resonance image in 1973. Since that time, major technological advances, together with increasing clinical and investigative interest in the method, have been accompanied by the development of equipment that is now clinically applicable to man, with potentially great benefits in assessing pathophysiologic states.

The MR images are obtained by placing the patient or area of interest within a powerful, highly uniform, static magnetic field. Magnetized protons (hydrogen nuclei) within the patient align like small magnets in this field. Radiofrequency pulses are then utilized to create an oscillating magnetic field perpendicular to the main field, from which the nuclei absorb energy and move out of alignment with the static field, in a state of excitation. As the nuclei return from excitation to the equilibrium state, a signal induced in the receiver coil of the instrument by the nuclear magnetization can then be transformed by a series of algorithms into diagnostic images. Images based on different tissue characteristics can be obtained by varying the number and sequence of pulsed radiofrequency fields in order to take advantage of magnetic relaxation properties of the tissues.

Magnetic resonance images differ from those produced by x-rays: the latter are associated with absorption of x-ray energy, while MR images are based on proton density and proton relaxation dynamics. These vary according to the tissue under examination and reflect its physical and chemical properties.

Magnetic resonance imaging (MRI) has replaced computed tomography (CT) and arthrography as the primary modality in the evaluation of the temporomandibular joint (TMJ). Direct visualization of the disk afforded by MRI is a distinct advantage over arthrography. Despite the superior resolution of CT and limited visualization of cortical bone by MRI, most osseous pathology is accurately depicted. Intra-articular abnormalities are readily visible on MRI images, providing further information not available with other imaging modalities.

Policy:
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Effective for dates of service on or after October 1, 2006 through March 31, 2013:
Magnetic resonance imaging (MRI) of the temporomandibular joint (TMJ) meets Blue Cross and Blue Shield of Alabama’s medical criteria for coverage for suspected internal derangement of the TMJ.

Blue Cross and Blue Shield of Alabama does not approve or deny procedures, services, testing, or equipment for our members. Our decisions concern coverage only. The decision of whether or not to have a certain test, treatment or procedure is one made between the physician and his/her patient. Blue Cross and Blue Shield of Alabama administers benefits based on the
members' contract and corporate medical policies. Physicians should always exercise their best medical judgment in providing the care they feel is most appropriate for their patients. Needed care should not be delayed or refused because of a coverage determination.

**Key Points:**
Although arthrography is said to be the criterion standard for diagnosing temporomandibular joint abnormalities, MRI appears to be fast becoming the examination of choice. The objective of MRI is to document both soft and osseous tissue abnormalities of the temporomandibular joint and its surrounding structures. Advantages of MRI over arthrography include the facts that MRI is noninvasive, requires no ionizing radiation for image acquisition, readily obtains multiplanar images in an infinite array of anatomic sections, allows direct visualization of soft tissue components (including disk and joint structures), allows easy bilateral assessment, allows assessment of joint effusion and inflammation, and easily can image structures outside the joint, such as the joint capsule and muscles of mastication.

As a primary imaging modality for internal derangement of the TMJ, CT has fallen into disfavor because of the superiority of MRI but it does have specialized imaging capabilities for assessing bone detail, taking disk density measurements, and 3-D assessment of congenital, traumatic, and postsurgical conditions involving the TMJ.

Advantages of MRI over CT include the lack of ionizing radiation, the ability to perform primary imaging in multiple planes without imaging the patient, the superior image detail of articular soft tissue components, the presence of fewer artifacts resulting from dense bone, and the ability to image bone marrow of the condyle.

**Key Words:**
Magnetic resonance imaging, MRI

**Approved by Governing Bodies:**
FDA approved
In 2006, the Food and Drug Administration (FDA) issued a Public Health Advisory to healthcare professionals regarding Nephrogenic Systemic Fibrosis or Nephrogenic Fibrosing Dermopathy (NSF/NFD) which may occur in patients with moderate to end-stage kidney disease after they have a MRI or Magnetic resonance angiography (MRA) with a gadolinium-based contrast agent.

First identified in 1997, NSF/NFD is almost exclusively found in patients with renal failure and acidosis. Patients with this condition develop fibrosis of the skin and connective tissues throughout the body. The skin thickening may inhibit flexion and extension of joints, resulting in contractures. In addition, patients may develop widespread fibrosis in other organs. A skin biopsy is necessary to make a definitive diagnosis. The disease is progressive and may be fatal. Its cause is unknown.

Patients who receive gadolinium-containing contrast agents should be aware of the following possible signs and symptoms of NSF/NFD and advised to seek medical attention if these occur:
swelling and tightening of the skin; difficulty extending the joints of arms, hands, legs, and feet; weakness, reddened or darkened areas on the skin; burning or itching of the skin; and deep bone pain in the hips and ribs.

Physicians should be cautious regarding the use of gadolinium-containing contrast imaging agents, especially at high doses, in patients with moderate to end-stage renal failure.

**Benefit Application:**
Coverage is subject to member’s specific benefits. Group specific policy will supersede this policy when applicable.

- ITS: Home Policy provisions apply
- BellSouth/AT&T contracts: No special consideration
- FEP contracts: Special benefit consideration may apply. Refer to member’s benefit plan.
- Wal-Mart: Special benefit consideration may apply. Refer to member’s benefit plan.

**Pre-certification requirements:** Effective for dates of service on or after November 1, 2007, required when ordered by a provider in a Blue Cross and Blue Shield of Alabama’s Preferred or Participating Network for a patient covered by Blue Cross and Blue Shield of Alabama who will receive outpatient imaging services(s) from a Preferred Medical Doctor (PMD) or Preferred Radiology Participating (PRP) provider.

**Exceptions to the Alabama PMD and PRP pre-certification requirement:** NASCO, Wal-Mart, Blue Advantage, Flowers Foods, Inc., FEP.

In addition to the above Blue Cross and Blue Shield of Alabama PMD/PRP Network requirement, some self-insured national account groups may require pre-certification for all MRIs effective for dates of service on or after January 1, 2009. Please confirm during your benefit verification process if a pre-certification is required.

**Pre-determination requirements:** Not required. May be done as a courtesy to physicians and members not included in the circumstances described in the above Pre-certification requirements.

**Coding:**
CPT Codes: 70336 Magnetic resonance (e.g., proton) imaging, temporomandibular joint(s)

**References:**

Policy History:
Medical Policy Group, April 2006 (2)
Medical Policy Administration Committee, July 2006
Avail for comment July 28-September 11, 2006
Medical Policy Group, January 2007 (2)
Medical Policy Group, December 2008 (2)
Medical Policy Group, February 2013 (4): Updated policy with link to CareCore National© medical policies effective April 1, 2013
Medical Policy Administration Committee, March 2013
Available for comment February 15 through March 31, 2013
Medical Policy Group. November 2013 (2): Updated link to CareCore National©

This medical policy is not an authorization, certification, explanation of benefits, or a contract. Eligibility and benefits are determined on a case-by-case basis according to the terms of the member’s plan in effect as of the date services are rendered. All medical policies are based on (i) research of current medical literature and (ii) review of common medical practices in the treatment and diagnosis of disease as of the date hereof. Physicians and other providers are solely responsible for all aspects of medical care and treatment, including the type, quality, and levels of care and treatment.

This policy is intended to be used for adjudication of claims (including pre-admission certification, pre-determinations, and pre-procedure review) in Blue Cross and Blue Shield’s administration of plan contracts.