Biofeedback as a Treatment of Pain

Description of Procedure or Service

Biofeedback is a technique intended to teach patients self-regulation of certain physiologic processes not normally considered to be under voluntary control. It is frequently used in conjunction with other therapies (relaxation, behavioral management, medication) to reduce the severity and/or frequency of headaches. Electromyography biofeedback has been evaluated as a method to reduce chronic or recurrent pain of musculoskeletal or psychosomatic origin.

The various forms of biofeedback differ mainly in the nature of the disease or disorder under treatment, the biologic variable that the subject attempts to control, and the information that is fed back to the subject. Biofeedback techniques include peripheral skin temperature feedback, blood-volume-pulse feedback (vasoconstriction and dilation), vasoconstriction training (temporalis artery), and electromyographic (EMG) biofeedback; these may be used alone or in conjunction with other therapies (e.g., relaxation, behavioral management, medication). In general, EMG biofeedback is used to treat tension headaches. With this procedure, electrodes are attached to the temporal muscles, and the patient attempts to reduce muscle tension. Feedback on achievement of a decrease in muscle tension is provided to the subject, reinforcing those activities (behaviors or thoughts) that are effective. Thermal biofeedback, in which patients learn to increase the temperature of their fingertips through the use of imagery and relaxation, is a commonly employed technique for migraine headaches. In this technique, a temperature sensor is placed on the finger, and the subject is taught to increase peripheral vasodilation by providing feedback on skin temperature, an effect that is mediated through sympathetic activity. The combination of thermal biofeedback and relaxation training has also been used to improve migraine symptoms. The pulse amplitude recorded from the superficial temporal artery has also been used to provide feedback. Temporal pulse amplitude biofeedback has been used to treat both chronic tension type headaches and migraine headaches.

Treatment for chronic pain is often multimodal and typically includes psychological therapy. Psychological techniques vary but may include cognitive therapy, which teaches subjects the ability to cope with stressful stimuli by attempting to alter negative thought patterns and dysfunctional attitudes, and behavioral approaches to reduce muscle tension and break the pain cycle. Relaxation, using any of a variety of techniques including meditation or mental imagery, is considered a behavioral therapy that may be used alone or as a component of a cognitive-behavioral therapy program. Electromyography (EMG) biofeedback also has been used for the treatment of chronic pain, with the assumption that the ability to reduce muscle tension will be improved through feedback of data to the patient regarding degree of muscle tension. While some consider EMG biofeedback to be a method used to obtain relaxation, others consider biofeedback to be distinct from other relaxation techniques.

This policy refers only to biofeedback for treatment of headache and chronic pain. For other indications please see policy titled “Biofeedback”.

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Biofeedback as a Treatment of Pain

**Regulatory Status**
A variety of biofeedback devices are cleared for marketing through the U.S. Food and Drug Administration’s (FDA) 510(k) process. These devices are designated by the FDA as class II with special controls and are exempt from the premarket notification requirements. The FDA defines a biofeedback device as “an instrument that provides a visual or auditory signal corresponding to the status of one or more of a patient's physiological parameters (e.g., brain alpha wave activity, muscle activity, skin temperature, etc.) so that the patient can control voluntarily these physiological parameters.”

**Related Policies:**
Biofeedback
Rehabilitation Therapies
Sensory Integration Therapy
Temporomandibular Joint Dysfunction (TMJD) Treatment

***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 provide coverage for Biofeedback when it is determined to be medically necessary because the medical criteria and guidelines shown below are met.

**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.

See Professional Services. See also Sensory Integration Therapy for limitations and exclusions for investigational services.

**When Biofeedback is covered**

Biofeedback may be considered medically necessary as part of the overall treatment plan for migraine and tension-type headache.

**When Biofeedback is not covered**

Biofeedback for the treatment of cluster headache is considered investigational.

Biofeedback as a treatment of chronic pain, including but not limited to low back pain is considered investigational.

Unsupervised home use of biofeedback is not medically necessary.

**Policy Guidelines**

The literature on biofeedback, which includes systematic reviews of a large number of controlled and uncontrolled studies, suggests that this treatment may reduce the number and/or severity of migraine and tension-type headaches. In addition, clinical input and physician specialty society recommendations strongly support the use of biofeedback to treat migraine and tension-type headaches when included in a comprehensive treatment program. Evidence is insufficient to evaluate the effect of biofeedback on cluster headaches. Biofeedback, along with other psychologic and
Biofeedback as a Treatment of Pain

behavioral techniques, such as relaxation training, may be particularly useful for individuals who are not able to take medications.

The evidence for biofeedback in patients who have chronic pain includes multiple randomized controlled trials (RCTs) for different pain syndromes. Relevant outcomes are symptoms, functional outcomes, quality of life, and medication use. The results of these RCTs, some of which are sham-controlled, do not consistently report benefit for biofeedback. Some RCTs have reported improved outcomes with biofeedback, but these improvements are often of uncertain clinical significance or are not durable. Many other RCTs have found that biofeedback did not provide a significantly greater benefit in outcomes when it was used either instead of or in addition to other conservative interventions such as exercise. Overall, the available RCTs were limited by small sample sizes and high dropout rates. This evidence base does not allow conclusions about the specific effects of biofeedback beyond the nonspecific effects of sham interventions, nor does it allow conclusions about the contribution of biofeedback beyond that of other conservative treatments for pain. 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 service codes: 90901, 90911, 90875, 90876

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

For policy titled “Biofeedback”:

Consultant Review (Attention Deficit Disorder) 11/94
Matrix
MPAG Review 3/99
Specialty Matched Consultant Advisory Panel, 5/01
BCBSA Medical Policy Reference Manual, 2.01.28; 5/15/02
BCBSA Medical Policy Reference Manual, 2.01.28, 7/12/02
BCBSA TEC Assessment (December 1997). Neurofeedback. Vol 12, No. 21
Biofeedback as a Treatment of Pain


BCBSA Medical Policy Reference Manual [Electronic Version]. 2.01.27, 10/10/06


Biofeedback as a Treatment of Pain

BCBSA Medical Policy Reference Manual [Electronic Version], 2.01.64, 1/9/14
BCBSA Medical Policy Reference Manual [Electronic Version], 2.01.28, 7/10/14
BCBSA Medical Policy Reference Manual [Electronic Version], 2.01.64, 1/15/15
BCBSA Medical Policy Reference Manual [Electronic Version], 2.01.27, 7/9/15
Medical Director review 8/2015
BCBSA Medical Policy Reference Manual [Electronic Version], 2.01.64, 11/12/15

Policy Implementation/Update Information

For policy titled: Biofeedback

11/94 Original policy issued
7/96 Reaffirmed
5/97 Codes deleted. See policy (L)90900.ARC.
7/99 Reformatted, Medical Term Definitions added.
2/00 Coding system change.
10/00 System coding change.
12/00 Revised. Added neurofeedback as investigational.
Biofeedback as a Treatment of Pain


8/02 Reaffirmed. Source added to Scientific Reference Sources section.

5/03 Specialty Matched Consultant Advisory Panel review. Reference added. No change to policy.

12/03 Benefits Application and Billing/Coding sections updated for consistency.


2/2/06 Deleted statement regarding benefits limitation from Benefits Application section. Clarification of wording in Policy Guidelines section to indicate coverage limited to a total of 14 treatments in a 12 month period for any condition, or combination of conditions listed in this policy, except for torticollis (limit is 40 treatments).


4/27/09 Routine biennial review. Description section revised for clarity. Statement in the When Covered section revised to read: Biofeedback is considered investigational for any diagnosis other than those listed above including the treatment of fecal incontinence in adults and children. References updated. Specialty Matched Consultant Advisory Panel review meeting 3/26/09. No change to policy statement.

6/22/10 Policy Number(s) removed. (amw)

4/12/11 Removed reference to Urinary Incontinence, Treatment policy since it was archived in 2007 and is not listed in the Medical Policy website. Under “When Covered section” changed the 1st bullet to Tension headaches from muscle contraction; also added statements “Biofeedback is considered investigational for the treatment of cluster headache and Unsupervised home use of biofeedback for treatment of headache is not medically necessary”; also added constipation to the investigational urinary incontinence statement under “when not covered”. Specialty Matched Consultant Advisory Panel review meeting 3/31/11. References added. (lpr)

7/10/12 Under “When Not Covered” section added as investigational: autism, Raynaud’s disease, back pain, muscle re-education or muscle tension, hypertension, asthma, anxiety disorders, insomnia, sleep bruxism, tinnitus, movement disorders, Bell’s palsy, motor function after stroke, injury or lower limb surgery, orthostatic hypotension with spinal cord injury, and temporomandibular joint dysfunction (TMJD) for consistency with BCBSA. Policy guidelines extensively revised. Deleted the statement “Limitations and Exclusions for investigational services for use of Biofeedback with Attention Deficit Disorder” from Benefits Application section. Specialty Matched Consultant Advisory Panel review meeting 3/21/12. References added. Notification given 7/10/12 for effective date 10/16/12. Reviewed with medical director. Under “Not Covered” section: added pain management during labor as investigational; also added to the end of statement 1) “but not limited to” following “included”. These additions do not change the intent of the medical policy. Reference added. Reviewed with medical director. (lpr)


5/28/13 Reference added. No change to policy coverage criteria. (lpr)
Biofeedback as a Treatment of Pain

8/13/13       Reference updated. No change to policy statement. (lpr)
9/10/13       Reference updated. No change to policy statement. (lpr)
3/11/14       Specialty Matched Consultant Advisory panel review meeting 2/25/2014. No change to policy statement. Reference added. (lpr)
7/29/14       Reference added. No change to policy statement. (lpr)
10/28/14      Under “When Not Covered” section: added “prevention of preterm birth” as investigational indication. References added. (lpr)
4/28/15       Specialty Matched Consultant Advisory panel review meeting 2/25/2015. No change to policy statement. Reference added. (lpr)
9/1/15        References added. No change to policy statement. (lpr)
10/1/15       Under “When Not Covered” section: multiple sclerosis, depression and posttraumatic stress disorder added to investigational statement. Medical Director review 8/2015. Reference added. (lpr)
1/26/16       References added. No change to policy statement. (lpr)
4/1/16 Specialty Matched Consultant Advisory Panel review 2/24/2016. No change to policy. (an)

For Policy Titled: Biofeedback as a Treatment of Pain

3/31/17       New policy developed. This policy specifically deals with biofeedback for pain. Indications of headache and chronic pain were removed from original policy titled “Biofeedback”. The original policy deals with all other indications for biofeedback. Biofeedback may be considered medically necessary as part of the overall treatment plan for migraine and tension-type headache. Biofeedback for the treatment of cluster headache, chronic pain, including but not limited to low back pain is considered investigational.  (an)
5/26/17       Specialty Matched Consultant Advisory Panel review 4/26/2017. No change to policy statement, current policy accepted as written. (an)

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.