

# Clinical Policy: Biofeedback for Behavioral Health Disorders

Reference Number: LA.CP.BH.300

Date of Last Revision: 08/24

[Coding Implications](#)

[Revision Log](#)

See [Important Reminder](#) at the end of this policy for important regulatory and legal information.

## Description

Biofeedback is a non-invasive technique that enables an individual to learn how to change physiological activity for the purposes of improving health and performance. Neurofeedback (NF), often referred to as EEG biofeedback, is a type of biofeedback that involves learning to control and optimize brain function. The characteristic that distinguishes neurofeedback training from other biofeedback is a focus on the central nervous system and the brain.<sup>1</sup>

Biofeedback/Neurofeedback is used as an adjunctive tool to other standard interventions and is not used as a stand-alone treatment.<sup>2</sup>

## Policy/Criteria

- I. It is the policy of Louisiana Healthcare Connections that up to 25 sessions of *initial* behavioral health-related biofeedback is **medically necessary** if all the following are met:
  - A. Diagnosis of anxiety disorder or post-traumatic stress disorder as listed in the most current version of the Diagnostic and Statistical Manual of Mental Disorders;
  - B. There are significant symptoms that interfere with the member/enrollee's ability to function in at least one life area as measured by a widely recognized validated standardized severity scale focused on the symptom profile;
  - C. The member/enrollee is motivated to actively participate in the treatment plan, including being responsive to the care plan requirements (e.g., practice and follow-through at home);
  - D. The member/enrollee can participate in the treatment plan (physically as well as intellectually);
  - E. Comprehensive treatment plan includes biofeedback as an adjunctive intervention in addition to other primary evidence-based interventions;
  - F. The condition can be appropriately treated with biofeedback (e.g., existing pathology does not prevent success of the treatment);
  - G. There is evidence that standard evidence-based outpatient treatments (including psychotherapy and medication management) are considered insufficient to treat the member/enrollee's condition safely and effectively;
  - H. There is a readily identifiable response measurable by a symptom specific validated standardized scale;
  - I. Biofeedback training is performed by a physician or qualified non-physician practitioner who has undergone biofeedback training and certification. This can include nurse practitioners, physician assistants, qualified mental health professionals, psychologists and, where applicable, biofeedback technicians;
  - J. Treatment plan is individualized with clearly stated realistic goals and objectives;
  - K. Treatment is structured to achieve optimum benefit and expected benefit is documented;

## CLINICAL POLICY

### Biofeedback for Behavioral Health Disorders

- L. There is documented planned transition out of biofeedback from the start of treatment, which may include ensuring the ability of the member/enrollee to continue the biofeedback-learned techniques independently after the biofeedback sessions end.
- II.** It is the policy of Louisiana Healthcare Connections that up to an additional 20 sessions for the *continuation* of behavioral health-related biofeedback will be reviewed on a case-by-case basis by a Medical Director, informed by all the following:
- A. Initial criteria are still met;
  - B. The frequency of sessions is scheduled to occur at a rate consistent with the presenting symptoms and showing results, while a lower rate may impede progress;
  - C. Progress related to biofeedback can be clearly described by at least a 25% reduction in severity compared to the last review;
  - D. When medically necessary, appropriate psychopharmacological intervention is provided;
  - E. There is documented planned transition out of biofeedback from the start of treatment, which includes, but is not limited to the following:
    - 1. Identifies a plan which ensures the member/enrollee can continue biofeedback-learned techniques independently after the biofeedback sessions end;
    - 2. Identifies a goal with a clear and reasonable score range on a validated scale assessment which demonstrates meaningful progress from the treatment.
- III.** It is the policy of Louisiana Healthcare Connections that biofeedback is **no longer medically necessary** and discharge from treatment is medically appropriate when any one of the following are met:
- A. The documented goals and objectives have been substantially achieved;
  - B. The member/enrollee no longer meets initiation or continuation criteria, or symptom severity has dropped by 50%;
  - C. Member/enrollee is not engaging in treatment, rendering biofeedback ineffective, despite multiple documented attempts to address non-participation issues;
  - D. Member/enrollee refuses treatment;
  - E. Member/enrollee is not making progress toward treatment goals and there is no reasonable expectation of progress with this treatment approach;
  - F. It is reasonably predicted that continuing improvement can occur after discontinuation of biofeedback with ongoing psychotherapy, medication management and/or community support.
- IV.** It is the policy of Louisiana Healthcare Connections that biofeedback that current evidence does not support the safety and efficacy of biofeedback for any behavioral health diagnosis other than what is noted in this policy as medically necessary.
- V.** It is the policy of Louisiana Healthcare Connections that there is insufficient evidence found in the scientific literature to support the efficacy of neurosound/biosound treatment, typically billed under the neurofeedback CPT code.

### Background

During a neurofeedback session, the sensors are placed on the scalp to measure the brain's electrical activity. During training, sensors are placed on the scalp and then connected to

## CLINICAL POLICY

### Biofeedback for Behavioral Health Disorders

sensitive electronics and computer software that detect, amplify, and record specific brain activity. After this neural information (data) is sent to a computer to be processed, the data is sent back to the brain. The brain then learns to make changes to itself based on this real time data. In Neurofeedback sessions, changes within the brain can be accomplished by either talking directly to the brain electrically, or through stimuli presented to the brain in audio, visual, electrical, magnetic, or tactile form.<sup>1</sup>

The practical implementation of neurofeedback and biofeedback as a clinical therapy is currently not regulated regarding the educational standards, medical security, and the usage of standard protocols indicated for specific disorders. Research indicates that there is need for further research into the effectiveness of already available and newly developed neurofeedback protocols.<sup>4</sup>

#### *International Society for Neuroregulation and Research (ISNR)<sup>1</sup>*

In 2008, the Association for Applied Psychophysiology (AAPB), the Biofeedback Certification International Alliance (BCIA), and the International Society for Neurofeedback and Research (ISNR) approved the following definition of biofeedback. “Biofeedback is a process that enables an individual to learn how to change physiological activity for the purposes of improving health and performance. Precise instruments measure physiological activity such as brainwaves, heart function, breathing, muscle activity, and skin temperature. These instruments rapidly and accurately "feedback" information to the user. The presentation of this information often in conjunction with changes in thinking, emotions, and behavior supports desired physiological changes. Over time, these changes can endure without continued use of an instrument.” Neurofeedback Training (NFT) has its foundations in basic and applied neuroscience as well as data-based clinical practice. It considers behavioral, cognitive, and subjective aspects as well as brain activity. At a neuronal level, NFT teaches the brain to modulate excitatory and inhibitory patterns of specific neuronal assemblies and pathways based upon the details of the sensor placement and the feedback algorithms used thereby increasing flexibility and self-regulation of relaxation and activation patterns.

#### *The Association for Applied Psychophysiology and Biofeedback<sup>2</sup>*

Biofeedback is NOT used as a treatment alone, nor can it be used alone to make a diagnosis. It should be used as an adjunctive tool to be combined with other standard interventions conducted by knowledgeable clinicians, educators, or coaches. Several biofeedback-based interventions have been well validated while others are at various stages of research. Many biofeedback-based interventions are accepted by medical societies such as the American Colleges of Pediatrics and Neurology as well as by the FDA as being safe and effective for conditions. The efficacy of some forms and uses of biofeedback have not yet been established through accepted types of research with enough clients, controls, and long enough follow-up periods.

### **Coding Implications**

This clinical policy references Current Procedural Terminology (CPT®). CPT® is a registered trademark of the American Medical Association. All CPT codes and descriptions are copyrighted 2023, American Medical Association. All rights reserved. CPT codes and CPT descriptions are from the current manuals and those included herein are not intended to be all-inclusive and are

## CLINICAL POLICY

### Biofeedback for Behavioral Health Disorders

included for informational purposes only. Codes referenced in this clinical policy are for informational purposes only and may not support medical necessity. Inclusion or exclusion of any codes does not guarantee coverage. Providers should reference the most up-to-date sources of professional coding guidance prior to the submission of claims for reimbursement of covered services.

NOTE: Coverage is subject to each requested code’s inclusion on the corresponding LDH fee schedule. Non-covered codes are denoted (\*) and are reviewed for Medical Necessity for members under 21 years of age on a per case basis.

CPT® Codes	Description
90901* <sup>1</sup>	Biofeedback training by any modality
90875	30 minutes of individual psychophysiological therapy incorporating biofeedback training by any modality (face-to-face with patient), with psychotherapy
90876	45 minutes of individual psychophysiological therapy incorporating biofeedback training by any modality (face-to-face with the patient), with psychotherapy

Reviews, Revisions, and Approvals	Revision Date	Approval Date	Effective Date
Converted corporate to local policy.	08/15/20		
Annual review conducted. Neurofeedback references changed to biofeedback to align with the Centene Policy CP.MP.168 for Biofeedback for non-behavioral health diagnoses; Added references to CMS NCD - Biofeedback Therapy (30.1) and FDA approved as Class II; and 45 minutes to CPT code 90875, and 30 minutes to CPT code 90876. Added “and may not support medical necessity” to coding implications. Added “Revision” to date in Revision Log. Changed Last Review to “Date of last revision” in header on page 1. Changed all instances of member to member/enrollee. Updated references.	8/22		
Removed statement “Note: Please refer to the Louisiana Healthcare Connections Policy LA.CP.MP.168 for Biofeedback for non-behavioral health diagnoses. This policy is contingent on the member/enrollee having this benefit.” The policy referenced is retired. Updated “24” to “25” in Reconsideration of medical necessity located under part II to coincide the Background information. Removed “Other behavioral health diagnoses may be considered allowable by certain states’ coverage provisions as outlined in their Medicaid/Medicare manuals, LCDs, NCDs, or specific contractual requirements. In order to be covered, medical necessity must still be met.” This statement is not specific to LHCC guidance. Reviewed and updated CPT codes.	1/5/23	3/6/23	
Annual Review. Changed instances of the word “patient” and “individual” within the criteria section to “member/enrollee.” Added I.E., “Comprehensive treatment plan includes biofeedback as an adjunctive intervention in addition to other primary evidence-based interventions.” In section II. Added the statement “that up to 20 sessions for the	2/24	5/22/24	

<sup>1</sup> Code may be used for both medically necessary and not medically necessary (i.e., neurosound/biosound) therapies.

## CLINICAL POLICY

### Biofeedback for Behavioral Health Disorders

Reviews, Revisions, and Approvals	Revision Date	Approval Date	Effective Date
continuation of behavioral health-related biofeedback will be reviewed on a case-by-case basis by a Medical Director”. Removed ICD 10 Code chart. Background and references reviewed and updated. Reviewed by external specialist. Clarified policy description statement II. adding that “up to an additional” 20 sessions for the continuation of behavioral health-related biofeedback will be reviewed. In II.C. Removed the statement “as compared to the base line severity score” and added the statement “compared to the last review.” Clarified policy statement in II.E. adding: “II.E.1. Identifies a plan which ensures the member/enrollee can continue biofeedback-learned techniques independently after the biofeedback sessions end; and II.E.2: Identifies a goal with a clear and reasonable score range on a validated scale assessment which demonstrates meaningful progress from the treatment.”			
Annual Review. Updated description. Minor rewording in criteria with no clinical significance. Removed coding implications section about billing for neurosounds/biosound. Added criteria point V. to indicate insufficient scientific evidence to support the efficacy of neurosound/biosound treatment. References reviewed and updated.	08/24	10/28/24	12/2/24

### References

1. International Society for Neuroregulation and Research. What is Neurofeedback. <https://isnr.org/what-is-neurofeedback>. Accessed May 28, 2024.
2. Sherman R., Schwartz P., Andrasik F., et.al, Applied Psychophysiology and Biofeedback. [https://aapb.org/Standards\\_for\\_Performing\\_Biofeedback](https://aapb.org/Standards_for_Performing_Biofeedback). Published 2013. Accessed May 28, 2024.
3. The Foundation for Peripheral Neuropathy. Biofeedback Therapy. <https://www.foundationforpn.org/living-well/integrative-therapies/biofeedback-therapy/>. Accessed May 28, 2024.
4. Patil AU, Lin C, Lee SH, et al. Review of EEG-based neurofeedback as a therapeutic intervention to treat depression. *Psychiatry Res Neuroimaging*. 2023; 329:111591. doi: 10.1016/j.pscychresns.2023.111591
5. Kothgassner OD, Goreis A, Bauda I, Ziegenaus A, Glenk LM, Felhofer A. Virtual reality biofeedback interventions for treating anxiety: A systematic review, meta-analysis, and future perspective. *Wien Klin Wochenschr*. 2022;134(Suppl 1):49-59. doi:10.1007/s00508-021-01991-z
6. Askovic M, Soh N, Elhindi J, Harris AWF. Neurofeedback for post-traumatic stress disorder: systematic review and meta-analysis of clinical and neurophysiological outcomes. *Eur J Psychotraumatol*. 2023;14(2): 2257435.doi:10.1080/20008066.2023.2257435
7. Pindi P, Houenou J, Piguat C, Favre P. Real-time fMRI neurofeedback as a new treatment for psychiatric disorders: A meta-analysis. *Prog Neuropsychopharmacol Biol Psychiatry*.2022;119:110605. doi: 10.1016/j.pnpbp.2022.110605
8. Rahmani E, Mahvelati A, Alizadeh A, et al. Is neurofeedback effective in children with ADHD? A systematic review and meta-analysis. *Neurocase*. 2022;28(1):84-95. doi:10.1080/13554794.2022.2027456

## CLINICAL POLICY

### Biofeedback for Behavioral Health Disorders

9. Ferreira S, Pêgo JM, Morgado P. The efficacy of biofeedback approaches for obsessive-compulsive and related disorders: A systematic review and meta-analysis. *Psychiatry Res.* 2019; 272:237-245. doi: 10.1016/j.psychres.2018.12.096
10. Enriquez-Geppert S, Smit D, Pimenta MG, Arns M. Neurofeedback as a Treatment Intervention in ADHD: Current Evidence and Practice. *Curr Psychiatry Rep.* 2019;21(6):46. Published 2019 May 28. doi:10.1007/s11920-019-1021-4
11. National Coverage Determination, (NCD): Biofeedback Therapy (Publication Number 100.3; Manual Section Number 30.1). Centers for Medicare and Medicaid Services. <https://www.cms.gov/medicare-coverage-database/view/ncd.aspx?NCDId=41>. Accessed May 26, 2024.
12. Hou Y, Zhang S, Li N, Huang Z, Wang L, Wang Y. Neurofeedback training improves anxiety trait and depressive symptom in GAD. *Brain Behav.* 2021;11(3): e02024. doi:10.1002/brb3.2024
13. Tolin DF, Davies CD, Moskow DM, Hofmann SG. Biofeedback and Neurofeedback for Anxiety Disorders: A Quantitative and Qualitative Systematic Review. *Adv Exp Med Biol.* 2020; 1191:265-289. doi:10.1007/978-981-32-9705-0\_16
14. Fernández-Alvarez J, Grassi M, Colombo D, et al. Efficacy of bio- and neurofeedback for depression: a meta-analysis. *Psychol Med.* 2022;52(2):201-216. doi:10.1017/S0033291721004396
15. Melnikov MY. The Current Evidence Levels for Biofeedback and Neurofeedback Interventions in Treating Depression: A Narrative Review. *Neural Plast.* 2021; 2021:8878857. Published 2021 Feb 4. doi:10.1155/2021/8878857
16. Patil AU, Lin C, Lee SH, et al. Review of EEG-based neurofeedback as a therapeutic intervention to treat depression. *Psychiatry Res Neuroimaging.* 2023; 329:111591. doi: 10.1016/j.pscychresns.2023.111591

### **Important Reminder**

This clinical policy has been developed by appropriately experienced and licensed health care professionals based on a review and consideration of currently available generally accepted standards of medical practice; peer-reviewed medical literature; government agency/program approval status; evidence-based guidelines and positions of leading national health professional organizations; views of physicians practicing in relevant clinical areas affected by this clinical policy; and other available clinical information. LHCC makes no representations and accepts no liability with respect to the content of any external information used or relied upon in developing this clinical policy. This clinical policy is consistent with standards of medical practice current at the time that this clinical policy was approved.

The purpose of this clinical policy is to provide a guide to medical necessity, which is a component of the guidelines used to assist in making coverage decisions and administering benefits. It does not constitute a contract or guarantee regarding payment or results. Coverage decisions and the administration of benefits are subject to all terms, conditions, exclusions, and limitations of the coverage documents (e.g., evidence of coverage, certificate of coverage, policy, contract of insurance, etc.), as well as to state and federal requirements and applicable LHCC administrative policies and procedures.

## CLINICAL POLICY

### Biofeedback for Behavioral Health Disorders

This clinical policy is effective as of the date determined by LHCC. The date of posting may not be the effective date of this clinical policy. This clinical policy may be subject to applicable legal and regulatory requirements relating to provider notification. If there is a discrepancy between the effective date of this clinical policy and any applicable legal or regulatory requirement, the requirements of law and regulation shall govern. LHCC retains the right to change, amend or withdraw this clinical policy, and additional clinical policies may be developed and adopted as needed, at any time.

This clinical policy does not constitute medical advice, medical treatment, or medical care. It is not intended to dictate to providers how to practice medicine. Providers are expected to exercise professional medical judgment in providing the most appropriate care and are solely responsible for the medical advice and treatment of members. This clinical policy is not intended to recommend treatment for members. Members should consult with their treating physician in connection with diagnosis and treatment decisions.

Providers referred to in this clinical policy are independent contractors who exercise independent judgment and over whom LHCC has no control or right of control. Providers are not agents or employees of LHCC.

This clinical policy is the property of LHCC. Unauthorized copying, use, and distribution of this clinical policy or any information contained herein are strictly prohibited. Providers, members, and their representatives are bound to the terms and conditions expressed herein through the terms of their contracts. Where no such contract exists, providers, members and their representatives agree to be bound by such terms and conditions by providing services to members and/or submitting claims for payment for such services.

©2024 Louisiana Healthcare Connections. All rights reserved. All materials are exclusively owned by Louisiana Healthcare Connections and are protected by United States copyright law and international copyright law. No part of this publication may be reproduced, copied, modified, distributed, displayed, stored in a retrieval system, transmitted in any form or by any means, or otherwise published without the prior written permission of Louisiana Healthcare Connections. You may not alter or remove any trademark, copyright or other notice contained herein. Louisiana Healthcare Connections is a registered trademark exclusively owned by Louisiana Healthcare Connections.