

Clinical Policy: Neurofeedback for Behavioral Health Disorders

Reference Number: NV.CP.BH.300

Date of Last Revision: 11/23

[Coding Implications](#)

[Revision Log](#)

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

Please refer to the Centene Policy CP.MP.168 Biofeedback for non-behavioral health diagnoses.

Description

Neurofeedback (NF), or EEG biofeedback is a type of biofeedback that involves learning to control and optimize brain function for the purpose of improving health and performance.^{1,2} It is a noninvasive technique which employs instruments that measure physiological activities such as brainwaves, heart rate, breathing rate, muscle activity and skin temperature, providing instantaneous information or “feedback”.^{1,2} Based on this information, and in conjunction with various principles of learning and practitioner guidance, changes in brain patterns occur and are associated with positive changes in physical, emotional, and cognitive states.²

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

Policy/Criteria

- I. It is the policy of Nevada Silver Summit Health Plan and Centene Advanced Behavioral Health that up to 25 sessions of *initial* behavioral health-related neurofeedback is medically necessary when all of the following are met:
 - A. Diagnosis (as listed in the most current version of the Diagnostic and Statistical Manual of Mental Disorders (DSM 5)) meets one of the following:
 1. Attention deficit disorders;
 2. Anxiety disorders;
 3. Depressive disorders;
 4. Bipolar disorders;
 5. Obsessive compulsive disorders;
 6. Oppositional defiant and/or reactive attachment disorders;
 7. Post-traumatic stress disorders;
 8. Schizophrenia disorders;
 - B. Significant symptoms interfere with the member/enrollee’s ability to function in at least one life area as measured by a widely recognized, validated, and standardized severity scale focused on the symptom profile;
 - C. Member/enrollee is capable (physically, as well as intellectually) and motivated to actively participate in the treatment plan, including being responsive to care plan requirements (e.g., practice and follow through at home);
 - D. Treatment plan is individualized with clearly stated, realistic goals and objectives;
 - E. Comprehensive treatment plan includes biofeedback as an adjunctive intervention in addition to other primary evidence-based interventions;
 - F. Treatment is structured to achieve optimum benefit and expected benefit is documented;

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- G. Condition can be appropriately treated with neurofeedback (e.g., existing pathology does not prevent success of the treatment);
 - H. Frequency of sessions is scheduled to occur at a rate consistent with the presenting symptoms to show results, while a lower rate may impede progress;
 - I. Standard evidence-based outpatient treatments (including psychotherapy and medication management) are considered insufficient to safely and effectively treat the condition;
 - J. Appropriate psychopharmacological intervention is provided, when medically necessary;
 - K. There is a readily identifiable response measurable by a symptom-specific validated, standardized scale;
 - L. Neurofeedback training is performed by a physician or qualified non-physician practitioner who has undergone neurofeedback training and certification. (Including nurse practitioners, physician assistants, qualified mental health professionals, psychologists, and where applicable, biofeedback technicians);
 - M. Documented planning for transition out of neurofeedback 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 Nevada Silver Summit Health Plan and Centene Advanced Behavioral Health that *continuation* of behavioral health related neurofeedback is medically necessary when all of the following are met:
- A. Initial request criteria I.B through I.L continue to be met;
 - B. Total requested sessions (combined between initial and continuing treatment) meet one of the following:
 - 1. Attention deficit disorders, up to 40 total sessions;
 - 2. Anxiety disorders, up to 30 sessions;
 - 3. Depressive disorders, up to 25 sessions;
 - 4. Bipolar disorders, up to 50 sessions;
 - 5. Obsessive compulsive disorders, up to 40 sessions;
 - 6. Oppositional defiant and/or reactive attachment disorders, up to 50 sessions;
 - 7. Post-traumatic stress disorders, up to 35 sessions;
 - 8. Schizophrenia disorders, up to 50 sessions;
 - C. Progress related to neurofeedback can be clearly described by at least a 25% reduction in severity, as compared to the baseline severity score.
- III.** It is the policy of Nevada Silver Summit Health Plan and Centene Advanced Behavioral Health that *discharge* from neurofeedback treatment is medically necessary when any of the following are met:
- A. Documented goals and objectives have been achieved;
 - B. Member/enrollee no longer meets initial or continuation criteria;
 - C. Symptom severity has dropped by $\geq 50\%$;
 - D. Member/Enrollee is not making progress toward treatment goals and there is no reasonable expectation of progress with this treatment approach;
 - E. Continuing improvement is predicted to occur after discontinuation of neurofeedback with ongoing psychotherapy, medication management and/or community support.

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IV. It is the policy of Nevada Silver Summit Health Plan and Centene Advanced Behavioral Health that current evidence does not support the safety and efficacy of neurofeedback for any behavioral health diagnosis not indicated in this policy, or when requested for the delivery of neurosound/biosound.

Background

During neurofeedback therapy, the patient is seated facing a computer screen, while electrodes are placed on the scalp to measure brain electrical activity. Target brain waves and event-related potentials are recorded and processed by an electroencephalograph and computer; while concurrently being presented to the patient, typically as a visual representation (e.g., a ball moving up or down to signify fast and slow-wave activity), or in the format of a video game. Feedback for desirable activity may include sounds or visual cues (e.g., smiley face), points, or increased control in the computer game. Undesirable activity is discouraged by similar means. Patients are instructed to use this feedback to regulate their brain activity, typically with a therapist present to help facilitate learning. The presentation of this information, along with changes in thinking, emotions, and behavior, may support learning of a skill set or techniques leading to desirable physiological changes. Over time, such changes may endure, or learned skills may be applied without the continued use of an instrument. Neurofeedback sessions last between 30 and 60 minutes and are typically provided in an outpatient setting. It is usually not provided as a stand-alone treatment, but in conjunction with other therapies such as psychotherapy and medication management.³

International Society for Neuroregulation and Research (ISNR)¹

The ISNR states that neurofeedback therapy has shown improvements in treating disorders like attention-deficit hyperactivity disorder (ADHD), anxiety, depression, autism spectrum disorder and learning disabilities. In addition, ongoing research is showing promising outcomes and effectiveness of neurofeedback in treating insomnia, substance abuse, traumatic brain injury (TBI), epilepsy and seizures disorders, fibromyalgia, tinnitus, Parkinson's, migraines, Tourette's and tic disorders, post chemotherapy symptoms, and chronic pain.

According to the ISNR, neurofeedback therapy is non-invasive and creates lasting results for a wide variety of conditions when compared to the outcomes of pharmaceutical treatment. The benefits of neurofeedback typically far outweigh the risks and can be included in the category of other low risk activities such as progressive relaxation, hypnosis, breathing exercises, meditation, yoga, and massage. The benefits of neurofeedback therapy usually include improved focus, enhanced concentration, increased energy, higher quality sleep, decreased moodiness, diminished agitation, and reduction in anxiety, as well as reductions in other physical symptoms typically related to stress such as headaches.

Applied Psychophysiology and Biofeedback Association (AAPB)²

Per the AAPB, numerous biofeedback-based interventions have been well-validated and are accepted as being safe and effective for conditions, such as migraines, tension headaches and ADHD. Other forms and uses of biofeedback are at various stages of research and have yet to be established.

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*Children and Adults with Attention-Deficit/Hyperactivity Disorder (CHADD)*⁴

CHADD identifies neurofeedback as an intervention for ADHD based on clinical findings which indicate that many individuals with ADHD show low levels of arousal in frontal brain areas, with excess of theta waves and deficit of beta waves. Supporters of this treatment suggest that the brain can be trained to increase the levels of arousal (increase beta waves and reduce theta waves) and thereby reduce ADHD symptoms.

*Centers for Medicare and Medicaid Services (CMS)*⁵

CMS considers biofeedback therapy reasonable and necessary for muscle re-education of specific muscle groups or for treating pathological muscle abnormalities of spasticity, incapacitating muscle spasm, or weakness, and more conventional treatments (heat, cold, massage, exercise, support) have not been successful. This therapy is not covered for treatment of ordinary muscle tension states or for psychosomatic conditions. CMS does not consider neurofeedback therapy as reasonable or necessary for the treatment of any conditions, including behavioral health disorders.

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 2022, 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 included for informational purposes only. Codes referenced in this clinical policy are for informational purposes only. 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.

CPT®* Codes	Description
90875	Individual psychophysiological therapy incorporating biofeedback training by any modality (face-to-face with the patient), with psychotherapy (e.g., insight oriented, behavior modifying or supportive psychotherapy); 30 minutes
90876	Individual psychophysiological therapy incorporating biofeedback training by any modality (face-to-face with the patient), with psychotherapy (e.g., insight oriented, behavior modifying or supportive psychotherapy); 45 minutes
90901	Biofeedback training by any modality

HCPCS®* Codes	Description
N/A	

Reviews, Revisions, and Approvals	Revision Date	Approval Date
Policy developed by MHN specifically for neurofeedback for behavioral health disorders.	01/19	01/19

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Reviewed by MHN QI Committee. Reviewed by HN Medical Advisory Council. Under 1.f – revised to state ‘insufficient, under 1.h, removed’ clinical nurse specialists” and added psychologists.	12/19, 1/20	1/20
CBH Clinical Policy NV.CP.BH.300 Neurofeedback for Behavioral Health Disorders adapted from MHN Clinical Policy HNCA.CP.MP.162 Neurofeedback for Behavioral Health Disorders. Added ICD-10 diagnosis and codes from the Neurofeedback – Mental Health and Alcohol/Substance Abuse Services for the Depressive Disorders, Bipolar Disorders, Obsessive Compulsive Disorders, Oppositional Defiant Disorders and/or Reactive Attachment Disorders, Schizophrenia Disorders, Attention Deficit Hyperactivity Disorder- Combined Presentation, Attention Deficit Hyperactivity Disorder- Predominantly Hyperactive/Impulsive Presentation, Attention Deficit Hyperactivity Disorder- Predominantly Inattentive Presentation	5/20	5/20
Added Nevada Silver Summit Health Plan and Centene Behavioral Health to the Policy / Criteria Section I, II, III and IV.	11/20	11/20
<p>Annual review. Changed Centene Behavioral Health with Centene Advanced Behavioral Health. Annual review. Changed Centene Behavioral Health with Centene Advanced Behavioral Health.</p> <p><i>Revision to Description Section:</i></p> <ul style="list-style-type: none"> • The FDA has not approved this treatment as safe and effective for any condition. CMS has not approved this treatment as Reasonable and Necessary for any condition. It currently remains Experimental and Investigational. • Revision to Policy and Criteria Section, I. B, and F, G and H • There are significant symptoms that interfere with the individual’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; • There is evidence that standard evidence-based outpatient treatments (including psychotherapy and medication management) are considered insufficient to safely and effectively treat the patient’s condition. • There is a readily identifiable response measurable by a symptom specific validated standardized scale; • Neurofeedback training is performed by a physician or qualified non-physician practitioner who has undergone neurofeedback training and certification. This can include nurse practitioners, physician assistants, qualified mental health professionals, psychologists, and where applicable biofeedback technicians. <p><i>Background Section Update:</i></p> <ul style="list-style-type: none"> • Neurofeedback for behavioral health conditions generally do not meet the criteria standard as an evidence- based treatment. Although not 	5/21	5/21

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<p>conclusive, the treatment of anxiety disorders using neurofeedback is mostly based on observational history and case reports.</p> <ul style="list-style-type: none"> Updated ICD-10 diagnosis and codes from the Nevada Medicaid Services Manual – Chapter 400 		
<p>Upon the plan’s request the policy was eliminated. The State of NV removed this as a covered benefit.</p>	7/21	7/21
<p>The policy was reinstated based on the health plan’s request. CMS NV decided against the removal of the services. The CPSC reviewed and approved on 11/30/21. “Last Review Date” in policy header changed to “Date of Last Revision,” and “Date” in the revision log was changed to “Revision Date.”</p>	11/21	11/21
<p>Annual Review. Description verbiage regarding FDA and CMS stance on neurofeedback moved to background. Specified that initial description sentence applies to biofeedback for psychological conditions. In section I, added ICD-10 diagnoses “Attention Deficit Disorders, Anxiety disorders, Depressive Disorders, Bipolar Disorders, Obsessive Compulsive Disorders, Oppositional Defiant Disorders and/or Reactive Attachment Disorders, or Post-Traumatic Stress Disorders and Schizophrenia Disorders” to the policy/criteria section I.A based on update to the Nevada Medicaid Services Manual – Chapter 400. In policy statement I. added that up to 25 sessions will be initially approved. Incorporated into section I: C, D, H, J and M from section II for policy consistency between initiation and continuation of services. In section II., specified that initial criteria in I.B-M must be met. Added criteria in II.B for total requested session limits per the NV manual. Removed statement “Reconsideration of medical necessity should be made if more than 25 neurofeedback treatment sessions in a 12-month period are necessary”. Replaced all instances of “patient” and “individual” with “member/enrollee.” In section III, replaced the word “or” with a “semicolon.” Replaced “Experimental/investigational” verbiage in section IV with “current evidence does not support the safety and efficacy of neurofeedback,” and added that neurosound/biosound is not supported. Reworded background statement regarding biosound/neurosound. Updated ICD10 CM code table for consistency with NV manual. Removed table of general ICD 10 CM diagnosis codes that support coverage. criteria. References reviewed, updated, and reformatted. Replaced all instances of “dashes (-)” in page numbers with the word “to.”</p>	11/22	12/22
<p>Annual Review. Updated description and background with no clinical significance. Added I.E., “Comprehensive treatment plan includes biofeedback as an adjunctive intervention in addition to other primary evidence-based interventions.” Changed II.A to state “Initial request criteria in I.B through I.L continues to be met.” Removed III. C and D as</p>	11/23	

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it was duplicative criteria related to lack of member engagement and refusal of treatment. Minor rewording throughout the policy with no clinical significance. References reviewed and updated.		

References

1. International Society for Neuroregulation and Research (ISNR). Overview of neurofeedback. <https://isnr.org/what-is-neurofeedback>. Accessed October 4, 2023.
2. Association for Applied Psychophysiology and Biofeedback. Standards for Performing Biofeedback. https://aapb.org/Standards_for_Performing_Biofeedback. Accessed October 24, 2023.
3. Marzbani H, Marateb HR, Mansourian M. Neurofeedback: A Comprehensive Review on System Design, Methodology and Clinical Applications. *Basic Clin Neurosci*. 2016;7(2):143 to 158. doi: 10.15412/J.BCN.03070208
4. Children and Adults with Attention-Deficit/Hyperactivity Disorder (CHADD). Neurofeedback (EEG Biofeedback). <https://chadd.org/about-adhd/neurofeedback-eeg-biofeedback/>. Accessed October 24, 2023.
5. National coverage determination: biofeedback therapy (30.1). Centers for Medicare and Medicaid Services Website. <http://www.cms.hhs.gov/mcd/search.asp>. Published January 1, 1966. Accessed October 24, 2023.
6. Nevada Medicaid Services Manual Changes Chapter 4--- Mental Health and Alcohol/Substance Abuse Services. https://dhcfp.nv.gov/uploadedFiles/dhcfpnev.gov/content/Resources/AdminSupport/Manuals/MSM/C400/MSM_400_23_08_01_ADA.pdf. Updated August 1, 2023. Accessed October 24, 2023.
7. 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 to 216. doi:10.1017/S0033291721004396

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. The Health Plan 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. “Health Plan” means a health plan that has adopted this clinical policy and that is operated or administered, in whole or in part, by Centene Management Company, LLC, or any of such health plan’s affiliates, as applicable.

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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 Health Plan-level administrative policies and procedures.

This clinical policy is effective as of the date determined by the Health Plan. 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. The Health Plan 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/enrollees. This clinical policy is not intended to recommend treatment for members/enrollees. Members/enrollees 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 the Health Plan has no control or right of control. Providers are not agents or employees of the Health Plan.

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Note: For Medicaid members/enrollees, when state Medicaid coverage provisions conflict with the coverage provisions in this clinical policy, state Medicaid coverage provisions take precedence. Please refer to the state Medicaid manual for any coverage provisions pertaining to this clinical policy.

Note: For Medicare members/enrollees, to ensure consistency with the Medicare National Coverage Determinations (NCD) and Local Coverage Determinations (LCD), all applicable NCDs, LCDs, and Medicare Coverage Articles should be reviewed prior to applying the criteria set forth in this clinical policy. Refer to the CMS website at <http://www.cms.gov> for additional information.

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