Transcranial Magnetic Stimulation (rTMS) and Cranial Electrical Stimulation (CES)

Humana

Medical Coverage Policy

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Change Summary: Updated Description, Coverage Determination, Coverage Limitations, Medical Alternatives, Provider Claims Codes, Medical Terms, References

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Disclaimer

Description

Repetitive transcranial magnetic stimulation (rTMS) is a technique proposed for use in a variety of psychiatric conditions, including depression. A large electromagnetic coil is held against the scalp near the forehead while an electric current is switched on and off. The electric current creates a magnetic pulse, or field, that travels through the skull. rTMS can be performed on an outpatient basis in a doctor's office. The duration of treatment is generally five days a week for four to six weeks.

To date, three rTMS devices have received approval from the US Food and Drug Administration (FDA) for major depressive disorder: Brainsway Deep TMS System, Magstim Rapid^2 rTMS Therapy System and NeuroStar Therapy System.

The FDA also recently approved two devices for the treatment of pain associated with migraine headache with aura: Cerena Transcranial Magnetic Stimulator and Spring Transcranial Magnetic Stimulator (the portable version of the Cerena). **(Refer to Coverage Limitations section)**

Navigated transcranial magnetic stimulation (nTMS), also referred to as navigated brain stimulation, is being studied as a noninvasive diagnostic tool for preoperative treatment planning for individuals with brain lesions. It is theorized that the nTMS stimulates functional cortical areas at precise anatomical locations to induce measurable responses. **(Refer to Coverage Limitations section)**

Cranial electrostimulation (CES) is being investigated as a treatment for anxiety, depression, headaches and insomnia. CES utilizes an electrostimulator device that emits low-level electrical stimulation across the head through electrodes that have been placed on the earlobes or attached behind the ears. The electrodes are placed on different parts of the earlobes so that the microcurrent will trace a direct path through the area of pain. The treatment usually lasts for 20 minutes per session, and is done either daily or every other day.

Examples of CES devices include, but may not be limited to, the following: Alpha-Stim 100, Alpha-Stim SCS, CES Ultra, NET-2000 and TESA. **(Refer to Coverage Limitations section)**

For information regarding the **proposed use of the Alpha-Stim 100 for the treatment of pain**, please refer to Electrical Stimulators for Pain and Nausea/Vomiting Medical Coverage Policy.

Coverage Determination

Services provided by a psychiatrist, psychologist or other behavioral health professionals are subject to the provisions of the applicable behavioral health benefit.

Humana members may be eligible under the Plan for **rTMS** in a healthcare provider's office when the following criteria are met:

- Administered by an FDA approved device and utilized in accordance with the FDA

labeled indications; **AND**

- Age 18 years or older; **AND**
- Confirmed ***diagnosis of severe major depressive disorder*** (single or recurrent episode), documented by standardized rating scales that reliably measure depressive symptoms (eg, Beck Depression Scale [BDI], Hamilton Depression Rating Scale [HDRS], Montgomery-Asberg Depression Rating Scale [MADRS], etc.); **AND**
- Documentation via legible medical records of failure of a trial of a psychotherapy known to be effective in the treatment of major depressive disorder of an adequate frequency and duration, without significant improvement in depressive symptoms, as documented by standardized rating scales that reliably measure depressive symptoms (eg, Beck Depression Scale [BDI], Hamilton Depression Rating Scale [HDRS], Montgomery-Asberg Depression Rating Scale [MADRS], etc.); **AND**
- Is a candidate for electroconvulsive therapy (ECT) and ECT would not be clinically superior to rTMS (eg, in cases with psychosis, acute suicidal risk, catatonia or life-threatening inanition rTMS should NOT be utilized); **AND**
- No contraindications to rTMS (**Refer to Coverage Limitations section**); **AND**
- One of the following:
  - Documentation via legible medical records of failure of four trials of psychopharmacologic agents, including two different agent classes, during the current depressive episode; **OR**
  - Inability to tolerate a therapeutic dose of medications as evidenced by documentation via legible medical records of four trials of psychopharmacologic agents with distinct side effects; **AND**
- Treatment consists of a maximum of 30 sessions (five days a week for six weeks) – **NOTE:** ***treatment beyond 30 sessions requires Medical Director review for determination of medical necessity***

Coverage Limitations

Contraindications to **rTMS** include the following:

- High alcohol or illicit drug consumption; **OR**
- Individual is suicidal, or has a history of suicide attempt; **OR**
- Metal implant in or around the head (eg, aneurysm coil or clip, metal plate, ocular implant, stent); **OR**
- Neurological conditions (eg, cerebrovascular disease, dementia, history of repetitive or severe head trauma, increased intracranial pressure or primary or secondary tumors in the central nervous system); **OR**
- Pregnant or nursing; **OR**
- Presence of implanted devices, (eg, cardiac pacemaker or defibrillator, cochlear implant, deep brain stimulator, implantable infusion pump, spinal cord stimulator, vagus nerve stimulator, etc.); **OR**
- Seizure disorder/epilepsy, family history of epilepsy (parent, sibling, child) or medications that may reduce the seizure threshold (eg, neuroleptic medications, stimulants, tricyclic antidepressants, etc.); **OR**
- Severe cardiovascular disease

This technology is considered experimental/investigational as it is not identified as widely used and generally accepted for the proposed use as reported in nationally recognized peer-reviewed medical literature published in the English language.

Humana members may **NOT** be eligible under the Plan for **transcranial magnetic stimulation (rTMS)** (in any setting, including the home or a healthcare provider's office) for any indications other than listed above including, but may not be limited to, the following:

- Anxiety; **OR**

- Headache (including migraine with aura); **OR**
- Insomnia; **OR**
- Other neuropsychiatric disorders (eg, schizophrenia, obsessive-compulsive disorder (OCD), panic disorder, etc.); **OR**
- Tinnitus

This technology is considered experimental/investigational as it is not identified as widely used and generally accepted for any other proposed use as reported in nationally recognized peer-reviewed medical literature published in the English language.

Humana members may **NOT** be eligible under the Plan for **maintenance/follow up rTMS**. This technology is considered experimental/investigational as it is not identified as widely used and generally accepted for the proposed use as reported in nationally recognized peer-reviewed medical literature published in the English language.

Humana members may **NOT** be eligible under the Plan **cranial electrical stimulation (CES)** (in any setting, including the home or a healthcare provider's office) for any indication including, but may not be limited to, the following:

- Anxiety; **OR**
- Depression; **OR**
- Headache (including migraine with aura); **OR**
- Insomnia; **OR**
- Other neuropsychiatric disorders (eg, schizophrenia, obsessive-compulsive disorder (OCD), panic disorder, etc.); **OR**
- Tinnitus

This technology is considered experimental/investigational as it is not identified as widely used and generally accepted for the proposed use as reported in nationally recognized peer-reviewed medical literature published in the English language.

Humana members may **NOT** be eligible under the Plan for **navigated transcranial magnetic stimulation (nTMS)** for any indication. This technology is considered experimental/investigational as it is not identified as widely used and generally accepted for the proposed use as reported in nationally recognized peer-reviewed medical literature published in the English language.

Background

Additional information about **anxiety, depression, obsessive-compulsive disorder and other mental health conditions** may be found from the following websites:

- American College of Physicians – http://www.acponline.org
- National Institute of Mental Health – http://www.nimh.nih.gov
- National Library of Medicine – http://www.nlm.nih.gov

Additional information about **headaches** may be found from the following websites:

- American College of Physicians – http://www.acponline.org
- National Headache Foundation – http://www.headaches.org
- National Library of Medicine – http://www.nlm.nih.gov

Additional information about **insomnia** may be found from the following websites:

- National Library of Medicine – http://www.nlm.nih.gov
- National Sleep Foundation – http://www.sleepfoundation.org

Medical Alternatives

Alternatives to **TMS** include, but may not be limited to, the following:

- ECT

Physician consultation is advised to make an informed decision based on an

individual's health needs.

Alternatives to **CES** include, but may not be limited to, the following:

- Prescription drug therapy may be appropriate for this condition

Physician consultation is advised to make an informed decision based on an individual's health needs.

Provider Claims Codes

Any CPT, HCPCS or ICD codes listed on this medical coverage policy are for informational purposes only. Do not rely on the accuracy and inclusion of specific codes. Inclusion of a code does not guarantee coverage and or reimbursement for a service or procedure.

CPT® Code(s)	Description	Comments
90867	Therapeutic repetitive transcranial magnetic stimulation (TMS) treatment; initial, including cortical mapping, motor threshold determination, delivery and management	
90868	Therapeutic repetitive transcranial magnetic stimulation (TMS) treatment; subsequent delivery and management, per session	
90869	Therapeutic repetitive transcranial magnetic stimulation (TMS) treatment; subsequent motor threshold re-determination with delivery and management	
97014	Application of a modality to 1 or more areas; electrical stimulation (unattended)	**Not Covered if used to report cranial electrical stimulation**
97032	Application of a modality to 1 or more areas; electrical stimulation (manual), each 15 minutes	**Not Covered if used to report cranial electrical stimulation**
CPT® Category III Code(s)	**Description**	**Comments**
No code(s) identified		

HCPCS Code(s)	Description	Comments
No code(s) identified		
ICD-9 Procedure Code(s)	**Description**	**Comments**
94.29	Other psychiatric somatotherapy	**Not Covered if used to report cranial electrical stimulation**

Click here to view ICD-10 code(s) associated with this medical coverage policy.

Medical Terms

Aneurysm – A balloon-like bulge in an artery.

Aneurysm Clip – Surgical procedure for treatment of an aneurysm; a clip is placed across the aneurysm where it arises in the artery, which thereby prevents blood from entering it.

Aneurysm Coil – A less invasive treatment for an aneurysm than a clip procedure; a catheter is inserted into an artery (usually in the groin) and threaded up to the aneurysm; coils are then packed into the aneurysm to the point where it arises from the artery, thus preventing blood flow from entering the aneurysm.

Anxiety – Abnormal and overwhelming sense of apprehension, unease and fear, often accompanied by physical signs such as sweating, tension, increased heart rate or palpitations.

Aura – A subjective sensation (sounds, colored lights, visual disturbances, skin tingling or crawling) experienced by some people preceding an episode of some conditions, such as epilepsy and migraines.

Cardiac Pacemaker – Surgically implanted device to establish and maintain a regular heart rhythm.

Cardiovascular – Of, pertaining to or affecting the heart and blood vessels.

Central Nervous System (CNS) – Of, pertaining to or affecting the brain and spinal cord.

Cerebrovascular Disease – A group of conditions that affect the circulation of the blood to the brain, potentially causing limited or no blood flow to affected areas of the brain.

Cochlear Implant – An implanted device that provides direct electrical stimulation to the auditory (hearing) nerve in the inner ear.

Deep Brain Stimulator (DBS) – A specialized type of electrical stimulator, implanted in the chest, and programmed to send electrical impulses to a specific region of the brain, via implanted electrodes; is proposed for the treatment of tremors, headaches, or depression.

Defibrillator – A device that detects any life-threatening, rapid heartbeat, and if any are detected, quickly sends an electrical shock to the heart to change the rhythm back to normal.

Dementia – Severe impairment or loss of intellectual capacity and personality integration, due to the loss of or damage to neurons in the brain.

Electroconvulsive Therapy (ECT) – A procedure in which brief, controlled electric currents are passed through the brain, intentionally triggering a brief seizure; is thought to cause changes in the brain chemistry that may reverse symptoms of certain mental illnesses, particularly depression; may also be referred to as “shock therapy”.

Electrode – Electrical lead or wire through which current may flow.

Epilepsy – A group of related disorders characterized by a tendency for recurrent seizures.

Intracranial – Within the skull (cranium).

Major Depressive Disorder (MDD) – Mood disorder characterized by profound feelings of sadness or despair.

Migraine Headache – A complex, recurring headache characterized by intense throbbing or pulsing in one area of the head, often accompanied by nausea, vomiting and extreme sensitivity to light and sound.

Neuroleptic – Refers to the effects of antipsychotic drugs on an individual, especially on his/her cognition and behavior; neuroleptic drugs may produce a state of apathy, lack of initiative and limited range of emotion; but it may also, in psychotic individuals, cause a reduction in confusion and agitation.

Neurological – Of, pertaining to or affecting the nervous system.

Neuropsychiatric – Branch of health science that combines neurology and psychiatry, looking at the organic and functional diseases of the nervous system.

Obsessive-Compulsive Disorder (OCD) – Type of anxiety disorder that is characterized by recurrent and persistent thoughts and feelings and related compulsions (tasks or rituals) which are an attempt to neutralize the obsessions.

Ocular – Of, pertaining to or affecting the eyes or vision.

Palpitation – Rapid and irregular heartbeat, or the sensation of rapid heartbeat.

Panic Disorder – Psychiatric disorder that is characterized by extreme fear and dread; often accompanied by racing/rapid heartbeat, shortness of breath, sweaty palms, dizziness or a feeling of impending doom or death.

Psychiatric – Refers to psychiatry, which is the medical specialty that deals with the prevention, assessment, diagnosis, treatment and rehabilitation of the mind and mental illness.

Psychopharmacologic Agents – Medications used to treat mental or behavioral diseases (psychiatric illnesses).

Psychotherapy – A form of treatment for mental health problems by talking with a psychiatrist, psychologist, or other mental health provider.

Schizophrenia – One of the most complex of all mental health disorders; symptoms may include hallucinations (hearing voices, seeing visions), delusions (false beliefs about commonly held views of reality), drastic mood changes and bizarre thought patterns.

Seizure – Sudden attack, spasm or convulsion, as in epilepsy or other disorders.

Seizure Threshold – The level of stimulation at which the brain will have a seizure.

Spinal Cord Stimulator (SCS) – A medical device which uses electrodes implanted near the spinal cord to treat certain types of chronic pain.

Tinnitus – Ringing, roaring or buzzing sound in the ears, without an external cause.

Tricyclic Antidepressant – The first class of medications developed for the treatment of depression; this class of medications is not used as frequently since the development of newer antidepressants with fewer side effects; in lower doses TCAs may be used for other conditions such as prevention of migraine headaches or to treat chronic pain.

Vagus Nerve – The tenth of twelve paired cranial nerves and the only nerve that starts in the brainstem and extends down through the base of the skull, into the neck and down to the abdomen.

Vagus Nerve Stimulator (VNS) – An electrical device, consisting of an implantable pulse generator, a lead and an external programming system, is implanted just below the collarbone under the skin of the left upper chest and is connected by a stimulating lead to the left vagus nerve in the neck where intermittent impulses are delivered; it is most often used for the treatment of medication resistant seizure disorders.

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