



Medical Policy

Subject:	Transcranial Magnetic Stimulation as a Treatment of Depression and Other Psychiatric Disorders		
Policy #:	BEH.00002	Current Effective Date:	08/01/2006
Status:	Reviewed	Last Review Date:	06/08/2006

Description/Scope

Transcranial magnetic stimulation involves placement of a small coil over the scalp through which a rapidly alternating current, producing a magnetic field, is passed unimpeded through the cranium and scalp. This policy addresses transcranial magnetic stimulation as a treatment of depression and other psychiatric disorders.

Policy Statement

Investigational/Not Medically Necessary:

Transcranial magnetic stimulation of the brain is considered **investigational/not medically necessary** for all indications including, but not limited to, as a treatment of depression and all other psychiatric disorders (e.g., mood disorders, anxiety disorders, schizophrenia).

Rationale

To date, the FDA has not approved transcranial magnetic stimulation (TMS) as a therapeutic device for any neuropsychiatric disorder, including depression. A 2002 Cochrane Review concluded that in 16 published trials there was no strong evidence of benefit from using TMS for the treatment of depression. A major conclusion of this report was the finding that there was no difference between TMS patients and sham TMS patients based on results of the Beck Depression Inventory or Hamilton Depression Rating Scale.

There is a paucity of evidence in the form of randomized clinical trials establishing the safety and efficacy of TMS for the treatment of psychiatric disorders other than depression, such as schizophrenia and anxiety. Of the studies that have been published, none were truly double blind and were based on small samples over short periods of time (one to two weeks).

Further research is needed to support the use of transcranial magnetic stimulation in terms of outcomes and long-term safety and efficacy when used in the treatment of depression and other psychiatric disorders.

Background/Overview

Description of Disorders

Depression is a common disorder in the general population. According to the American Medical Association, about two to four percent of persons currently suffer from depression, while the

general population has about a 20 percent lifetime risk for the development of major depression or dysthymia. The rate of depression among women is two to three times that of men. In the United States, about 75% of people who seek help for depression go to a primary care physician rather than to a mental health professional. People who suffer from depression may experience functional impairment, increased risk of suicide, higher health care expenses and losses in productivity. Complaints of sleep disturbance, fatigue and pain are the most common presentations of depression seen by family physicians. A combination of medication and talk therapy is recommended for severe depression. For mild to moderate depression, psychotherapy and/or pharmacotherapy are indicated.

Functional Description

Transcranial magnetic stimulation was first introduced in 1985 as a new method of noninvasive stimulation of the brain. The technique involves placement of a small coil over the scalp in which a rapidly alternating current is passed through, producing a magnetic field that passes unimpeded through the cranium and scalp. Transcranial magnetic stimulation was initially used to investigate nerve conduction. For example, transcranial magnetic stimulation over the motor cortex of the brain will produce a muscle-evoked response on the opposite side. Interest in the use of transcranial magnetic stimulation as a treatment for depression was prompted by the development of a device that could deliver rapid, repetitive stimulation.

Potential Benefits

In contrast to electroconvulsive therapy, transcranial magnetic stimulation does not require anesthesia, and does not induce a convulsion. Specifically, early studies suggested that transcranial magnetic stimulation of the left prefrontal cortex was associated with antidepressant properties.

Potential Risks

Little is known about the long term effects of this therapy. Seizures have been reported after repetitive transcranial magnetic therapy; therefore caution should be utilized before initiating therapy in patients with a history of epilepsy, neurosurgery, or brain trauma.

Definitions

Depression: a state of depressed mood characterized by feelings of sadness, despair and discouragement

Dysthymia: a type of depression involving long-term, chronic symptoms that does not disable a person but inhibits their ability to function at a high level or from feeling good

Major depression: a combination of symptoms (e.g. overwhelming sadness, anxiety, or "empty" feelings, hopelessness and pessimism, trouble making decisions, remembering, and concentrating, etc.) that are disabling and makes daily functioning extremely difficult if not impossible

Schizophrenia: a disorder or group of disorders characterized by disturbances in form and content of thought, mood, sense of self, and relationship to the external world

Coding

The following codes for treatments and procedures applicable to this policy are included below for informational purposes. Inclusion or exclusion of a procedure, diagnosis or device code(s) does not constitute or imply member coverage or provider reimbursement policy. Please refer to the member's contract benefits in effect at the time of service to determine coverage or non-coverage of these services as it applies to an individual member.

When services are Investigational/Not Medically Necessary:

CPT

0018T	Delivery of high power, focal magnetic pulses for direct stimulation to cortical neurons (code deleted 06/30/2006)
0160T	Therapeutic repetitive transcranial magnetic stimulation treatment planning (code effective 07/01/2006)
0161T	Therapeutic repetitive transcranial magnetic stimulation treatment delivery and management, per session (code effective 07/01/2006)

ICD-9 Diagnosis

All diagnoses

References**Peer Reviewed Publications:**

1. George MS, Lisanby SH, Sackeim HA. Transcranial magnetic stimulation: applications in neuropsychiatry. *Arch Gen Psychiatry*. 1999; 56(4):300-311.
2. George MS, Wassermann EM, Kimbrell TA, et al. Mood improvement following daily left prefrontal repetitive transcranial magnetic stimulation in patients with depression: a placebo-controlled crossover trial. *Am J Psychiatry*. 1997; 154(12):1752-1756.
3. Greenberg BD, George MS, Martin JD, et al. Effect of prefrontal repetitive transcranial magnetic stimulation in obsessive-compulsive disorder: a preliminary study. *Am J Psychiatry*. 1997; 154(6):867-869.
4. Grisar N, Chudakov B, Yaroslavsky Y, Belmaker RH. Transcranial magnetic stimulation in mania: a controlled study. *Am J Psychiatry*. 1998; 155(11):1608-1610.
5. Hasey G. Transcranial magnetic stimulation in the treatment of mood disorder: a review and comparison with electroconvulsive therapy. *Can J Psychiatry*. 2001; 46(8):720-727.
6. Holtzheimer PE 3rd, Russo J, Avery DH. A meta-analysis of repetitive transcranial magnetic stimulation in the treatment of depression. *Psychopharmacology Bull*. 2001; 35(4):149-169.
7. Janicak PC, Dowd SM, Martis B, et al. Repetitive transcranial magnetic stimulation versus electroconvulsive therapy for major depression: preliminary results of a randomized trial. *Biol Psychiatry*. 2002; 51(8):659-667.
8. Klein E, Kreinin I, Chistyakov A, et al. Therapeutic efficacy of right prefrontal slow repetitive transcranial magnetic stimulation in major depression. *Arch Gen Psychiatry*. 1999; 56(4):315-320.
9. Martin JR, Barbanj MJ, Schlaepfer TE, et al. Repetitive transcranial magnetic stimulation for the treatment of depression. Systematic review and meta-analysis. *Br J Psychiatry*. 2003; 182:480-491.
10. McNamara B, Ray JL, Arthur OJ, Boniface S. Transcranial magnetic stimulation for depression and other psychiatric disorders. *Psychol Med*. 2001; 31(7):1141-1146.

Web Sites for Additional Information

1. National Institutes of Mental Health: Available at: <http://www.nimh.nih.gov>. Accessed on March 6, 2006.

Index

Beck Depression Inventory
Hamilton Rating Score for Depression (HRSD)

Repetitive Transcranial Magnetic Therapy (RTMS)

Policy History		
Status	Date	Action
Reviewed	06/08/2006	Medical Policy & Technology Assessment Committee (MPTAC) annual review. References and codes updated, no change to the policy stance. Published on web 08/01/2006.
Revised	07/14/2005	MPTAC review. Revision based on policy harmonization: Pre-merger Anthem and Pre-merger WellPoint.

Pre-Merger Organizations	Last Review Date	Policy Number	Title
Anthem, Inc.	07/27/2004	BEH.00002	Transcranial Magnetic Stimulation as a Treatment of Depression and Other Psychiatric Disorders
WellPoint Health Networks, Inc.	06/24/2004	6.01.03	Transcranial Magnetic Stimulation as a Treatment of Depression and Other Neuropsychiatric Disorders

Federal and State law, as well as contract language, including definitions and specific contract provisions/exclusions, take precedence over Medical Policy and must be considered first in determining eligibility for coverage. The member's contract benefits in effect on the date that services are rendered must be used. Medical Policy, which addresses medical efficacy, should be considered before utilizing medical opinion in adjudication. Medical technology is constantly evolving, and we reserve the right to review and update Medical Policy periodically.

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