Medical Coverage Policy | Transcranial Magnetic Stimulation (TMS)

EFFECTIVE DATE: 03/01/2012
POLICY LAST UPDATED: 6/18/2013

OVERVIEW

Transcranial magnetic stimulation (TMS), also called repetitive transcranial magnetic stimulation [TMS]), is a non-invasive method of delivering electrical stimulation to the brain. TMS involves placement of a small coil over the scalp; passing a rapidly alternating current through the coil wire, which produces a magnetic field that passes unimpeded through the scalp and bone, resulting in electrical stimulation of the cortex. Repetitive TMS is used as a treatment of depression and other psychiatric/neurologic brain disorders. This policy documents the medical criteria for when the service is medically necessary.

PRIOR AUTHORIZATION

Preauthorization is required for BlueCHiP for Medicare and recommended for all other Commercial products.

POLICY STATEMENT

BlueCHiP for Medicare and Commercial:

Repetitive transcranial magnetic stimulation is medically necessary as a treatment for depression and other psychiatric/neurologic disorders when the criteria below are met.

All other indications are not medically necessary as the use of TMS as as there is insufficient peer-reviewed scientific literature that demonstrates that the procedure is effective.

TMS should not be used in patients who have conductive, ferromagnetic or other magnetic-sensitive metals implanted in their head which are non-removable and within 30cm of the TMS magnetic coil. Examples include cochlear implants, implanted electrodes/stimulators, aneurysm clips or coil, stents, and bullet fragments. Note: Dental amalgam fillings are not affected by the magnetic field and are acceptable for use with TMS.

MEDICAL CRITERIA

BC for Medicare and Commercial Products

Left prefrontal TMS is covered for patients diagnosed with severe major depression (single or recurrent episode) as defined by the Diagnostic and Statistical Manual of Mental Disorders (DSM-IV), who also have at least one of the following:

- Resistance to treatment with psychopharmacologic agents as evidenced by a lack of clinically significant response to four trials of such agents, in the current depressive episode, from at least two different agent classes. At least one of the treatment trials must have been administered at an adequate course of mono- or poly–drug therapy; or
- Inability to tolerate psychopharmacologic agents as evidenced by trials of four such agents with distinct side effects; or
- History of good response to TMS in a previous episode; or
- If patient is currently receiving electroconvulsive therapy, TMS may be considered reasonable and necessary as a less invasive treatment option.

Repeat acute treatment for relapse of depressive symptoms is considered medically necessary if the patient responded to prior treatments, specifically > 50% improvement in a standard rating scale for depressive symptoms (e.g, (GDS), PHQ-9, BDI, HAM-D, MADRS, QIDS or IDS-SR score). If patient meets the relapse criteria, up to 30 visits for the acute phase treatment followed by an additional 6 visits for tapering is considered reasonable and necessary.

BACKGROUND

Transcranial magnetic stimulation (TMS) also called repetitive transcranial magnetic stimulation is a non-invasive method of delivering electrical stimulation to the brain. A magnetic field is delivered through the skull where it induces electric currents that affect neuronal function. Repetitive TMS is being evaluated as a treatment of depression and other psychiatric/neurologic brain disorders.

Transcranial magnetic stimulation was first introduced in 1985 as a new method of non-invasive stimulation of the brain. The technique involves placement of a small coil over the scalp; passing a rapidly alternating current through the coil wire, which produces a magnetic field that passes unimpeded through the scalp and bone, resulting in electrical stimulation of the cortex. TMS was initially used to investigate nerve conduction; for example, TMS over the motor cortex will produce a contralateral muscular-evoked potential. The motor threshold, which is the minimum intensity of stimulation required to induce a motor response, is empirically determined for each individual by localizing the site on the scalp for optimal stimulation of a hand muscle, then gradually increasing the intensity of stimulation. The stimulation site for treatment is usually 5 cm anterior to the motor stimulation site.

TMS is also being tested as a treatment for a variety of other disorders including alcohol dependence, Alzheimer's disease, neuropathic pain, obsessive-compulsive disorder (OCD), postpartum depression, depression associated with Parkinson's disease, Tourette's syndrome, schizophrenia, migraine, spinal cord injury, fibromyalgia, and tinnitus. For other psychiatric/neurologic conditions, the evidence is insufficient to determine whether TMS leads to improved outcomes. The available clinical trials are small and report mixed results for a variety of conditions other than depression. There are no large, high-quality trials for any of these other conditions. Therefore, TMS is considered investigational for other psychiatric/neurologic conditions.

According to Centers for Medicare and Medicaid Services, when used as an antidepressant therapy, TMS may produce a clinical benefit without the systemic side effects typical with oral medications, has no adverse effects on cognition, and unlike electroconvulsant therapy does not induce amnesia or seizures. TMS offers a well-tolerated, non-pharmacologic alternative that does not require attendant anesthesia services and can be administered in an outpatient setting for patients with DSM-IV defined Major Depressive Disorder who have failed to benefit from initial treatment of their depression. When effective, TMS may prevent the need to utilize more complex pharmaceutical augmentation strategies (e.g., atypical antipsychotic medication), electroconvulsive therapy (ECT), and inpatient hospitalization at later stages of the illness. The use of TMS as a maintenance therapy is not supported by controlled clinical trial at this time and is therefore, considered not reasonable and necessary.

Cautionary Uses

The benefits of TMS use must be carefully considered against the risk of potential side effects in patients with any of the following:

- Seizure disorder or any history of seizure (except those induced by ECT or isolated febrile seizures in infancy without subsequent treatment or recurrence).
- The presence of vagus nerve stimulator leads in the carotid sheath.

- The presence of an implanted medical device located > 30 cm from the TMS magnetic coil, including but not limited to pacemakers, implanted defibrillators, or vagus nerve stimulators.

The use TMS is typically recommended for up to 30 visits over a 7-week period followed by 6 taper treatments.

COVERAGE

Benefits may vary between groups/contracts. Please refer to the appropriate member certificate/subscriber agreement for applicable not medically necessary coverage.

CODING

BlueCHiP for Medicare and Commercial:
The following codes are covered when medical criteria are met :
90867 90868 90869

RELATED POLICIES

None

PUBLISHED

Provider Update	Aug 2013
Provider Update	July 2012
Provider Update	May 2012
Provider Update	Feb 2011
Provider Update	Oct 2010
Policy Update	Aug 2009

REFERENCES

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12. Centers for Medicare and Medicaid Services. Local Coverage Determination (LCD) for Repetitive Transcranial Magnetic Stimulation (TMS) (LCD32228)

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