



# Louisiana

## **Transcranial Magnetic Stimulation as a Treatment of Depression and Other Psychiatric/Neurologic Disorders**

**Policy #** 00121

**Original Effective Date:** 06/05/2002

**Current Effective Date:** 01/11/2021

*Applies to all products administered or underwritten by Blue Cross and Blue Shield of Louisiana and its subsidiary, HMO Louisiana, Inc. (collectively referred to as the "Company"), unless otherwise provided in the applicable contract. Medical technology is constantly evolving, and we reserve the right to review and update Medical Policy periodically.*

### **When Services May Be Eligible for Coverage**

*Coverage for eligible medical treatments or procedures, drugs, devices or biological products may be provided only if:*

- *Benefits are available in the member's contract/certificate, and*
- *Medical necessity criteria and guidelines are met.*

Based on review of available data, the Company may consider repetitive transcranial magnetic stimulation (rTMS) of the brain as a treatment of major depressive disorder to be **eligible for coverage**.\*\*

#### Patient Selection Criteria

Coverage eligibility will be considered for repetitive transcranial magnetic stimulation (rTMS) of the brain as a treatment of major depressive disorder when ALL of the following criteria have been met:

- Confirmed diagnosis of severe major depressive disorder (single or recurrent) documented by standardized rating scales that reliably measure depressive symptoms; AND
- Any ONE of the following:
  - Failure of 4 trials of psychopharmacologic agents including 2 different agent classes and 2 augmentation trials; OR
  - Inability to tolerate a therapeutic dose of medications as evidenced by 4 trials of psychopharmacologic agents with distinct side effects; OR
  - History of response to repetitive transcranial magnetic stimulation (rTMS) in a previous depressive episode (at least 3 months since the prior episode); OR
  - Is a candidate for electroconvulsive therapy (ECT); further, electroconvulsive therapy (ECT) would not be clinically superior to repetitive transcranial magnetic stimulation (rTMS) (e.g., in cases with psychosis, acute suicidal risk, catatonia or

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life-threatening inanition repetitive transcranial magnetic stimulation (rTMS) should NOT be utilized);

AND

- 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.

### **When Services Are Considered Investigational**

*Coverage is not available for investigational medical treatments or procedures, drugs, devices or biological products.*

Based on review of available data, the Company considers the use of repetitive transcranial magnetic stimulation (rTMS) for major depressive disorder when patient selection criteria are not met is considered to be **investigational**.\*

Based on review of available data, the Company considers continued treatment with repetitive transcranial magnetic stimulation (rTMS) of the brain as maintenance therapy to be **investigational**.\*

Based on review of available data, the Company considers repetitive transcranial magnetic stimulation (rTMS) of the brain as a treatment of all other psychiatric/neurologic disorders, including but not limited to bipolar disorder, schizophrenia, obsessive-compulsive disorder (OCD), or migraine headaches to be **investigational**.\*

### **Policy Guidelines**

Repetitive transcranial magnetic stimulation (TMS) should be performed using a U.S. Food and Drug Administration cleared device in appropriately selected patients, by physicians who are adequately trained and experienced in the specific techniques used. A treatment course should not exceed 5 days a week for 6 weeks (total of 30 sessions), followed by a 3-week taper of 3 TMS treatments in week 1, 2 TMS treatments the next week, and 1 TMS treatment in the last week.

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Contraindications to repetitive TMS include:

- a. Seizure disorder or any history of seizure with increased risk of future seizure; or
- b. Presence of acute or chronic psychotic symptoms or disorders (eg, schizophrenia, schizophreniform or schizoaffective disorder) in the current depressive episode; or
- c. Neurologic conditions that include epilepsy, cerebrovascular disease, dementia, increased intracranial pressure, having a history of repetitive or severe head trauma, or with primary or secondary tumors in the central nervous system; or
- d. Presence of an implanted magnetic-sensitive medical device located 30 centimeters or less from the TMS magnetic coil or other implanted metal items, including but not limited to a cochlear implant, implanted cardioverter defibrillator, pacemaker, vagus nerve stimulator, or metal aneurysm clips or coils, staples, or stents.

The following should be present for the administration of repetitive TMS:

- a. An attendant trained in basic cardiac life support and the management of complications such as seizures, as well as the use of the equipment must be present at all times; and
- b. Adequate resuscitation equipment including, eg, suction and oxygen; and
- c. The facility must maintain awareness of response times of emergency services (either fire/ambulance or “code team”), which should be available within 5 minutes. These relationships are reviewed on at least a 1-year basis and include mock drills.

## **Background/Overview**

### **Transcranial Magnetic Stimulation**

Transcranial magnetic stimulation (TMS), introduced in 1985 as a new method of noninvasive stimulation of the brain, 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; eg, 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 person 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 the treatment of depression is usually 5 cm anterior to the motor stimulation site.

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In contrast to electroconvulsive therapy, TMS does not require general anesthesia and does not generally induce a convulsion. Interest in the use of TMS as a treatment for depression was augmented by the development of a device that could deliver rapid, repetitive stimulation. Imaging studies had shown a decrease in the activity of the left dorsolateral prefrontal cortex in depressed patients, and early studies suggested that high-frequency (eg, 5-10 Hz) TMS of the left dorsolateral prefrontal cortex had antidepressant effects. Low-frequency (1-2 Hz) stimulation of the right dorsolateral prefrontal cortex has also been investigated. The rationale for low-frequency TMS is inhibition of right frontal cortical activity to correct the interhemispheric imbalance. A combination approach (bilateral stimulation), or deep stimulation with an H1 coil, is also being explored, as is thetastimulation.

Repetitive TMS is also being tested as a treatment for a variety of other disorders. In addition to the potential for altering interhemispheric imbalance, it has been proposed that high-frequency repetitive TMS may facilitate neuroplasticity.

## **FDA or Other Governmental Regulatory Approval**

### **U.S. Food and Drug Administration (FDA)**

Devices for transcranial stimulation have been cleared for marketing by the U.S. Food and Drug Administration (FDA) for diagnostic uses (FDA Product Code: GWF). A number of devices subsequently received the FDA clearance for the treatment of major depressive disorder in adults who have failed to achieve satisfactory improvement from prior antidepressant medication in the current episode. Indications were expanded to include treating pain associated with certain migraine headaches in 2013, and obsessive-compulsive disorder in 2018.

In 2008, The NeoPulse, now known as NeuroStar<sup>®</sup> TMS, was granted a de novo 510(k) classification by the FDA. The de novo 510(k) review process allows novel products with moderate or low-risk profiles and without predicates, which would ordinarily require premarket approval as a class III device to be down-classified in an expedited manner and brought to market with a special control as a class II device.

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In 2013, the Cerena<sup>TM†</sup> TMS device (eNeura Therapeutics) was granted a de novo 510(k) classification by the FDA for the acute treatment of pain associated with a migraine headache with aura. Warnings, precautions, and contraindications include the following:

- The device is only intended for patients experiencing the onset of pain associated with a migraine headache with aura.
- The device should not be used:
  - on headaches due to underlying pathology or trauma.
  - for medication overuse headaches.
- The device has not been demonstrated as safe and/or effective:
  - when treating cluster headache or a chronic migraine headache.
  - when treating during the aura phase.
  - in relieving the associated symptoms of a migraine (photophobia, phonophobia, and nausea).
  - in pregnant women, children under the age of 18, and adults over the age of 65.

In 2014, eNeura Therapeutics received 510(k) marketing clearance for the SpringTMS<sup>®†</sup> for the treatment of migraine headaches. The device differs from the predicate Cerena TMS device with the addition of an LCD screen, a use authorization feature, a lithium battery pack, and a smaller size. The stimulation parameters are unchanged. The sTMS Mini (eNeura Therapeutics) received marketing clearance by the FDA in 2016. FDA product code: OKP.

In August 2018, the Deep TMS System (Brainsway) was granted a de novo 510(k) classification by the FDA as an adjunct for the treatment of adult patients with Obsessive-Compulsive Disorder. The new classification applies to this device and substantially equivalent devices of this generic type.

Table 1 lists some devices that are FDA cleared for major depressive disorder (Product Code: OBP), migraine headache pain (Product Code: OKP), and obsessive-compulsive disorder (Product Code: QCI).

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**Table 1. Repetitive TMS Devices Cleared by FDA for Major Depression, Migraine, or Obsessive-Compulsive Disorder**

Device	Manufacturer	Indication	FDA Clearance No.	FDA Clearance Date
Neurostar	Neuronetics	Major Depressive Disorder	K083538	12/16/2008
Brainsway Deep TMS System	Brainsway	Major Depressive Disorder	K122288	01/07/2013
Springtms Total Migraine System	Eneura	Migraine headache with aura	K140094	05/21/2014
Rapid Therapy System	Magstim	Major Depressive Disorder	K143531	05/08/2015
Magvita	Tonica Elektronik	Major Depressive Disorder	K150641	07/31/2015
Neurosoft	TeleEMG	Major Depressive Disorder	K160309	12/22/2016
Horizon	Magstim	Major Depressive Disorder	K171051	09/13/2017
Nexstim	Nexstim	Major Depressive Disorder	K171902	11/10/2017
Apollo	Mag & More	Major Depressive Disorder	K180313	05/04/2018
Brainsway Deep TMS System	Brainsway	Obsessive-Compulsive Disorder	K183303	03/08/2019

FDA: U.S. Food and Drug Administration; TMS: transcranial magnetic stimulation.

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  - for medication overuse headaches.
- The device has not been demonstrated as safe and/or effective:
  - when treating cluster headache or a chronic migraine headache.
  - when treating during the aura phase.
  - in relieving the associated symptoms of a migraine (photophobia, phonophobia, and nausea).
  - in pregnant women, children under the age of 18, and adults over the age of 65.

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### **Rationale/Source**

#### **Description**

Transcranial magnetic stimulation (TMS) is a noninvasive method of delivering electrical stimulation to the brain. TMS involves the placement of a small coil over the scalp and passing a rapidly alternating current through the coil wire. The electrical current produces a magnetic field that passes unimpeded through the scalp and bone that stimulate neuronal function. Repetitive TMS (rTMS) is being evaluated for the treatment of treatment-resistant depression (TRD) and other psychiatric and neurologic disorders.

#### **Summary of Evidence**

For individuals who have TRD who receive rTMS, the evidence includes a large number of sham-controlled randomized trials and meta-analyses of these trials. Relevant outcomes are symptoms, functional outcomes, and quality of life. The meta-analyses found a clinical benefit associated with rTMS for TRD with improved response rates and rates of remission compared with sham. The most recent meta-analyses have concluded that the effect of rTMS, on average depression scores, is smaller than the effect of electroconvulsive therapy (ECT) on TRD and that the mean improvement in depression scores with rTMS did not reach the minimal clinically important difference; however, clinically meaningful improvements were noted in a subgroup of studies using higher frequency pulses. One potential area of benefit for rTMS is in accelerating or enhancing the response to antidepressant medications, and there is some evidence that rTMS, when given in conjunction with the initiation of pharmacologic therapy, improves the response rate compared with pharmacologic therapy alone. The effect of rTMS appears to be less robust when it is given in combination with a stable dose of antidepressant medication. Meta-analyses have also found that the efficacy of rTMS decreases with longer follow-up, though some studies have reported persistent response up to 6 months in some patients. There is limited evidence to compare the effects of these treatments on cognition, although the adverse events of rTMS appear to be minimal. While the most recent meta-analyses have reported that the effect of rTMS is smaller than the effect of ECT on TRD, because rTMS does not require general anesthesia or induce seizures, some individuals may decline ECT so the balance of incremental benefits and harms associated with rTMS may be reasonable compared with ECT. Based on the short-term benefit observed in randomized controlled trials (RCTs) and the lack of alternative treatments, aside from ECT in patients with TRD, rTMS may be considered a treatment option in patients with TRD who meet specific criteria. The evidence for the treatment

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stimulation includes a large randomized trial showing noninferiority with another method of rTMS; no significant differences were noted in the number of adverse events. The evidence is sufficient to determine that the technology results in a meaningful improvement in the net health outcome.

For individuals who have migraine headaches who receive rTMS, the evidence includes a sham-controlled RCT of 201 patients conducted for submission to the U.S. Food and Drug Administration for clearance in 2013. The trial results were limited by the 46% dropout rate and the use of a post hoc analysis. No recent studies have been identified with these devices. The evidence is insufficient to determine the effects of the technology on health outcomes.

For individuals who have obsessive-compulsive disorder who receive rTMS, the evidence includes a number of small-to-moderate sized sham-controlled RCTs and a meta-analysis of these studies. The meta-analysis of 15 RCTs (total n=483 patients, range 18-65 patients) found a benefit of rTMS on patient-reported obsessive-compulsive disorder symptom severity at time points ranging from 2 to 6 weeks, but there was substantial variability in the stimulation parameters, including the cortical region that was stimulated and the frequency of stimulation. A more recent RCT compared deep rTMS to sham in 99 patients for 6 weeks, with an additional 4 weeks of follow-up as a secondary outcome. Using a modified ITT analysis (n=94), there was a larger mean change from baseline on the primary efficacy outcome; Yale-Brown Obsessive Compulsive Scale score in the active treatment group (-6.0 points) than the sham group (-2.8 points), translating to a moderate effect size of 0.69. At 6 weeks, the response rate was 38.1% in the active treatment group compared to 11.1% in the sham group (P=0.003), as measured by a 30% or greater decrease in the Yale-Brown Obsessive Compulsive Scale. The difference in the primary outcome measure between active and sham groups was not statistically significant in the ITT analysis. There was a benefit for rTMS on clinician-reported measures of improvement, but no significant difference between groups on patient-reported disability and impairment. Additional trials with sufficient sample size and follow-up duration are needed to confirm these results. The evidence is insufficient to determine the effect of the technology on health outcomes.

For individuals who have psychiatric or neurological disorders other than depression, migraine, or obsessive-compulsive disorder (eg, amyotrophic lateral sclerosis, chronic pain, epilepsy, fibromyalgia, panic disorder, Parkinson disease, posttraumatic stress disorder, schizophrenia, stroke, substance use disorder and craving) who receive rTMS, the evidence includes numerous small RCTs

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and meta-analyses of these randomized trials. Relevant outcomes are symptoms, functional outcomes, and quality of life. The trials included in the meta-analyses are typically small and of low methodologic quality. In addition, stimulation parameters have not been established, and trial results are heterogeneous. There are no large, high-quality trials for any of these conditions demonstrating efficacy or the durability of any treatment effects. The evidence is insufficient to determine the effects of the technology on health outcomes.

### **Supplemental Information**

#### **Clinical Input From Physician Specialty Societies and Academic Medical Centers**

While the various physician specialty societies and academic medical centers may collaborate with and make recommendations during this process, through the provision of appropriate reviewers, input received does not represent an endorsement or position statement by the physician specialty societies or academic medical centers, unless otherwise noted.

In response to requests, input was received from 1 physician specialty society and 3 academic medical centers while this policy was under review in 2014. Reviewers considered repetitive transcranial magnetic stimulation to be medically necessary for treatment-resistant depression. Input agreed with the proposed criteria for treatment of treatment-resistant depression with repetitive transcranial magnetic stimulation, as included in the policy statement.

#### **Practice Guidelines and Position Statements**

##### ***American Psychiatric Association***

The American Psychiatric Association (2018) published consensus recommendations on repetitive transcranial magnetic stimulation (rTMS) for the treatment of depression. The guidelines state, "Multiple randomized controlled trials and published literature have supported the safety and efficacy of rTMS antidepressant therapy." The recommendations include information on the following variables: clinical environment, operator requirements, documentation, coils, cortical targets, coil positioning methods, determination of motor threshold, number of treatment sessions for acute treatment, and allowable psychotropic medications during TMS treatment.

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The American Psychiatric Association's (2007, reaffirmed in 2012) guidelines on the treatment of patients with obsessive-compulsive disorder have indicated that "findings of the 4 published trials of repetitive TMS (rTMS) are inconsistent, perhaps because the studies differed in design, stimulation sites, duration, and stimulation parameters. The available results and the technique's non-invasiveness and good tolerability should encourage future research, but the need for daily treatment may limit the use of TMS in practice."

### ***American Academy of Child and Adolescent Psychiatry***

In 2013, the American Academy of Child and Adolescent Psychiatry published practice parameters on the assessment and treatment of children and adolescents with tic disorders. The Academy did not recommend rTMS, citing the limited evidence on the safety, ethics, and long-term impact on development.

### ***National Institute for Health and Care Excellence***

In 2015, the National Institute for Health and Care Excellence (NICE) provided revised guidance, stating that evidence on the short-term efficacy of rTMS for depression is adequate, although the clinical response is variable and some patients may not benefit.

In 2014, the NICE provided guidance on the use of rTMS for treating and preventing migraine. The guidance stated that evidence on the efficacy of TMS for the treatment of migraine was limited in quantity and for the prevention of migraine was limited in both quality and quantity. Evidence on its safety in the short- and medium-term was adequate, but there was uncertainty about the safety of long-term or frequent use of TMS.

### ***American Academy of Neurology***

In 2006, the American Academy of Neurology issued practice guidelines on the evaluation and treatment of depression, psychosis, and dementia in Parkinson disease. The guidelines found the evidence insufficient to support or refute the efficacy of TMS or electroconvulsive therapy in the treatment of depression associated with Parkinson disease (level U; data inadequate or conflicting given current knowledge, treatment is unproven).

### **U.S. Preventive Services Task Force Recommendations**

Not applicable.

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### Medicare National Coverage

There is no national coverage determination. In the absence of a national coverage determination, coverage decisions are left to the discretion of local Medicare carriers.

### Ongoing and Unpublished Clinical Trials

Some currently ongoing and unpublished trials that might influence this review are listed in Table 2.

**Table 2. Summary of Key Trials**

NCT No.	Trial Name	Planned Enrollment	Completion Date
<i>Unpublished</i>			
NCT02376491	Efficacy of Intermittent Theta Burst Stimulation Compared to 10 Hz Stimulation on Dorsolateral Prefrontal Cortex in Treatment-Resistant Major Depressive Disorder: a Double-blind Randomized Study	60	Mar 2019
NCT03762746	TMS for Treatment-Resistant Auditory Verbal Hallucination in Schizophrenia	40	Feb 2019
<i>Ongoing</i>			
NCT02977299	Augmentation Versus Switch: Comparative Effectiveness Research Trial for Antidepressant Incomplete and Non-responders With Treatment-Resistant Depression (ASCERTAIN-TRD)	639	Jan 2022
NCT02910024	Theta-Burst-Stimulation in Early Rehabilitation of Stroke (TheSiReS)	150	Feb 2021

NCT: national clinical trial.

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### **References**

1. Blue Cross and Blue Shield Association, Medical Policy Reference Manual, “Transcranial Magnetic Stimulation as a Treatment of Depression and Other Psychiatric/Neurologic Disorders”, 2.01.50, November 2020.
2. Blue Cross and Blue Shield Association Technology Evaluation Center (TEC). Transcranial magnetic stimulation for depression. TEC Assessments. 2009;Volume 24:Tab 5.
3. Blue Cross and Blue Shield Association Technology Evaluation Center (TEC). Transcranial magnetic stimulation for depression. TEC Assessments. 2011;Volume 26:Tab 3.
4. Blue Cross and Blue Shield Association Technology Evaluation Center (TEC). Transcranial magnetic stimulation for depression. TEC Assessments. 2013;Volume 28:Tab 9.
5. Gross M, Nakamura L, Pascual-Leone A, et al. Has repetitive transcranial magnetic stimulation (rTMS) treatment for depression improved? A systematic review and meta-analysis comparing the recent vs. the earlier rTMS studies. *Acta Psychiatr Scand*. Sep 2007; 116(3): 165-73. PMID 17655557
6. Schutter DJ. Antidepressant efficacy of high-frequency transcranial magnetic stimulation over the left dorsolateral prefrontal cortex in double-blind sham-controlled designs: a meta-analysis. *Psychol Med*. Jan 2009; 39(1): 65-75. PMID 18447962
7. Sehatzadeh Sh, Tu HA, Palimaka S, et al. Repetitive Transcranial Magnetic Stimulation for Treatment-Resistant Depression: A Systematic Review and Meta-Analysis of Randomized Controlled Trials. *Ont Health Technol Assess Ser*. 2016; 16(5): 1-66. PMID 27099642
8. Berlim MT, Van den Eynde F, Daskalakis ZJ. High-frequency repetitive transcranial magnetic stimulation accelerates and enhances the clinical response to antidepressants in major depression: a meta-analysis of randomized, double-blind, and sham-controlled trials. *J Clin Psychiatry*. Feb 2013; 74(2): e122-9. PMID 23473357
9. Berlim MT, Van den Eynde F, Daskalakis ZJ. Efficacy and acceptability of high frequency repetitive transcranial magnetic stimulation (rTMS) versus electroconvulsive therapy (ECT) for major depression: a systematic review and meta-analysis of randomized trials. *Depress Anxiety*. Jul 2013; 30(7): 614-23. PMID 23349112
10. Gaynes B, Lux L, Lloyd S, et al. Nonpharmacologic Interventions for Treatment-Resistant Depression in Adults. Comparative Effectiveness Review No. 33 (AHRQ Publication No. 11-EHC056-EF). Rockville, MD: Agency for Healthcare Research and Quality; 2011.

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11. Blumberger DM, Vila-Rodriguez F, Thorpe KE, et al. Effectiveness of theta burst versus high-frequency repetitive transcranial magnetic stimulation in patients with depression (THREE-D): a randomised non-inferiority trial. *Lancet*. Apr 28 2018; 391(10131): 1683-1692. PMID 29726344
12. Food and Drug Administration. 510(k) Summary: Brainsway deep TMS System (K122288). 2013; [https://www.accessdata.fda.gov/cdrh\\_docs/pdf12/k122288.pdf](https://www.accessdata.fda.gov/cdrh_docs/pdf12/k122288.pdf).
13. O'Reardon JP, Solvason HB, Janicak PG, et al. Efficacy and safety of transcranial magnetic stimulation in the acute treatment of major depression: a multisite randomized controlled trial. *Biol Psychiatry*. Dec 01 2007; 62(11): 1208-16. PMID 17573044
14. Kedzior KK, Reitz SK, Azorina V, et al. Durability of the antidepressant effect of the high-frequency repetitive transcranial magnetic stimulation (rTMS) In the absence of maintenance treatment in major depression: a systematic review and meta-analysis of 16 double-blind, randomized, sham-controlled trials. *Depress Anxiety*. Mar 2015; 32(3): 193-203. PMID 25683231
15. Dunner DL, Aaronson ST, Sackeim HA, et al. A multisite, naturalistic, observational study of transcranial magnetic stimulation for patients with pharmacoresistant major depressive disorder: durability of benefit over a 1-year follow-up period. *J Clin Psychiatry*. Dec 2014; 75(12): 1394-401. PMID 25271871
16. Richieri R, Guedj E, Michel P, et al. Maintenance transcranial magnetic stimulation reduces depression relapse: a propensity-adjusted analysis. *J Affect Disord*. Oct 2013; 151(1): 129-35. PMID 23790811
17. Connolly KR, Helmer A, Cristancho MA, et al. Effectiveness of transcranial magnetic stimulation in clinical practice post-FDA approval in the United States: results observed with the first 100 consecutive cases of depression at an academic medical center. *J Clin Psychiatry*. Apr 2012; 73(4): e567-73. PMID 22579164
18. Janicak PG, Nahas Z, Lisanby SH, et al. Durability of clinical benefit with transcranial magnetic stimulation (TMS) in the treatment of pharmacoresistant major depression: assessment of relapse during a 6-month, multisite, open-label study. *Brain Stimul*. Oct 2010; 3(4): 187-99. PMID 20965447
19. Food and Drug Administration. De Novo classification request for cerena transcranial magnetic stimulator (TMS) device. 2013; [https://www.accessdata.fda.gov/cdrh\\_docs/reviews/K130556.pdf](https://www.accessdata.fda.gov/cdrh_docs/reviews/K130556.pdf).

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20. Goodman WK, Price LH, Rasmussen SA, et al. The Yale-Brown Obsessive Compulsive Scale. I. Development, use, and reliability. *Arch Gen Psychiatry*. Nov 1989; 46(11): 1006-11. PMID 2684084
21. Storch EA, De Nadai AS, Conceicao do Rosario M, et al. Defining clinical severity in adults with obsessive-compulsive disorder. *Compr Psychiatry*. Nov 2015; 63: 30-5. PMID 26555489
22. Farris SG, McLean CP, Van Meter PE, et al. Treatment response, symptom remission, and wellness in obsessive-compulsive disorder. *J Clin Psychiatry*. Jul 2013; 74(7): 685-90. PMID 23945445
23. Trevizol AP, Shiozawa P, Cook IA, et al. Transcranial Magnetic Stimulation for Obsessive-Compulsive Disorder: An Updated Systematic Review and Meta-analysis. *J ECT*. Dec 2016; 32(4): 262-266. PMID 27327557
24. Carmi L, Tendler A, Bystritsky A, et al. Efficacy and Safety of Deep Transcranial Magnetic Stimulation for Obsessive-Compulsive Disorder: A Prospective Multicenter Randomized Double-Blind Placebo-Controlled Trial. *Am J Psychiatry*. Nov 01 2019; 176(11): 931-938. PMID 31109199
25. U.S. Food and Drug Administration. De novo classification request for Brainsway Deep Transcranial Magnetic Stimulation System. 2018; [https://www.accessdata.fda.gov/cdrh\\_docs/reviews/DEN170078.pdf](https://www.accessdata.fda.gov/cdrh_docs/reviews/DEN170078.pdf).
26. Tee MMK, Au CH. A Systematic Review and Meta-Analysis of Randomized Sham-Controlled Trials of Repetitive Transcranial Magnetic Stimulation for Bipolar Disorder. *Psychiatr Q*. Aug 29 2020. PMID 32860557
27. Cui H, Jiang L, Wei Y, et al. Efficacy and safety of repetitive transcranial magnetic stimulation for generalised anxiety disorder: A meta-analysis. *Gen Psychiatr*. 2019; 32(5): e100051. PMID 31673675
28. Li H, Wang J, Li C, et al. Repetitive transcranial magnetic stimulation (rTMS) for panic disorder in adults. *Cochrane Database Syst Rev*. Sep 17 2014; (9): CD009083. PMID 25230088
29. Mantovani A, Aly M, Dagan Y, et al. Randomized sham controlled trial of repetitive transcranial magnetic stimulation to the dorsolateral prefrontal cortex for the treatment of panic disorder with comorbid major depression. *J Affect Disord*. Jan 10 2013; 144(1-2): 153-9. PMID 22858212
30. Trevizol AP, Barros MD, Silva PO, et al. Transcranial magnetic stimulation for posttraumatic stress disorder: an updated systematic review and meta-analysis. *Trends Psychiatry Psychother*. Jan-Mar 2016; 38(1): 50-5. PMID 27074341

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# Louisiana

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Policy # 00121

Original Effective Date: 06/05/2002

Current Effective Date: 01/11/2021

31. He H, Lu J, Yang L, et al. Repetitive transcranial magnetic stimulation for treating the symptoms of schizophrenia: A PRISMA compliant meta-analysis. *Clin Neurophysiol.* May 2017; 128(5): 716-724. PMID 28315614
32. Dougall N, Maayan N, Soares-Weiser K, et al. Transcranial magnetic stimulation (TMS) for schizophrenia. *Cochrane Database Syst Rev.* Aug 20 2015; (8): CD006081. PMID 26289586
33. Blue Cross and Blue Shield Association Technology Evaluation Center (TEC). Transcranial magnetic stimulation for the treatment of schizophrenia. *TEC Assessments.* 2011;Volume 26:Tab 6.
34. Guan HY, Zhao JM, Wang KQ, et al. High-frequency neuronavigated rTMS effect on clinical symptoms and cognitive dysfunction: a pilot double-blind, randomized controlled study in Veterans with schizophrenia. *Transl Psychiatry.* Feb 25 2020; 10(1): 79. PMID 32098946
35. Kumar N, Vishnubhatla S, Wadhawan AN, et al. A randomized, double blind, sham-controlled trial of repetitive transcranial magnetic stimulation (rTMS) in the treatment of negative symptoms in schizophrenia. *Brain Stimul.* May 2020; 13(3): 840-849. PMID 32289715
36. Zhuo K, Tang Y, Song Z, et al. Repetitive transcranial magnetic stimulation as an adjunctive treatment for negative symptoms and cognitive impairment in patients with schizophrenia: a randomized, double-blind, sham-controlled trial. *Neuropsychiatr Dis Treat.* 2019; 15: 1141-1150. PMID 31190822
37. Jansen JM, Daams JG, Koeter MW, et al. Effects of non-invasive neurostimulation on craving: a meta-analysis. *Neurosci Biobehav Rev.* Dec 2013; 37(10 Pt 2): 2472-80. PMID 23916527
38. Fang J, Zhou M, Yang M, et al. Repetitive transcranial magnetic stimulation for the treatment of amyotrophic lateral sclerosis or motor neuron disease. *Cochrane Database Syst Rev.* May 31 2013; (5): CD008554. PMID 23728676
39. O'Connell NE, Wand BM, Marston L, et al. Non-invasive brain stimulation techniques for chronic pain. *Cochrane Database Syst Rev.* Apr 11 2014; (4): CD008208. PMID 24729198
40. O'Connell NE, Marston L, Spencer S, et al. Non-invasive brain stimulation techniques for chronic pain. *Cochrane Database Syst Rev.* Apr 13 2018; 4: CD008208. PMID 29652088
41. Chen R, Spencer DC, Weston J, et al. Transcranial magnetic stimulation for the treatment of epilepsy. *Cochrane Database Syst Rev.* Aug 11 2016; (8): CD011025. PMID 27513825
42. Mishra A, Maiti R, Mishra BR, et al. Effect of Repetitive Transcranial Magnetic Stimulation on Seizure Frequency and Epileptiform Discharges in Drug-Resistant Epilepsy: A Meta-Analysis. *J Clin Neurol.* Jan 2020; 16(1): 9-18. PMID 31942753

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# Louisiana

## Transcranial Magnetic Stimulation as a Treatment of Depression and Other Psychiatric/Neurologic Disorders

Policy # 00121

Original Effective Date: 06/05/2002

Current Effective Date: 01/11/2021

43. Saltychev M, Laimi K. Effectiveness of repetitive transcranial magnetic stimulation in patients with fibromyalgia: a meta-analysis. *Int J Rehabil Res.* Mar 2017; 40(1): 11-18. PMID 27977465
44. Chou YH, Hickey PT, Sundman M, et al. Effects of repetitive transcranial magnetic stimulation on motor symptoms in Parkinson disease: a systematic review and meta-analysis. *JAMA Neurol.* Apr 2015; 72(4): 432-40. PMID 25686212
45. Shirota Y, Ohtsu H, Hamada M, et al. Supplementary motor area stimulation for Parkinson disease: a randomized controlled study. *Neurology.* Apr 09 2013; 80(15): 1400-5. PMID 23516319
46. Hao Z, Wang D, Zeng Y, et al. Repetitive transcranial magnetic stimulation for improving function after stroke. *Cochrane Database Syst Rev.* May 31 2013; (5): CD008862. PMID 23728683
47. Le Q, Qu Y, Tao Y, et al. Effects of repetitive transcranial magnetic stimulation on hand function recovery and excitability of the motor cortex after stroke: a meta-analysis. *Am J Phys Med Rehabil.* May 2014; 93(5): 422-30. PMID 24429509
48. Li Y, Qu Y, Yuan M, et al. Low-frequency repetitive transcranial magnetic stimulation for patients with aphasia after stroke: A meta-analysis. *J Rehabil Med.* Sep 2015; 47(8): 675-81. PMID 26181486
49. Zhang L, Xing G, Fan Y, et al. Short- and Long-term Effects of Repetitive Transcranial Magnetic Stimulation on Upper Limb Motor Function after Stroke: a Systematic Review and Meta-Analysis. *Clin Rehabil.* Sep 2017; 31(9): 1137-1153. PMID 28786336
50. Graef P, Dadalt MLR, Rodrigues DAMDS, et al. Transcranial magnetic stimulation combined with upper-limb training for improving function after stroke: A systematic review and meta-analysis. *J Neurol Sci.* Oct 15 2016; 369: 149-158. PMID 27653882
51. McClintock SM, Reti IM, Carpenter LL, et al. Consensus Recommendations for the Clinical Application of Repetitive Transcranial Magnetic Stimulation (rTMS) in the Treatment of Depression. *J Clin Psychiatry.* Jan/Feb 2018; 79(1). PMID 28541649
52. American Psychiatric Association. Practice Guidelines for the treatment of patients with major depressive disorder. Third Edition. 2010; [http://psychiatryonline.org/pb/assets/raw/sitewide/practice\\_guidelines/guidelines/mdd.pdf](http://psychiatryonline.org/pb/assets/raw/sitewide/practice_guidelines/guidelines/mdd.pdf).
53. Murphy TK, Lewin AB, Storch EA, et al. Practice parameter for the assessment and treatment of children and adolescents with tic disorders. *J Am Acad Child Adolesc Psychiatry.* Dec 2013; 52(12): 1341-59. PMID 24290467

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Current Effective Date: 01/11/2021

- 54. National Institute for Health and Care Excellence (NICE). Repetitive transcranial magnetic stimulation for depression [IPG542]. 2015; <https://www.nice.org.uk/guidance/ipg542>.
- 55. National Institute for Health and Care Excellence (NICE). Transcranial magnetic stimulation for treating and preventing migraine [IPG477]. 2014; <https://www.nice.org.uk/guidance/ipg477>.
- 56. Miyasaki JM, Shannon K, Voon V, et al. Practice Parameter: evaluation and treatment of depression, psychosis, and dementia in Parkinson disease (an evidence-based review): report of the Quality Standards Subcommittee of the American Academy of Neurology. *Neurology*. Apr 11 2006; 66(7): 996-1002. PMID 16606910

### **Policy History**

Original Effective Date: 06/05/2002

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- 05/16/2002 Medical Policy Committee review
- 06/05/2002 Managed Care Advisory Council approval
- 06/24/2002 Format revision. No substance change to policy.
- 06/01/2004 Medical Director review
- 06/15/2004 Medical Policy Committee review
- 06/28/2004 Managed Care Advisory Council approval
- 06/07/2006 Medical Director review
- 06/21/2006 Medical Policy Committee approval. Format revision including addition of FDA and or other governmental regulatory approval and rationale/source. Coverage eligibility unchanged.
- 06/04/2008 Medical Director review
- 06/18/2008 Medical Policy Committee approval. No change to coverage eligibility.
- 06/04/2009 Medical Director review
- 06/17/2009 Medical Policy Committee approval. No change to coverage eligibility.
- 06/03/2010 Medical Policy Committee review
- 06/16/2010 Medical Policy Implementation Committee approval. No change to coverage eligibility.
- 12/31/2010 Coding updated.
- 06/02/2011 Medical Policy Committee review

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06/15/2011	Medical Policy Implementation Committee approval. No change to coverage eligibility.
06/06/2012	Coding updated.
06/14/2012	Medical Policy Committee review
06/20/2012	Medical Policy Implementation Committee approval. No change to coverage eligibility. Added the word “neurologic” to the investigational statement.
06/06/2013	Medical Policy Committee review
06/25/2013	Medical Policy Implementation Committee approval. Coverage eligibility unchanged.
07/10/2014	Medical Policy Committee review
07/16/2014	Medical Policy Implementation Committee approval. Coverage changed from investigational to eligible for coverage with criteria for transcranial magnetic stimulation of the brain for treatment-resistant depression. Continued treatment with transcranial magnetic stimulation of the brain as maintenance therapy and for all other psychiatric/neurologic disorders is investigational.
06/25/2015	Medical Policy Committee review
07/15/2015	Medical Policy Implementation Committee approval. Coverage eligibility unchanged.
06/30/2016	Medical Policy Committee review
07/20/2016	Medical Policy Implementation Committee approval. Coverage eligibility unchanged.
01/01/2017	Coding update: Removing ICD-9 Diagnosis codes
09/07/2017	Medical Policy Committee review
09/20/2017	Medical Policy Implementation Committee approval. Coverage eligibility unchanged.
11/02/2017	Medical Policy Committee review
11/15/2017	Medical Policy Implementation Committee approval. Coverage eligibility unchanged. Policy Guidelines added to the end of the coverage section.
11/08/2018	Medical Policy Committee review
11/21/2018	Medical Policy Implementation Committee approval. Coverage eligibility unchanged.
12/05/2019	Medical Policy Committee review

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12/11/2019 Medical Policy Implementation Committee approval. Coverage eligibility unchanged.

12/03/2020 Medical Policy Committee review

12/09/2020 Medical Policy Implementation Committee approval. Coverage eligibility unchanged.

Next Scheduled Review Date: 12/2021

### **Coding**

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Codes used to identify services associated with this policy may include (but may not be limited to) the following:

Code Type	Code
CPT	90867, 90868, 90869
HCPCS	No codes
ICD-10 Diagnosis	All related diagnoses

\*Investigational – A medical treatment, procedure, drug, device, or biological product is Investigational if the effectiveness has not been clearly tested and it has not been incorporated into standard medical practice. Any determination we make that a medical treatment, procedure, drug, device, or biological product is Investigational will be based on a consideration of the following:

- A. Whether the medical treatment, procedure, drug, device, or biological product can be lawfully marketed without approval of the U.S. Food and Drug Administration (FDA) and whether such approval has been granted at the time the medical treatment, procedure, drug, device, or biological product is sought to be furnished; or
- B. Whether the medical treatment, procedure, drug, device, or biological product requires further studies or clinical trials to determine its maximum tolerated dose, toxicity, safety, effectiveness, or effectiveness as compared with the standard means of treatment or diagnosis, must improve health outcomes, according to the consensus of opinion among experts as shown by reliable evidence, including:
  - 1. Consultation with the Blue Cross and Blue Shield Association technology assessment program (TEC) or other nonaffiliated technology evaluation center(s);
  - 2. Credible scientific evidence published in peer-reviewed medical literature generally recognized by the relevant medical community; or
  - 3. Reference to federal regulations.

\*\*Medically Necessary (or “Medical Necessity”) - Health care services, treatment, procedures, equipment, drugs, devices, items or supplies that a Provider, exercising prudent clinical judgment, would provide to a patient for the purpose of preventing, evaluating, diagnosing or treating an illness, injury, disease or its symptoms, and that are:

- A. In accordance with nationally accepted standards of medical practice;

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- B. Clinically appropriate, in terms of type, frequency, extent, level of care, site and duration, and considered effective for the patient's illness, injury or disease; and
- C. Not primarily for the personal comfort or convenience of the patient, physician or other health care provider, and not more costly than an alternative service or sequence of services at least as likely to produce equivalent therapeutic or diagnostic results as to the diagnosis or treatment of that patient's illness, injury or disease.

For these purposes, “nationally accepted standards of medical practice” means standards that are based on credible scientific evidence published in peer-reviewed medical literature generally recognized by the relevant medical community, Physician Specialty Society recommendations and the views of Physicians practicing in relevant clinical areas and any other relevant factors.

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**NOTICE:** Medical Policies are scientific based opinions, provided solely for coverage and informational purposes. Medical Policies should not be construed to suggest that the Company recommends, advocates, requires, encourages, or discourages any particular treatment, procedure, or service, or any particular course of treatment, procedure, or service.

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