

TMS THERAPY

Written by Moira K. McGhee

Mental disorders often include negative changes in mood, thoughts, and/or behaviors and can adversely impact daily activities at home, work, and school. Depression is one of the most common mental disorders in the United States and includes major depressive episodes that can affect your energy levels, concentration, sleep patterns, eating habits, and/or self-worth.

According to the 2018 National Survey on Drug Use and Health, about 1 in 7 – or 3.5 million – adolescents between ages 12 and 17 had a major depressive episode over the past year, and about 1.4 million of these adolescents received treatment for depression. During 2018, 7.2% – or 17.7 million – adults ages 18 or older had a major depressive episode, with 11.5 million receiving treatment for depression. Although most people with depression don't die by suicide, having major depression does increase suicide risk. Approximately 60% of people who commit suicide have had a mood disorder.

Depression is often treated with medications and psychotherapy, but these forms of treatment don't work for everyone. TMS, or transcranial magnetic stimulation, therapy is a noninvasive procedure shown to be effective in treating depression when other treatments haven't worked.

This guide covers basic information on how TMS therapy works [Rehab in Houston](#) at depression and various other mood disorders and mental health conditions. Details are also provided on how TMS therapy is administered, the cost of therapy, potential side effects, and other considerations of using this type of treatment.

[TMS therapy](#) uses magnetic pulses targeted at specific locations in the brain to stimulate nerve cells and improve symptoms of depression. TMS therapy is typically used when other depression treatments have failed to provide desired results. Because treatment involves repetitive magnetic pulses, it's often called repetitive TMS or rTMS therapy.

TMS therapy is approved by the Federal Drug Administration (FDA) for the treatment of major depressive disorder and obsessive-compulsive disorder (OCD), but it has also shown promise in the treatment of other mood disorders and conditions. Some of these conditions include bipolar disorder, generalized anxiety disorder, post-traumatic stress disorder, epilepsy, and Tourette syndrome.

Generic Treatment Name TMS Therapy

Scientific Name Transcranial Magnetic Stimulation

Other Names Repetitive Transcranial Magnetic Stimulation (rTMS)
Deep Transcranial Magnetic Stimulation (dTMS)

Conditions Commonly Treated Depression or major depressive disorder, bipolar disorder, bipolar depression, OCD, Tourette syndrome, auditory hallucinations in schizophrenia, generalized anxiety disorder, post-traumatic stress disorder, and epilepsy. It has also been studied as a possible treatment for pain, stroke, schizophrenia, and amyotrophic lateral sclerosis (ALS).

How to Receive Treatment Prescribed by a physician following psychiatric evaluation, administered by a physician or technician with TMS training

Where Performed Doctor's office or clinic

Treatment Duration The first session typically lasts about 60 minutes, with subsequent sessions lasting about 30 to 40 minutes. Sessions are usually performed five days a week for four to six weeks.

Common Side Effects Scalp pain at the stimulation site, headache, lightheadedness, and tingling or twitching facial muscles

Potential Side Toothache, temporary hearing loss; eye, face or skin pain; low risk of seizures

TMS therapy was introduced in 1985 with the initial hope of providing similar benefits as electroconvulsive therapy without certain drawbacks, such as memory issues. It has since been extensively studied for its effectiveness in psychiatric disorders. In 2008, the [FDA approved Repetitive TMS Therapy](#) using the NeuroStar Advanced Therapy brain-stimulating device from Neuronetics for treatment of major depressive disorder in individuals who received unsatisfactory results from anti-depressant medication. Other machines have since been approved as well.

Between 2009 and 2012, further studies revealed that deep repetitive TMS therapy increased remission rates of treatment-resistant depression up to 32.6%. The [FDA approved deep TMS therapy](#) in 2013 for the treatment of stubborn depression symptoms and approved the Brainsway Deep Transcranial Magnetic Stimulation System for treatment of OCD in 2018.

TMS therapy has continually gained momentum as an effective treatment for medication-resistant depression. More than [1.6 million treatments](#) have been performed with the NeuroStar device.

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II. How TMS Therapy Works & What It's Used For

In the simplest terms, TMS therapy uses magnetic coils to create electrical currents that stimulate the brain. It has been shown to produce changes in brain activity in the [areas that regulate mood](#), potentially resulting in relief from depression. TMS therapy is typically used after depression treatment using medication produced unsatisfactory results, but it's occasionally used as a first-level treatment.

Depression is treatable, but some people don't respond to standard treatments, such as medication and psychotherapy. When these treatments fail, your doctor may recommend TMS therapy as an alternative treatment or to augment antidepressants or talk therapy. According to [Harvard Medical School](#), about 50% to 60% of patients who didn't receive any benefits from medication had a worthwhile response to TMS therapy.

TMS therapy has been touted as an [effective treatment](#) for OCD, Tourette syndrome, and auditory hallucinations in schizophrenia. Ongoing clinical trials are also evaluating the effectiveness of TMS therapy for [bipolar disorder](#), nicotine

addiction, [post-traumatic stress disorder](#), [generalized anxiety disorder](#), [epilepsy](#), stroke, and [amyotrophic lateral sclerosis](#). Further extensive studies may allow TMS therapy to continue to evolve into new treatments for various psychiatric disorders and neurological disorders, as well as a tool for physical rehabilitation and pain management. While many findings are promising, using TMS therapy for conditions not yet FDA-approved is considered off-label use.

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III. How TMS Therapy Is Administered

To prepare for your treatment, your doctor may perform a physical exam, lab tests, and a psychiatric evaluation to ensure that TMS therapy is the right choice for you. TMS treatment sessions are administered by a TMS-trained doctor or technician and performed on an outpatient basis, usually in a doctor's office or clinic.

During your sessions, you're seated in a comfortable chair, and you must wear earplugs to protect your hearing. An electromagnetic coil is placed against your scalp near your forehead, which delivers a magnetic pulse that's painless. Repetitive pulses stimulate nerve cells in your brain in the region that controls mood, which should improve your mood and decrease symptoms of depression.

[During treatment](#), you'll feel a tapping sensation on your forehead and hear clicking sounds. You may experience some discomfort on your scalp during treatment and for a short time following treatment at or near the area where the coils were placed. Some people also develop a headache that can be treated with aspirin. Scalp discomfort and headaches should cease after a few sessions. Generally, you can return to normal activities immediately following treatment, including driving and going to school or work.

TMS therapy is noninvasive and doesn't require anesthesia. You'll need a series of sessions for effective treatment for depression. Typically, sessions are scheduled five days a week for four to six weeks. Depending on the TMS coil and the number of pulses, the length of the sessions varies, but they usually last about 30 to 40 minutes. However, your initial sessions will likely last between 60 and 90 minutes because your doctor will need to determine the proper placement of the TMS coil and appropriate pulse settings.

If TMS therapy works, you should see improvement in your depression symptoms within a few weeks of treatment. Your symptoms may also go away completely. Depending on your results, your doctor may recommend ongoing care for depression following TMS therapy, which may include medication and psychotherapy. If your depression improves but symptoms return later, you can also repeat TMS therapy, or your doctor may recommend maintenance sessions.

IV. Cost, Side Effects, and Other Considerations

The cost of TMS therapy varies by provider and may or may not be covered by your health insurance policy. According to Psychology Today, a growing number of insurance companies are covering TMS therapy, which typically ranges between [\\$400 and \\$500 per session](#) for a total cost of approximately \$15,000. However, another source states that therapy costs about [\\$200 to \\$300 per session](#), with a total cost of about \$5,000 to \$10,000 for five daily sessions per week for four to six weeks.

Because TMS therapy doesn't require anesthesia and is well-tolerated by most people, side effects are typically considered mild. This is especially true when compared to the side effects associated with most medications prescribed for depression and electroconvulsive therapy, which is an alternative to TMS therapy. The most common side effects of TMS therapy are scalp discomfort where the electromagnetic coil is placed and headache. These side effects are generally mild to moderate, treated with over-the-counter pain relievers, and go away after a few treatments. Some people also experience lightheadedness and may have some tingling or twitching of facial muscles.

In rare cases, more serious side effects may occur. While uncommon, some people experience seizures, and people with bipolar disorder may experience mania. In clinical trials, seizure only occurs in [.01% of people](#). Less than 5% of people experienced toothache or eye, face, or skin pain. If appropriate ear protection isn't used during treatment, you could experience hearing loss. Some patients complained of hearing problems immediately following treatment even with ear protection, but this was temporary. Unlike electroconvulsive therapy, TMS therapy doesn't cause any adverse effects on memory.

TMS therapy isn't recommended for anyone with a [history of seizures](#) or if epilepsy runs in your family. It's also not recommended if you have a metal plate in your head or any other type of metal in or around your head. However, braces and fillings shouldn't interfere with treatment.

Approximately [one-third of people](#) who underwent TMS therapy had their depression symptoms go away completely, but it's important to note that these results weren't permanent. Like most mood disorder treatments, there's a high rate of recurrence. Most people feel better for months, with an average response length of about one year.

If your depression symptoms return, you can repeat TMS therapy. Subsequent therapy generally requires fewer sessions than the initial treatment to be effective. Your doctor may also recommend [maintenance sessions](#) to prevent relapse, and he or she may taper these sessions based on your response to treatment.

V. How to Get Help & Additional Resources

Learn more about the signs and symptoms associated with [depression](#), which may be alleviated with TMS therapy.

- [Mayo Clinic](#) provides a detailed overview of TMS therapy, including how it works, treatment steps, and potential risks.
- [National Center for Biotechnology Information, U.S. National Library of Medicine](#), offers information about TMS therapy for bipolar disorder.
- [Johns Hopkins Psychiatry and Behavioral Sciences](#) offers an informative selection of frequently asked questions about TMS therapy.
- [Cleveland Clinic](#) discusses the risks and benefits of TMS therapy.
- [National Center for Biotechnology Information, U.S. National Library of Medicine](#), provides in-depth details about TMS therapy in the treatment of various psychiatric disorders.