

Transcranial Magnetic Stimulation (TMS) Therapy

Transcranial magnetic stimulation (TMS) is a procedure used to treat depression. This treatment uses a device called the TMS therapy system. The TMS device sends out pulsed magnetic fields to the treatment area. It is the same type of magnet as those used in magnetic resonance imaging (MRI) machines. This treatment does not involve any sedation. You will remain awake and alert during the treatment.

The treatment is designed to relieve your current symptoms of depression. Your treatment plan often includes:

- 5 treatments per week for 4 to 6 weeks (20 to 30 treatments).
- Meeting with your provider.

Most patients who benefit from this treatment feel results by the 4th week of treatment. Some patients may feel results in less time while others may take longer.

Other Treatment Options

The other treatment options for my depression are:

- Antidepressant medicines
- Therapy sessions with a mental health provider

Reasons for TMS Therapy

TMS therapy is a good option for adult patients with depression who have not had good results from antidepressant medicine in the past.

Risks of No Treatment

If you do not receive any treatment, your depression might get worse. You might also have anxiety. Your depression might have negative effects on family and social relationships.

What to Expect During Treatment

1. First, your head will be placed in the head support system.
2. Next, the magnetic coil will be placed on the left side of your head. The coils are pointed at the part of the brain that causes depression.
3. You will hear a clicking sound and feel tapping on your scalp.
4. We will then adjust the device to send magnetic pulses into the brain.
5. We will adjust the amount of energy until your right hand starts to twitch. This is known as the “**motor threshold**.” The amount of energy needed to reach the motor threshold is different for each person. Your provider will decide how often the motor threshold will be changed.
6. The magnetic coil will be moved to the part of the head needing treatment.
7. You will have the treatment as a series of “pulses” that last about 4 seconds. The treatments are given at an energy level that is just above your motor threshold. You will have a “rest” period of about 26 seconds between each series. Treatment will take between 3 to 22 minutes.

Side Effects

Side effects from this treatment may include:

- **Tapping/Pain:** You may feel tapping or pain at the treatment site when the coil is turned on. Tell the treatment team if this happens. The dose or the placement of the coil may need to be changed.
- **Headache:** Headaches are common and will get better over time. You may take over-the-counter pain

medicine such as acetaminophen (Tylenol®).

- **Seizures:** Though very rare, sometimes seizures, convulsions or fits can be caused by TMS.

Safety Guidelines

Some patients should not receive this treatment.

If you have **magnetic-sensitive metal** in your head or within 12 inches (30 cm) of the magnetic coil, **do not have this treatment**. Serious injury or death could happen you do. These devices include:

- Cochlear implants
- Aneurysm clips or coils
- Stents
- Electrodes to monitor our brain activity
- Ferromagnetic implants in your ears or eyes
- Bullet fragments
- Other metal devices or objects implanted in the head
- Facial tattoos with metal ink or permanent makeup

If you have **implanted stimulators** in or near the head, you should **not get this treatment**. These devices include:

- Deep brain stimulators
- Cochlear implants
- Vagus nerve stimulators

You should be **cautious** getting this treatment if you have:

- A pacemakers
- An implantable cardioverter defibrillator (ICD)
- A wearable cardioverter defibrillator (WCD)

You must inform the treatment team if you have any of these devices. If you do not do this, serious injury or death could happen.

Ear Plugs

TMS makes a loud click with each magnetic pulse. You will wear earplugs during treatment or may use other hearing protection with a rating of 30 dB or higher. These need to be safe for MRI.

Report Symptoms that Get Worse

This treatment does not work for all patients. Tell your treatment team right away if you or your loved ones notice your depression is getting worse.

Symptom Relief Wanes over Time

Symptom relief from this treatment may be lost over time. Because of this, you may need to take medicine for your depression. Some patients may also need more TMS Therapy.

Stopping Treatment

You may stop treatment at any time.

Patient Guide

You can learn more about this treatment in the “NeuroStar TMS Therapy® Patient Guide for Treating Depression”. You can get a copy from your provider. Not all information in the Patient Guide is described in this Health Fact.

Your health care team may have given you this information as part of your care. If so, please use it and call if you have any questions. If this information was not given to you as part of your care, please check with your doctor. This is not medical advice. This is not to be used for diagnosis or treatment of any medical condition. Because each person's health needs are different, you should talk with your doctor or others on your health care team when using this information. If you have an emergency, please call 911. Copyright © 9/2024 University of Wisconsin Hospitals and Clinics Authority. All rights reserved. Produced by the Department of Nursing HF#8372.