

Transcranial Magnetic Stimulation (TMS)

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WHAT IS TMS?

- Transcranial magnetic stimulation (TMS) uses magnetic fields to stimulate and improve your nerve conduction.
- It is used as an alternative therapy for treatment-resistant mood disorders instead of trying different classes of medications to treat the same disorders.
- TMS is **not** a first-line treatment option!
 - *However, it can be used with other treatment regimens if that is in the patient's best interest.*



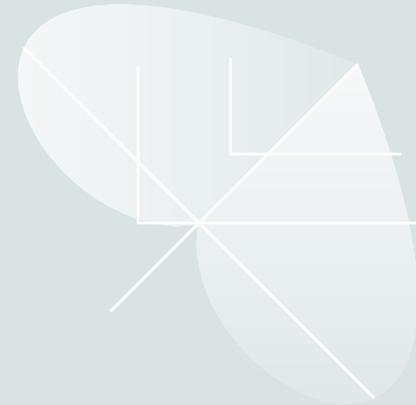
HOW DOES IT WORK?

- TMS is a **safe** and completely **non-invasive procedure**
- After providing you with hearing protection (earplugs, etc.), your doctor will position a magnet on your head.
 - *This is most commonly done with a magnet-containing helmet.*
- Once in place, the magnet will directly tap pulses to your scalp, increasing in speed until the right tempo is found.
- A series of pulses will then be regularly delivered by the magnet for a pre-determined amount of time.
- Repeat sessions are usually required, but your doctor will discuss your treatment regimen with you before any procedures take place.



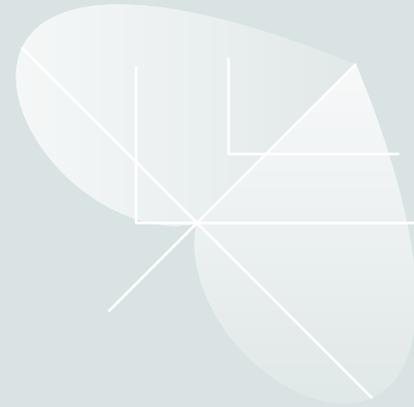
WHAT IS IT APPROVED FOR?

- The FDA has approved TMS for use in treating:
 - *Major depression disorder (MDD)*
 - *Obsessive-compulsive disorder (OCD)*
 - *Migraines*
 - *Smoking cessation*
- Ongoing research is being done to see if TMS can also be used to treat:
 - *Various addictions*
 - *Bipolar disorder*
 - *Borderline personality disorder (BPD)*
 - *Memory disorders*
 - *Fibromyalgia*
 - *Post-traumatic stress disorder (PTSD)*
 - *Tremors*
 - *Schizophrenia*
 - *Stroke complications*
 - *Traumatic brain injuries*
 - *Eating disorders*



SIDE EFFECTS

- Generally, TMS is safe and very well-tolerated!
- The most common side effects reported are:
 - *Headaches*
 - *Lightheadedness*
 - *Scalp discomfort and pain*
 - *Tingling, spasms, or twitching of the nerves of the face*
 - *Temporary ringing in your ears*
- Some extremely **rare**, but more serious side effects include:
 - *Seizures*
 - *Temporary mania (especially in people with bipolar disorder)*
 - *Hearing loss (if the ears aren't well protected during the treatment)*
- Talk to your doctor if you start experiencing any of these side effects for an extended period!



CITATIONS

- Mayo Clinic Staff (2023). Transcranial magnetic stimulation. *The Mayo Clinic*.
- Cleveland Clinic Staff (2022). Transcranial magnetic stimulation (TMS). *The Cleveland Clinic*.
- Stern, A. P. (2020). Transcranial magnetic stimulation (TMS): Hope for stubborn depression. *Harvard Medical School Health Blog*.

