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Transcranial Magnetic Stimulation

Information for Patients

What is TMS? Transcranial magnetic stimulation (TMS) is a non-invasive brain stimulation technique used to treat individuals with certain psychiatric conditions. It is FDA cleared for the treatment of depression and obsessive compulsive disorder (OCD). In research settings, it is being explored as a treatment for other conditions including generalized anxiety disorder, addiction, and chronic pain.

How does it work? Some parts of the brain work differently in psychiatric conditions such as depression and OCD. TMS delivers targeted therapy to these brain regions. TMS is a medical device that generates brief magnetic pulses that painlessly and non-invasively stimulates the underlying brain region. When pulses of TMS are delivered repetitively, this is called repetitive TMS (rTMS).

Does it work for everybody? On average, 50% of patients respond to TMS (their depressive symptoms are cut in half), and 33% of patients go into remission (no depressive symptoms). These response rates are in individuals who have not derived benefit from four or more antidepressant medications.

How long does it take? A single TMS session will last 30 to 40 minutes based on various treatment parameters. A course of treatment for depression usually consists of 20-30 treatments over the course of 4-6 weeks although this can vary depending on an individual's response.

What are the side effects? TMS is a well-tolerated procedure with few side effects. The most common side effect is scalp irritation underneath the magnet. Another common side effect is headache. TMS is free from side effects caused by many antidepressants such as gastrointestinal upset, sexual dysfunction, weight gain, dry mouth, or sedation. The most serious side effect is seizures. The risk of seizures is exceedingly low.

Who is TMS for? TMS is a treatment consideration for anyone whose depression or OCD has not responded to medication plus psychotherapy. You cannot have TMS if you have metallic objects or certain medical implants in your head. Dental fillings are okay.

Is TMS the same as ECT? The procedures for TMS and electroconvulsive therapy (ECT) are very different. The way that they stimulate brain cells is also different. TMS does not require general anesthesia and does not involve the intentional production of a seizure.

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