Mindful
Behavioral Healthcare

Transcranial Magnetic Stimulation (TMS) General Information

What is TMS?

TMS is a medical procedure that works by delivering highly focused MRI- strength magnetic pulses to stimulate the brain. TMS has been shown to produce changes in neuronal activity in regions of the brain implicated in mood regulation, such as the prefrontal cortex. As each magnetic pulse passes through the skull and into the brain, this induces brief activity of brain cells underlying the treatment coil. Patients being treated with TMS do not require anesthesia or sedation. They remain awake and alert and return to work or their daily routine immediately after each treatment.

When is TMS used?

Antidepressant medications and psychotherapy, do not work for all patients. In these instances, TMS might be used as an alternative treatment, or to augment antidepressant medications or psychotherapy. Patients who have failed to achieve an adequate response from antidepressants, or who are unable to tolerate medications, might consider TMS therapy.

What happens during a TMS procedure?

For each TMS session, the patient sits in a specially designed treatment chair (Because TMS uses magnetic pulses, before beginning a treatment, patients are asked to remove any magnetic-sensitive objects (such as jewelry, credit cards).

Patients are required to wear earplugs during treatment for their comfort and hearing protection, as TMS produces a loud clicking sound with each pulse, much like an MRI machine.

During the first TMS session, several measurements are made to ensure that the TMS coil will be properly positioned over the patient's head. Once this is done, the TMS coil is suspended over the patient's scalp. The TMS physician then measures the patient's motor threshold, by administering several brief pulses. The motor threshold is the minimum amount of power necessary to make the patient's thumb twitch, and varies from individual to individual. Measuring the motor threshold helps the physician personalize the treatment settings and determine the amount of energy required to stimulate brain cells.

Once the motor threshold is determined, the coil is then brought forward so that it rests above the front region of the patient's brain. Treatment is then commenced. During the treatment,

patients will hear a series of clicking sounds and will feel a tapping sensation under the treatment coil.

Succeeding treatment sessions do not require that the motor threshold be determined again, unless indicated otherwise, such as when changes in medications are made during the course of the treatment.

Who administers TMS?

TMS is always prescribed by a physician. The treatment itself is administered by an experienced TMS technician under the supervision of the physician.

The TMS technician will always be present to monitor the patient during the treatment. The patient can stop a treatment at any time by asking the staff member present.

How long is a TMS procedure?

TMS therapy involves a series of treatment sessions.

The initial course of treatment will involve at least 35 treatment sessions over a 4 to 6 week period (usually a 45-minute treatment session each day from Monday to Friday).

During your course of TMS therapy, you can continue your regularly scheduled appointments with your doctors. They can continue to follow you and prescribe your ongoing medications.

What are the side-effects of TMS?

TMS is well-tolerated and associated with few side-effects and only a small percentage of patients discontinue treatment because of these. The most common side-effect, which is reported in about half of patients treated with TMS, is headaches. These are mild and generally diminish over the course of the treatment. Over-the-counter pain medication can be used to treat these headaches.

About one third of patients may experience painful scalp sensations or facial twitching with TMS pulses. These too tend to diminish over the course of treatment although adjustments can be made immediately in coil positioning and stimulation settings to reduce discomfort.

The TMS machine produces a loud noise and, because of this, earplugs are given to the patient to use during the treatment. However, some patients may still complain of hearing problems immediately following treatment. No evidence suggests these effects are permanent if earplugs are worn during the treatment.

TMS has not been associated with many of the side-effects caused by antidepressant medications, such as gastrointestinal upset, dry mouth, sexual dysfunction, weight gain, or sedation.

The most serious risk of TMS is seizures. However, the risk of a seizure is exceedingly low. While TMS is a safe procedure, it is important to point out that because it is a new treatment, there may be unforeseeable risks that are not currently recognized

TMS is not recommended for patients with implanted metal that is impacted by magnetic fields (i.e., wires, cochlear implants) or that have or have had foreign metal in the head or metallic/magnetic implants (most dental and neck work is safe)

Will TMS be covered by my insurance?

As with most relatively new treatments and therapies, TMS therapy may not covered by your insurance carrier. We will contact your insurance carrier and ask for a pre-determination of your benefits. If the carrier refuses to cover the treatments, we do offer some payment options for the cost of treatments.

We invite you to come to our office to obtain more information about TMS and to determine if this treatment is right for you. Please call (407) 846-0533, ext 114, or walk in and ask to speak to our TMS Coordinator, Angie Castro.