



Additional Information for Referring Community Providers

TRANSCRANIAL MAGNETIC STIMULATION (TMS)

1. How to counsel and educate patients for TMS?

Site: TMS is delivered about 5 cm anterolateral, on the left side of the vertex [left dorsolateral prefrontal cortex (DLPFC) region]. The magnetic field reaches around 1 centimeter deep from the coil. There are two proposed mechanisms of action:

- a) TMS increases metabolism in the Frontal Cortex: The frontal cortex is involved in executive functioning. In patients with MDD, lower metabolism in the frontal cortex has been observed, and TMS has been shown to increase it.
- b) By decreasing Default Mode Network activity: There is a network of brain nodes that is called Default Mode Network (DMN). DMN is active when we are awake and sitting idle, but not sleeping. In patients with depression, this network is observed to be more active which correlates with patients having negative thoughts and guilt. TMS decreases DMN activity.

Response Rate: We will do depression and anxiety symptom severity assessments prior to TMS treatment and weekly thereafter to track response. TMS has been shown to decrease depressive symptoms in almost 80% of patients with treatment-resistant depression. The effects usually last at least a year. If a patient experiences improvement after 1st course of TMS treatment and depressive symptoms reappear later, TMS can be administered again. The time it takes for the patient to feel improvement varies, from within a few sessions to after a few weeks. In some cases, benefits are not experienced until the last few sessions in the series, at which point, it is a standard practice to seek insurance authorization for 10 extra sessions. The referring provider will be provided a summary of treatment sessions and patient response at the conclusion of treatment.

Common side-effects:

Stimulation site discomfort or pain is the most common complaint. This is because TMS is a novel stimulus and stimulates scalp muscles. The discomfort is mild and improves within a day or first few days of treatment. To minimize this, we develop an individualized titration protocol per patient's tolerability.

- a) Seizure risk: TMS can lead to a seizure episode in 0.1 to 0.5 percent of patients. Seizures that occur are self-limited, require no medications, do not recur, and have not been reported to lead to seizure disorder. Risk factor/s are history of epilepsy, neurologic disorders, certain medications, substance use, and sleep deprivation.
- b) TMS team can also provide Work/School Accommodation Letter if requested by the patient.

2. What is the time commitment needed for TMS treatment?

A series of TMS treatments consists of 36 sessions. Each treatment session is about 20-minutes long. Treatment sessions are given 5 days a week for the first 6 weeks (30 sessions), then 6 sessions (3, 2, and 1 treatment/week) over 3 weeks. Hence, a complete TMS treatment takes about 9 weeks. While it is acceptable to miss a day or 1/two but inability to remain consistent can limit the efficacy of TMS.

	Wk 1	Wk 2	Wk 3	Wk 4	Wk 5	Wk 6	Wk 7	Wk 8	Wk 9
Mon.									
Tues.									
Wed.									
Thurs.									
Fri.									