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## FACT SHEET

### ***What is Repetitive Transcranial Magnetic Stimulation?***

Transcranial magnetic stimulation (TMS) is a noninvasive procedure that uses magnetic fields to stimulate nerve cells in the brain to improve symptoms of depression, and other mental health conditions. TMS is typically used when other treatments haven't been effective.

This treatment for depression, and other conditions, involves delivering repetitive magnetic pulses, so it's called repetitive TMS or rTMS. This is a non-invasive technique. This treatment helps a range of other conditions, like OCD, Schizophrenia with auditory hallucinations, etc.

rTMS does not cause systemic side effects. It can be used when patients experience adverse side effects from antidepressant medications such as nausea, weight gain, and sexual dysfunction.

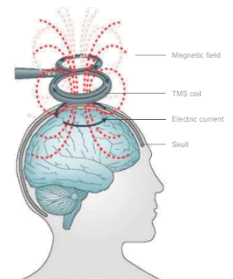
rTMS is different from electroconvulsive therapy (ECT). ECT is more invasive and has recorded more side effects than rTMS. No anesthetic is required, and no seizure is usually induced. Patients do not experience memory loss or cognitive impairment after rTMS as with ECT. Instead, patients usually enjoy improved memory and cognitive performance with rTMS as symptoms of depression resolve.

Patients who have not responded to ECT may still respond to rTMS.

### ***How does it work?***

During an rTMS session, an electromagnetic coil is placed against your scalp near your forehead. The electromagnet painlessly delivers a magnetic pulse that stimulates nerve cells in the region of your brain involved in mood control and depression. It's thought to activate regions of the brain that have decreased activity in depression.

The coil is shaped like a figure eight, which narrowly focuses the magnetic field over the stimulation site. The coil is rapidly switched on and off, inducing focused pulses of electrical current in the brain.



The target of treatment for depression is the Dorsolateral Prefrontal Cortex – a highly interconnected region of the frontal lobe which appears to be dysregulated in depression.

### ***What rTMS treatment involve?***

Patients are seated in a chair, are awake and alert, and can engage in other activities immediately after treatment.

An rTMS course consists of up to 35 treatments performed daily or twice daily for a 3 to 6- week period. Each treatment session can last between 5 and 20 minutes depending on the patient's prescription by the treating Psychiatrist.

During the initial appointment, your treating psychiatrist will undertake a series of assessments to determine suitability for rTMS. A referral to our clinic will be then made to further scope the rTMS process.

Once we accept your referral, our credentialled rTMS Psychiatrist associated with our clinic will measure the patient's head to locate the site of stimulation. The psychiatrist will determine the correct magnetic field dose by determining the patient's Resting Motor Threshold (RMT). This is done by stimulating their motor cortex with the minimum amount of energy required to stimulate the motor nerve and induce a twitch in their thumb. The patient's prescription will be a percentage value of this RMT. The treatment sessions are delivered by a trained clinician, who will remain within the room to oversee this process.

### ***How effective is it?***

Approximately 60% of people who have not responded to two antidepressant medications show a reduction of depressive symptoms, while approximately 30% will achieve remission, as is documented in the literature. At 12 months follow-up, 62% of patients maintain improvement, while 36% of patients who initially responded required 16 sessions of maintenance rTMS (on average) to maintain benefit.

rTMS treatment can be beneficial for those who have unacceptable side effects to medications. The rate of mood improvement can vary but is often achieved towards the end of the treatment course. It is important that patients continue with medication or psychological therapies during treatment due to this delayed response time.

### ***Are there side effects?***

rTMS is generally well tolerated. It is not painful. However, as with all treatments, there are potential side effects. These include:

- eyebrow twitching
- tapping sensation and/or pain at the stimulation site
- headache/neck ache

These types of side effects tend to lessen quickly as a patient gets used to the treatment.

More severe side effects may include seizure, fainting, or a manic switch in bipolar (or undiagnosed bipolar) patients; however, these are very rare.

## ***How long does the effect last?***

Most patients report feeling positive benefits of this therapy for months to years after their initial treatment. Maintenance rTMS plays a role in sustaining benefits in some cases.

## ***Eligibility criteria for rTMS treatment:***

Patients must:

- Be 18 years of age or older
- Not experience seizures
- Have an unstable neurological condition
- Not have any internal ferromagnetic metals
- Not have any implanted devices such as a cochlear implant, neural stimulators, or cardiac pacemaker
- Not be pregnant
- The treating doctor has fully evaluated the patient for suitability for TMS.
- No neurological issues were reported or found
- CT Scan or MRI Sac Brain completed recently to check for any issues (please ensure that a copy is enclosed with patient referral)



## ***What does it cost?***

- As of the 1<sup>st</sup> of November 2021, Medicare has funded up to 35 initial treatments for patients with a Major Depressive Disorder diagnosis.
- If required, Medicare will also fund a retreatment course of 15 further sessions.
- Some private health funds allow outpatient TMS therapy. Please check with your health fund if they participate in this process.
- Those that do not qualify for Medicare or private health fund rebate can self-fund their treatment.

## ***Referrals:***

To access rTMS at NeuroXcell TMS Clinic (part of Marsai Clinic), a referral from your GP or Psychiatrist is required. Please do remember that if you are referred by your GP, a TMS Psychiatrist attached to the Marsai Clinic might further assess you to check your eligibility for TMS at this clinic. There could be additional costs for this service that you may incur. Please discuss this with the Clinicians of our clinic by emailing, or calling us.

We accept GP/Specialist referrals (download the form online): [www.neuroxcelltms.com.au](http://www.neuroxcelltms.com.au)

Send us via email: [neuroxcell.tms@gmail.com](mailto:neuroxcell.tms@gmail.com)

OR

Fax: 07 3567 9482

***Referral to NeuroXcellTMS is for rTMS treatment only. You are encouraged to contact your referring Doctor for all other mental health needs.***

## ***Find out more:***

Outpatient rTMS program is a joint venture between Marsai Clinic and NeuroXcellTMS Clinic.

To learn more about the program visit [www.saicotalk.com.au](http://www.saicotalk.com.au)