

# MI-MIND

PSYCHIATRIC SERVICES

## Outpatient rTMS program fact sheet

### What is Repetitive Transcranial Magnetic Stimulation?

Repetitive transcranial magnetic stimulation (rTMS) is a non-invasive technique that stimulates brain tissue to treat major depressive disorder and several other mental health conditions including obsessive-compulsive disorder and auditory hallucinations that occur with schizophrenia.

There is level A evidence for treatment of major depression, particularly in those who have not responded adequately to antidepressant medication<sup>1</sup>.

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 more side effects than rTMS. No anaesthetic is required, and no seizure is induced. Patients do not experience memory loss or cognitive impairment after rTMS as with ECT. Instead, patients enjoy improved memory and cognitive performance with rTMS as symptoms of depression resolve.

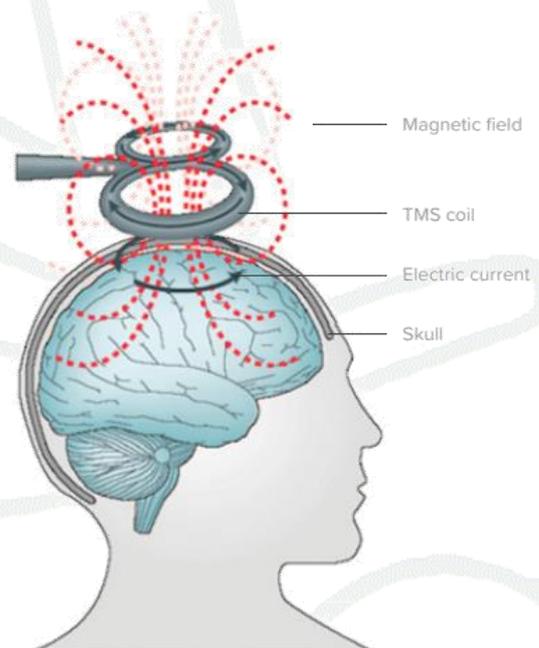
Patients who have not responded to ECT may still respond to rTMS.

### How does it work?

Electrical energy is passed through an electromagnetic coil resting on the patient's scalp. A strong magnetic field is generated, which passes through the skull.

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<sup>3</sup>.





## 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 consist 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.

During the initial appointment, a consultant psychiatrist will undertake a series of assessments to determine suitability for rTMS and will measure the patients 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 remains with the patient during treatment.



## 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<sup>2,4</sup>. 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<sup>5</sup>.

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 to continue with medication or psychological therapies during treatment due to this delayed response time.

## Are there side effects?

rTMS is generally well tolerated. 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.



## 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 cochlear implant, neural stimulators, or cardiac pacemaker
- not be pregnant

## What does it cost?

As of the 1<sup>st</sup> of November 2021, Medicare will fund 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.

Those that do not qualify for Medicare can self-fund their treatment.

## Referrals

To access rTMS at the Toowoomba Clinic a referral from your GP or Psychiatrist is required.

We accept GP/Specialist referrals online:  
<https://thetoowoombaclinic.com.au/health-professionals/referrals>

or via email:  
[admin@thetoowoombaclinic.com.au](mailto:admin@thetoowoombaclinic.com.au)

Referral to The Toowoomba Clinic Outpatient TMS service is for rTMS treatment only. Patients will be encouraged to contact with their referring doctor for all other mental health needs.

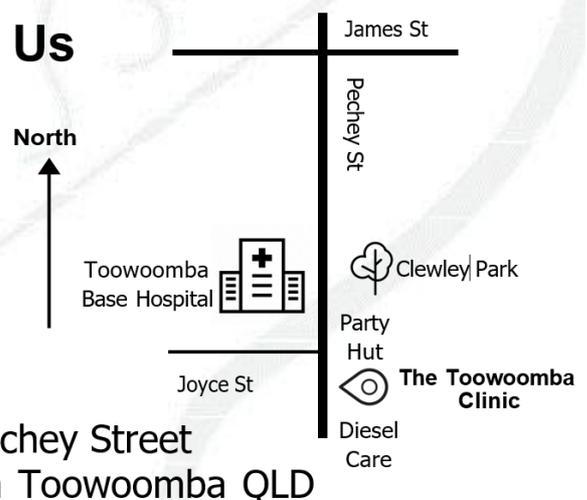
## Find out more

The Outpatient rTMS program is a joint venture between Mi-Mind psychiatric services and The Toowoomba Clinic.

To learn more about the program visit  
[www.thetoowoombaclinic.com.au](http://www.thetoowoombaclinic.com.au)  
(07) 4573 4400

[www.mi-mindtrust.com.au](http://www.mi-mindtrust.com.au)  
(07) 4613 0922

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## References

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