

Repetitive Transcranial Magnetic stimulation (rTMS)



What the fact sheet covers:

- What is Repetitive Transcranial Magnetic Stimulation (rTMS)?
- When is it used and what are the side effects?
- What happens during a session?
- How long does it take to work?
- Will it work for me?
- What is the cost involved?

What is Transcranial Magnetic Stimulation (TMS)?

TMS is a mild form of brain stimulation. Magnetic fields, generated by a simple coil placed on the head, are used to stimulate a small area on the surface of the brain. In rTMS, pulses are given repeatedly for therapeutic effect.

A session of rTMS typically takes 10–30 minutes and is given on consecutive weekdays on an outpatient basis. While receiving stimulation, the patient is fully awake. rTMS is usually well tolerated with minimal side effects. There is no need for any anaesthetic or sedation and there are no adverse effects on memory and thinking ability.

When is Repetitive Transcranial Magnetic Stimulation used?

rTMS is used to treat depression and can be offered when patients have not responded to antidepressant medication, prefer to try an alternative to medication, or cannot tolerate antidepressant medications due to side effects. It is important that a thorough psychiatric evaluation is undertaken for each patient to determine if TMS is a suitable treatment.

Using Repetitive Transcranial Magnetic Stimulation to treat depression

A large body of research conducted worldwide





and at our centre indicates that rTMS has antidepressant effects when applied over the frontal areas of the brain. Our centre led the first Australian randomised controlled trials of rTMS to treat depression, commencing in 1997 under the leadership of psychiatrist Colleen Loo, Professor of Psychiatry at the University of New South Wales and Professional Fellow at the Black Dog Institute.

There are now well over 30 studies in adults with depression, showing that rTMS is an effective treatment for depression. It is understood that TMS works by modifying and rebalancing activity across brain networks, which has become altered in depression. TMS is now an approved treatment for depression in countries including Australia, the United States, Canada, Israel and the United Kingdom.

What are the side effects?

Common side effects include headache, scalp discomfort and facial muscle twitching. These side effects are mild and generally resolve soon after a treatment session. Most patients find side effects reduce in intensity and frequency as the course of TMS progresses.

What happens during a session?

You will be awake through the whole session. A staff member will be with you to guide you through the treatment process. If you have any concerns during the treatment, the treatment can be stopped immediately.

A session involves lying in a comfortable recliner chair and wearing either ear muffs or plugs for hearing protection. A small magnetic coil is then precisely placed on your forehead, touching your scalp. When the treatment starts, you may hear a soft clicking noise and feel a tapping sensation on your scalp. The treatment will take 10–30 minutes and then you should be able to resume your normal activities including driving home after the session.

How long does Repetitive Transcranial Magnetic Stimulation take to work?

A course of 20 to 30 sessions given over consecutive weekdays is recommended for therapeutic results. Some patients may notice changes after several days.

Will it work for me?

A thorough psychiatric assessment and physical examination need to be done before treatment is commenced. After assessment our staff can discuss the individual factors that may affect the likelihood of benefit for you. If you do respond to TMS it may take days to weeks to have a good response to treatment.

What is the cost involved?

Treatment is provided on a fee for service basis. Each treatment session will cost \$160. Before the first session an additional test is done to establish the right magnetic field dose for effective treatment. This takes about 30 minutes



**Black Dog
Institute**

