

Repetitive Transcranial Magnetic Stimulation

Repetitive Transcranial Magnetic Stimulation (rTMS) is a non-invasive procedure that enables the stimulation of brain tissue and influences the activity of neural circuits. Its therapeutic goal is to treat psychiatric conditions, including depression.

rTMS in brief

Treatment with rTMS is administered in an outpatient clinical framework. It does not require hospitalization or anaesthesia. Brief, repeated pulses, generated by an electromagnetic coil placed on the surface of the head, enable the stimulation of brain tissue, with excitatory or inhibitory effects on neural activity.

Patients are fully conscious during the treatment session. They are free to speak, or even read. The intensity of the stimulus is determined by inducing a motor-evoked potential, such as a movement or a twitch, in the thumb muscle.

At the Montreal General Hospital, rTMS treatment is offered to patients with mood and anxiety disorders for whom medical treatment has not produced desired results because the patient is opposed to taking medication or experiences side effects.

Frequency of treatment

Initial therapy involves 20 to 30 treatment sessions over a period of four to six weeks. Generally, the sessions are conducted from Monday to Friday and last 30 to 60 minutes.

Maintenance therapy may subsequently be necessary based on the patient's needs and in accordance with the results obtained. The frequency of maintenance sessions varies from once a week to once every three months.

Personalized treatment

Many aspects of rTMS, known as stimulation parameters, can be changed to optimize clinical results. They include:

- The number of stimuli
- The frequency of stimuli
- The strength of the stimuli
- The duration of the stimuli
- The targeted area of the brain

Therapy with rTMS can be personalized for each patient. It can be used to achieve desired, lasting effects on the brain. It is an effective therapeutic approach with promising results for the treatment of a range of mental health conditions, including depression.