



 **Parth**
HOSPITAL

FOR FURTHER INFORMATION

- www.nimh.nih.gov/health/topics/brain-stimulation-therapies/
- www.rtmscentre.co.uk
- www.nice.org.uk
- Evidence-based guidelines on the therapeutic use of repetitive transcranial magnetic stimulation (rTMS). Lefaucheur, Jean-Pascal et al. Clinical Neurophysiology, Volume 125, Issue 11, 2150 – 2206

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REPETITIVE TRANSCRANIAL MAGNETIC STIMULATION (rTMS)

- rTMS is a non-invasive method of brain stimulation in which magnetism is used to alter brain (neuronal) activity.
- Depending on the type of illness, neuronal activity can be increased or decreased, by using specific parameters.
- The rTMS machine consists of **a)** magnetic coil **b)** base unit. The coil is placed on the scalp at specific locations, determined using the 10/20 method of electrode placement.
- The patient is fully conscious and alert throughout the session. No form of anaesthesia is administered and the procedure is completely non-invasive.



Uses of rTMS

Psychiatric uses:

- Treatment Resistant Depression (FDA Approved 2008)
- Anxiety Disorder (Generalized Anxiety Disorder)
- Substance Abuse (Alcohol, Nicotine, Cannabis)
- Schizophrenia (Auditory Hallucinations and Negative Symptoms)
- Obsessive Compulsive Disorder (OCD)

Neurological uses:

- Neuropathic Pain (Trigeminal Neuralgia)
- Chronic Pain
- Post Stroke Rehabilitation

Why rTMS over ECT?

- Easy to administer
- Does not require general anaesthesia
- No anaesthesia related complications
- No cognitive deficits reported at this point

Side effects

- Mild headache/heaviness of head
- Itching / tingling sensation on the scalp
- Seizure Episode (1 / 50,000: with previous history of Epilepsy / Brain Damage)
- Seizure Episode (1/2,00,000: with no previous history of Epilepsy / Brain Damage)

Contra-indications

- Cochlear Implants
- Stents
- Electrode Implants
- Aneurysm clips or coils
- Organic Brain Lesions
- Previous history of Epilepsy

Duration Of Treatment

- For patients of Treatment Resistant Depression (TRD), 30-40 sessions are required
- For all other conditions up to 20 sessions are required
- Usually patients do not require booster rTMS sessions
- Up to 4 sessions (or 12000 pulses) can be delivered safely in one day
- The minimum gap between 2 sessions is of 45-60 minutes