South African Society of Psychiatrists

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SASOP POSITION STATEMENT ON TRANSCRANIAL MAGENTIC STIMULATION (TMS) USE IN PSYCHIATRY

Summary

Transcranial Magnetic Stimulation (TMS) is an effective treatment for major depressive disorders and obsessive-compulsive disorder (OCD). It involves the focal application of a localised, pulsed magnetic field to the cerebral cortex, inducing small electrical currents which stimulate or inhibit nerve cells.

Key messages

TMS is a safe and effective and evidence-based treatment for depression and OCD.
 It has a very favourable side effect profile.

 It has robust evidence as an augmentation strategy for treatment resistant depression (TRD). TMS has also been approved as an adjunctive treatment of OCD.

 In the SASOP guidelines treatment resistant depression (TRD) should be managed by level 3 care, thus by a specialist psychiatrist. TMS should be offered in clinical settings with appropriate stimulation protocols, delivered by trained technicians, using South African Health Products Regulatory Authority (SAHPRA) approved TMS devices.



- The TMS provider should be a medical practitioner registered with the Health
 Professions Council of South Africa (HPCSA) who has received appropriate training
 in TMS and must be responsible for the training and supervision of the TMS
 technicians.
- When TMS is used in the treatment of psychiatric disorders a psychiatrist should prescribe TMS and monitor treatment response and adverse effects.
- Monitoring for treatment response, non-response and treatment-related side effects should occur on a regular basis throughout treatment preferably with a standardised assessment tool.
- For patients with depression that is very severe, associated with psychotic
 features, highly treatment resistant, or requires a rapid response due to acute risk,
 psychiatrists need to consider whether treatment with electroconvulsive therapy
 (ECT) is required instead.

Recommendations regarding TMS training

- The provider/clinician should have received training in the core competencies (core knowledge, safety and ethics, basic skills and advanced skills) required for clinicians as per the IFCN (International Federation of Clinical Neurophysiology) recommendations.
- Training should be obtained through a South African or international accredited higher education and training institute or TMS accreditation course.
- Training should be matched to the responsibilities of the technicians, clinicians and scientists as per the IFCN recommendations.



References

- 1) Fitzgerald PB, George MS, Pridmore S. The evidence is in: Repetitive transcranial magnetic stimulation is an effective, safe and well-tolerated treatment for patients with major depressive disorder. Aust N Z J Psychiatry. 2022 Jul;56(7):745-751. doi: 10.1177/00048674211043047. Epub 2021 Aug 28. PMID: 34459284.
- 2) Papadimitropoulou K, Vossen C, Karabis A, Donatti C, Kubitz N. Comparative efficacy and tolerability of pharmacological and somatic interventions in adult patients with treatment-resistant depression: a systematic review and network meta-analysis. Curr Med Res Opin. 2017 Apr;33(4):701-711. doi: 10.1080/03007995.2016.1277201. Epub 2017 Feb 6. PMID: 28035869.
- 3) Fried PJ, Santarnecchi E, Antal A, Bartres-Faz D, Bestmann S, Carpenter LL, Celnik P, Edwards D, Farzan F, Fecteau S, George MS, He B, Kim YH, Leocani L, Lisanby SH, Loo C, Luber B, Nitsche MA, Paulus W, Rossi S, Rossini PM, Rothwell J, Sack AT, Thut G, Ugawa Y, Ziemann U, Hallett M, Pascual-Leone A. Training in the practice of noninvasive brain stimulation: Recommendations from an IFCN committee. Clin Neurophysiol. 2021 Mar;132(3):819-837. doi: 10.1016/j.clinph.2020.11.018. Epub 2020 Dec 3. PMID: 33549501.
- 4) Lefaucheur JP, Aleman A, Baeken C, Benninger DH, Brunelin J, Di Lazzaro V, Filipović SR, Grefkes C, Hasan A, Hummel FC, Jääskeläinen SK. Evidence-based guidelines on the therapeutic use of repetitive transcranial magnetic stimulation (rTMS): An update (2014–2018). Clinical neurophysiology. 2020 Feb 1;131(2):474-528.
- 5) Lefaucheur JP, André-Obadia N, Antal A, Ayache SS, Baeken C, Benninger DH, Cantello RM, Cincotta M, de Carvalho M, De Ridder D, Devanne H. Evidence-based guidelines on the therapeutic use of repetitive transcranial magnetic stimulation (rTMS). Clinical Neurophysiology. 2014 Nov 1;125(11):2150-206.



- 6) McClintock SM, Reti IM, Carpenter LL, McDonald WM, Dubin M, Taylor SF, Cook IA, John O, Husain MM, Wall C, Krystal AD. Consensus recommendations for the clinical application of repetitive transcranial magnetic stimulation (rTMS) in the treatment of depression. The Journal of clinical psychiatry. 2017 May 23;79(1):3651.
- 7) Cohen SL, Bikson M, Badran BW, George MS. A visual and narrative timeline of US FDA milestones for Transcranial Magnetic Stimulation (TMS) devices. Brain Stimulation: Basic, Translational, and Clinical Research in Neuromodulation. 2022 Jan 1;15(1):73-5.