

Transcranial magnetic stimulation

[Transcranial magnetic stimulation](#) (TMS) is a unique method for non-invasive brain imaging. The fundamental difference between TMS and other available non-invasive brain imaging techniques is that when a physiological response is evoked by stimulation of a cortical area, that specific cortical area is causally related to the response. With other imaging methods, it is only possible to detect and map a brain area that participates in a given task or reaction. TMS has been shown to be clinically accurate and effective in mapping cortical motor areas and applicable to the functional assessment of motor tracts following stroke, for example. Many hundreds of studies have been published indicating that repetitive TMS (rTMS) may also have multiple therapeutic applications. Techniques and protocols for individually targeting and dosing rTMS urgently need to be developed in order to ascertain the accuracy, repeatability and reproducibility required of TMS in clinical applications ¹⁾.

Indications

see [Repetitive transcranial magnetic stimulation](#).

Brain tumor resections in presumed eloquent location ^{2) 3)}

see [Navigated transcranial magnetic stimulation](#).

see [Transcranial direct current stimulation](#).

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Ruohonen J, Karhu J. Navigated transcranial magnetic stimulation. *Neurophysiol Clin*. 2010 Mar;40(1):7-17. doi: 10.1016/j.neucli.2010.01.006. Epub 2010 Feb 19. Review. PubMed PMID: 20230931.

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Picht T. Current and potential utility of transcranial magnetic stimulation in the diagnostics before brain tumor surgery. *CNS Oncol*. 2014 Jul;3(4):299-310. PubMed PMID: 25286041.

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