

Transcranial magnetic stimulation (TMS) in neurorehabilitation

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In the last decade, transcranial magnetic stimulation (TMS) has been used increasingly as a tool to explore the mechanisms underlying cortical plasticity in humans. TMS is able to map representations in the brain and test excitability. It can be used, therefore, to analyse the functional reorganization of cortical connectivity and of cortical projections following lesions of the peripheral and central nervous system or as a consequence of external interventions (deafferentation, immobilization, motor learning). In addition, repetitive transcranial magnetic stimulation (rTMS) may induce short-term functional changes of the motor cortex. Such rTMS induced plasticity depends on extrinsic (variables of stimulation procedure) and intrinsic factors (functional state of the cortical areas). The occurrence of lasting effects of rTMS opens the possibility to use rTMS as a therapeutic approach in neurorehabilitation.