




In recognition of

Willem Cornelis Pieter Guijt

Who has satisfied all requirements and demonstrated a high level of competence as

Stichting Hersenstimulatie rTMS Professional

#110



Signed

February 3rd, 2023

Dated

Stichting Hersenstimulatie *rTMS Professionals possess the following skills:*

Orientation to rTMS a. History and development of rTMS (Pioneers and seminal studies, e.g. George et al. 2010; O'Reardon et al. 2007; Blumberger et al., 2019.) b. Place of rTMS in broader neuromodulation context (tDCS, tACS; DBS; neurofeedback)
Safety a. Terminology, ITI, Train, stimulation frequency b. Motor Threshold (MT), Motor Evoked Potential (MEP) and factors that influence MT c. Side effects, pregnancy, exclusion criteria d. Operator risks e. Rossi et al. guidelines (or more recent update if available) **Ethics** a. Weighing evidence or lack of evidence for effect/side-effect (e.g. pregnancy, adolescents) b. Experimental targets and/or treatments, when? c. Adhering to evidence based guidelines? Scope of practice. **Equipment, stimulation parameters and working mechanism** a. Faraday's law b. From discharge (Ampere's and Tesla) to rate of change and induced electrical field. c. Types of equipment and coils (figure-8; double cone coil; iron core coil; dTMS) d. Mono-phasic vs. Bi-phasic rTMS; Magnetic field of circular vs. figure-8 coil e. Conventional TMS (low vs. high-frequency) and Patterned TMS (e.g. theta-burst) f. Coil orientation, angular sensitivity g. Single pulse TMS; paired pulse TMS and rTMS h. Number of pulses per session vs. accelerated rTMS **Coil placement** a. 5- and 6-cm. rules b. Beam-F3 method c. Neuronavigation d. New developments: E.g. Connectivity based (e.g. Fox & Pascual-Leone); Neuro-Cardiac-Guided TMS (Iseger et al.); BioTypes (Drysdale et al) **Clinical applications** a. MDD, rTMS vs. ECT (role of psychotic MDD) b. DLPFC (HF, LF and iTBS) TMS as primary MDD protocol c. TRD: Relative attribution of efficacy/effectiveness in TRD vs. non-TRD d. Durability and maintenance treatment e. Association stimulation parameters and clinical efficacy (number pulses; number days; %MT; pulses per day) f. Other disorders: Dependent on course and/or audience (e.g. psychiatric vs. neurological) g. Evidence level in line with Lefaucheur et al. guidelines (or more up-to-date versions when available) h. Multicentre RCT's and meta-analysis i. Clinical embedding in practice (combining psychotherapy/CBT; pharmacotherapy) **rTMS and neuroscience** a. HF-rTMS vs. LF-rTMS as increasing vs. decreasing rCBF as old-notion b. rTMS as network-normalization; network resynchronization effects c. MDD network: DLPFC – sgACC/rACC **Future developments and applications** a. New rTMS indications still considered experimental b. Alternative coil locations, e.g. OFC TMS in MDD; DMPFC TMS. c. Predicting TMS treatment response 1) clinical; 2) neuroimaging and 3) other **Hands-on demonstration** a. At least 2 different types of rTMS equipment (independence) b. Localizing MT c. Correct placement of coil and applying correct localization method (5-/6-cm or BeamF3) d. Orientation to configure/enable protocol **Information and Communication** a. Patient: Safety, procedure, side effects b. Marketing

Accreditation fee of 100 Euro has been paid.



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