



Tor Phern Chern

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Research Interests:

- Neurostimulation
- Mood disorders
- Clinical trial

Biography

I completed my medical degree at the National University of Singapore in 2001 under the Singapore Armed Forces Local Study Award and embarked on a dual career track in Medicine and Military Service. I am a psychiatrist who gained proficiency in advanced ECT techniques and transcranial magnetic stimulation (TMS). When I was receiving Neurostimulation training in Black Dog Institute, Australia, I had a brief period of research training about the clinical efficacy and cognitive side effects of advanced neurostimulation techniques for patients with treatment resistant depression. When I moved back to Singapore in 2015, I continued his clinical services and research training specialized in invasive and non-invasive neurostimulation technologies. I was then assigned as Head of Neurostimulation services in the Institute of Mental Health (Singapore) in 2016 to supervise the ECT and TMS treatment on patients who are in need. I am currently serving as the chairman of Singapore Neurostimulation Society and the treasurer of the International Society of ECT and Neurostimulation.

Selected Publications

1. Tan XW, Abdin E, **Tor PC**. Accelerated transcranial magnetic stimulation (aTMS) to treat depression with treatment switching: study protocol of a pilot, randomized, delayed-start trial. *Pilot Feasibility Stud.* 2021;7(1):104.
2. Tan, X. W., Martin, D., Lee, J., & **Tor, P. C.** The Impact of Electroconvulsive Therapy on Negative Symptoms in Schizophrenia and Their Association with Clinical Outcomes. *Brain Sci.* 2022;12(5):545.

4. **Tor PC**, Amir N, Fam J, ... Chee KY. A Southeast Asia Consensus on the Definition and Management of Treatment-Resistant Depression. *Neuropsychiatr Dis Treat*. 2022;18:2747-2757.
5. Tan XW, **Tor PC**, Martin D, Loo C, Association of Anaesthesia-ECT time interval with ECT clinical outcomes: A retrospective cohort study. *J Affect Disord*. 2021;285:58-62.
6. Tan XW, Oon LK, Tsang YY, Ong HS, **Tor PC**. A Pilot Study of Switching Electroconvulsive Therapy for Patients With Treatment Resistant Schizophrenia or Mood Disorder.. *J ECT*. 2021;1;37(3):202-206.
7. Chan, C. Y., Abdin, E., Seow, E. ...Tor, P. C., Clinical effectiveness and speed of response of electroconvulsive therapy in treatment-resistant schizophrenia. *Psychiatry Clin. Neurosci.*, 2019;73: 416-422.
8. Tor, P. C., & Mok, Y. M. Psychiatric Neurostimulation in Singapore. *Ann Acad Med Singap*. 2016;45(7):270-2.
9. Zhao, Y. J., **Tor, P. C.**, Khoo, A. L., ... Mok, Y. M. Cost-Effectiveness Modeling of Repetitive Transcranial Magnetic Stimulation Compared to Electroconvulsive Therapy for Treatment-Resistant Depression in Singapore. *Neuromodulation*. 2018;21(4):376-382
10. Teng M, Khoo AL, Zhao YJ, Abdin E, Mok YM, Lim BP, **Tor PC**. Neurostimulation therapies in major depressive disorder: A decision-analytic model.. *Early Interv Psychiatry*. 2021 Dec;15(6):1531-1541.

Notable Research Awards & Grants from Past 5 Years

Name of Awards & Grants	Year Obtained
NMRC clinician scientist Support Programme	2019
NMRC Clinician-Scientist Individual Research Grant New Investigator Grant: A pilot study of intermittent accelerated burst transcranial magnetic stimulation (aTBS) to treat depression: a randomized, single-blind, delayed-start trial	2019
IMH research fund. A Pilot and Feasibility Study of Accelerated Theta Burst Transcranial Magnetic Stimulation (aiTBS) to Treat Drug Resistant Depression.	2020
NHG Centre for Medical Technologies & Innovations (CMTi) MedTech Grant: A Feasibility Test of Co-registered Electroencephalogram (EEG) to Guide the Individualized Transcranial Magnetic Stimulation (TMS) Treatment for Patients with Drug Resistant Depression;	2020
MOH Traditional Chinese Medicine Research grant. Acupuncture augmentation therapy for in-hospital patients with major depression disorder: a pragmatic, randomized controlled trial.	2021
Temasek Funding. Personalised Transcranial Magnetic Stimulation Treatment For Depression.	2023

Translating Research Into Healthcare

I am actively involved in and continuously contributing to scientific research related with TMS and ECT medical technologies development. I have published more than 70 peer reviewed research articles which covers a wide scope of topics in neurostimulation including a survey study to overview the TMS/ECT service in Singapore (Tor, et al, 2018), the capacity of patients with schizophrenia for neurostimulation treatment (Tor et al. 2020) and cost effectiveness of TMS and ECT treatment in the context of Singapore (Zhao et al 2020), etc. My research team in IMH have conducted several clinical trials of accelerated TMS treatment for local patients with drug resistant depression as independent investigators. These studies had placed the neurostimulation research in Singapore into the international reviewing platforms by peer specialists. I have also been involved in large numbers of industry sponsored international or local clinical trials either as regional leading PI or site-investigator and been rewarded 3 research grants related with TMS studies. My major research interest is about the outcome studies of neurostimulation medical technology in clinical service. If successful, our study results can be rapidly updated to the College of Psychiatrists, Academy of Medicine Singapore as well as published in a peer reviewed journal to enhance local and international neurostimulation treatment guidelines for patients with mental illnesses. There are also potential IP generation with our recently awarded study about a novel utilization of individualized fMRI coupled TMS technology to treat patients with treatment-resistant depression.