

World Summit on

# CLIMATE CHANGE & GLOBAL WARMING

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International Conference on

# BRAIN STIMULATION

November 26-27, 2018 | Tokyo, Japan

## Transcranial magnetic stimulation (TMS) for obsessive-compulsive disorder (OCD): Best evidence and new US Food and Drug Agency (FDA) approval

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**Background:** Obsessive-compulsive disorder (OCD) is frequently difficult-to-treat, with many patients not improving with standard antidepressant and cognitive behavioural therapy. Transcranial magnetic stimulation (TMS), used clinically for major depressive disorder, has also been extensively studied for OCD. This presentation reviews the recent TMS evidence for OCD, including the August 2018 U.S. FDA approval.

**Methods:** A pubmed.gov search of TMS and OCD was performed through September 2018. Twenty randomized sham-controlled studies were identified, not including the unpublished “deep” TMS study which gained FDA-approval for OCD.

**Results:** Standard TMS had modest benefit in reducing OCD symptoms. Stimulation over the supplementary motor area (versus the right or left dorsolateral prefrontal cortex), using low frequency (versus high frequency), longer sessions of stimulation, and longer follow-up times, yielded better results. None of these studies used the new “deep” TMS coil targeting the anterior cingulate cortex, for which a study of 100 randomized patients showed superiority of active versus sham (38.1% vs 11.1%) in improving OCD symptoms by at least 30%.

**Conclusions:** There is evidence to support TMS for OCD, and more recently, a FDA-indication for a specific TMS device for OCD.

### Biography

Simon Kung has completed his medical school and residency in Psychiatry at Mayo Clinic, Rochester, Minnesota. He is the medical director for Mayo Clinic’s inpatient Mood Disorders Unit, and co-director of Transcranial Magnetic Stimulation.

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