**Appendix**

**Appendix 1. MESH terms and search strategy**

**PubMed & Cochrane Strategy:**

(("epilepsy"[MeSH Terms] OR "epilepsy"[All Fields]) OR ("seizures"[MeSH Terms] OR "seizures"[text word] OR "seizure\*"[All Fields]))

AND

("transcranial magnetic stimulation"[MeSH Terms] OR ("transcranial"[All Fields] AND "magnetic"[All Fields] AND "stimulation"[All Fields]) OR "transcranial magnetic stimulation"[All Fields] OR ("repetitive"[All Fields] AND "transcranial"[All Fields] AND "magnetic"[All Fields] AND "stimulation"[All Fields]) OR "repetitive transcranial magnetic stimulation"[All Fields] OR TMS[All Fields] OR rTMS[All Fields])

NOT ("animals"[MeSH] NOT "humans"[MeSH]))

Retrieves 652 results from PubMed on 2/1/16

Retrieves 69 unique from Cochrane CENTRAL on 2/1/16

**Scopus Strategy:**

(INDEXTERMS("Epilepsy") OR ALL("epilepsy") OR INDEXTERMS("Seizure") OR ALL(Seizure\*))

AND

(INDEXTERMS("Transcranial magnetic stimulation") OR (ALL("transcranial") AND ALL("magnetic") AND ALL("stimulation")) OR ALL("transcranial magnetic stimulation") OR (ALL("repetitive") AND ALL("transcranial") AND ALL("magnetic") AND ALL("stimulation")) OR ALL("repetitive transcranial magnetic stimulation") OR ALL("TMS") OR ALL("rTMS"))

AND NOT (INDEXTERMS(animal\*) NOT INDEXTERMS("human"))

AND NOT INDEX(medline)

Retrieves 2756 unique results from Scopus on 2/1/16

**Appendix 2. Criteria for performing assessment of bias**

**1. Was the patient sample representative?**

**Definitely yes:** Well described inclusion criteria. Procedure for participant selection was well-described and participants were enrolled consecutively. Participants are representative and clinical/demographic characteristics were comprehensively described.

**Probably yes:** Well described inclusion criteria. Procedure for participant selection was well-described, but it is unclear if participants were enrolled consecutively. Participants are likely representative, and clinical/demographic characteristics were partially described.

**Probably no:** Poorly described inclusion criteria. Procedure for participant selection was incompletely described and it is unclear if participants were enrolled consecutively. Participants are likely not broadly representative and clinical/demographic characteristics were partially described.

**Definitely no:** Poorly described inclusion criteria. Procedure for participant selection was not described and it is clear that participants were enrolled non-consecutively. Participants are not representative and clinical/demographic characteristics were not described.

**2. Were the prognostic variables well-defined and well-characterized?**

**Definitely yes:** Well-defined and complete list of prognostic variables were available for all included patients. Methods for measurement of each prognostic variable were clearly explained/characterized.

**Probably yes:** Well-defined and complete list of prognostic variables were available for the majority of included patients. Methods for measurement of some prognostic variables were somewhat explained/characterized.

**Probably no:** Poorly-defined and incomplete list of prognostic variables were available for a minority of included patients. Methods for measurement of prognostic variables were poorly characterized.

**Definitely no:** Prognostic variables were unreported and undefined.

**3. Can we be confident in the assessment of outcome?**

**Definitely yes:** Study outcomes are rigorously quantified, well-defined, and appropriately obtained. Participants kept a post-intervention seizure diary, follow-up appointments were adequate, and data were collected in duplicate and independently analyzed.

**Probably yes:** Study outcomes are reasonably quantified, somewhat defined, and appropriately obtained. It is unclear if participants kept post-intervention seizure diary and follow-up appointments were adequate.

**Probably no:** Study outcomes are subjective and somewhat qualitative, inadequately defined and inappropriately obtained. No seizure diary was kept and follow-up appointments were inadequate and infrequent.

**Definitely no:** Study outcomes are subjective and qualitative, undefined, and inappropriately obtained. Participants did not keep a seizure diary, and follow-up appointments were inadequate or nonexistent.

**4. Was the follow-up adequate?**

**Definitely yes:** No outcome data was missing OR reasons for missing outcome data were unlikely to be related to the outcome. Participants lost to follow-up were balanced across different demographic or treatment groups with similar reasons for missing outcome data between groups.

**Probably yes:** Rare missing outcome data. Reasons for missing outcome data were unlikely to be related to true outcome. Participants lost to follow-up were mostly balanced across different demographic or treatment groups with similar reasons for missing outcome data between groups.

**Probably no:** Some missing outcome data. Reasons for missing outcome data were likely to be related to true outcome. Participants lost to follow-up were overrepresented in certain demographic or treatment groups with dissimilar reasons for missing outcome data between groups.

**Definitely no:** Significant missing outcome data. Reason for missing outcome data were likely to be related to true outcome. Participants lost to follow-up were significantly concentrated within certain demographic or treatment groups with clearly biased reasons for missing outcome data between groups.

**5. Can we be confident that the treatment was standardized?**

**Definitely yes:** The treatment was standardized across patients and was described in adequate detail. Specifically, stimulation coil type, position, frequency, and general regime was consistent. The same TMS operator was used and method for identifying seizure focus was kept consistent between participants.

**Probably yes:** The treatment was standardized across patients and was described in some detail. Specifically, stimulation coil type, position, frequency, and general regime was generally consistent. The same TMS operator was used and method for identifying seizure focus was kept consistent between participants.

**Probably no:** Some patients received different treatments and treatments were inadequately described. Specifically, stimulation coil type, position, frequency, and general regime might changed for some patients. Different TMS operators were used and methods for identifying seizure focus might have been inconsistent.

**Definitely no:** Treatment was not standardized across patients and was poorly described. Stimulation coil type, position, frequency, and general regime might have varied significantly between patients. Different TMS operators were used, and methods for identifying seizure focus were not described or were inconsistent.

**Appendix 3. Excluded articles and justifications**

**Patients overlap with another article**

1. Tergau F, Naumann U, Paulus W, et al. Low-frequency repetitive transcranial magnetic stimulation improves intractable epilepsy. Lancet. 1999;353:2209.

2. Sun W, Fu W, Mao W, et al. Low-Frequency Repetitive Transcranial Magnetic Stimulation for the Treatment of Refractory Partial Epilepsy. Clin EEG Neurosci. 2011;42:40-44.

**Summary article of another study**

3. Steinhoff BJ. Transcranial magnetic stimulation for therapy of refractory seizures. Epilepsia. 2002;43:8-12.

**Treatment was not for drug-resistant epilepsy**

4. Rotenberg A, Bae EH, Takeoka M, et al. Repetitive transcranial magnetic stimulation in the treatment of epilepsia partialis continua. Epilepsy Behav. 2009;14:253-257.

5. Wang X, Yang D, Wang S, et al. Effects of low-frequency repetitive transcranial magnetic stimulation on electroencephalogram and seizure frequency in 15 patients with temporal lobe epilepsy following dipole source localization. Neural Regen Res. 2008;3:1257-1260.

**Case Report**

6. Morales OG, Henry ME, Nobler MS, et al. Electroconvulsive therapy and repetitive transcranial magnetic stimulation in children and adolescents: a review and report of two cases of epilepsia partialis continua. Child Adolesc Psychiatr Clin N Am. 2005;14:193-210, viii-ix.

7. Civardi C, Boccagni C, Vicentini R, et al. Low-frequency repetitive transcranial magnetic stimulation as a treatment of drug-resistant epilepsy in two patients. Bollettino - Lega Italiana contro l'Epilessia. 2001; (113-114):149-151.

8. Rotenberg A, Bae EH, Muller PA, et al. In-session seizures during low-frequency repetitive transcranial magnetic stimulation in patients with epilepsy. Epilepsy Behav. 2009;16:353-355.

9. Brighina F, Fierro B, Piazza A, et al. Slow-frequency repetitive transcranial magnetic stimulation in patients with cortical dysplasia: Preliminary results. Bollettino - Lega Italiana contro l'Epilessia. 2001;(113-114):121-123.

**Seizure frequency was not primary outcome measure**

10. Kimiskidis VK, Kugiumtzis D, Papagiannopoulos S, et al. Transcranial magnetic stimulation (TMS) modulates epileptiform discharges in patients with frontal lobe epilepsy: a preliminary EEG-TMS study. Int J Neural Syst. 2013;23.

11. Wu X, Chen Q, Zhou B, et al. Repetitive transcranial magnetic stimulation of language function in patients with refractory epilepsy: A preliminary functional magnetic resonance imaging study. Neural Regen Res. 2009;4:896-900.

12. Zhang LN, Wu SJ, Tao HY, et al. The clinical exploration of low-frequency repetitive transcranial magnetic stimulation in refractory epilepsy. Chinese Journal of Contemporary Neurology and Neurosurgery. 2010;10:230-234.

**Low-frequency rTMS was not treatment modality**

13. Brighina F, Daniele O, Piazza A, et al. Hemispheric cerebellar rTMS to treat drug-resistant epilepsy: case reports. Neurosci Lett. 2006;397:229-233.