



## Appendix 3

1 (4)

Treatment of depression with transcranial magnetic stimulation using an H-coil (dTMS) – An HTA report, report 318 (2020)

### Appendix 3 Risk of bias

## Effect directly after end of treatment

Author Year Reference	Comparison	Randomisation	Deviation from intended interventions	Missing outcome data	Measurement of the outcome	Selection of the reported results	Overall bias	Comments
Levkovitz et al 2015 [1]	dTMS compared to sham	Low	Low	Low	Low	Moderate	Moderate	Time point for effect measure changed from 4 weeks to 5 weeks in the protocol in clinicaltrials.gov close to publication of the study.  Recruitment partly through advertisement.  Brainsway involved in study
Tavares et al 2017 [2]	dTMS compared to sham	Low	Low	Low	Low	Low	Low	Recruitment partly through advertisement.  Brainsway involved in study
Kaster et al 2018 [3]	dTMS compared to sham	Moderate	Low	Low	Low	Moderate	Moderate	Protocol changed during the study both regarding type of intervention (H1L helmet versus H1 coil) and the primary efficacy measure (different definition of remission in clinicaltrials.gov compared to the publication).  Small study that was stopped prematurely with some differences at the baseline that can have affected the result in advantage of the intervention.  Brainsway involved in study
Filipčić et al 2019 [4]	dTMS compared to sham	Low	Low	Low	Low	Low	Low	Only the rater of the results was blinded. The patients and the clinician delivering the treatment

	rTMS with figure-8-coil							were unblinded, but this is not thought to bias the results.
Filipčić et al 2019 [4]	dTMS compared to pharmaceutical treatment	Low	High	Low	Low	Low	High	Risk for unspecific differences in effect in the control group that only met clinicians at baseline and at 4 weeks compared to the intervention group that met clinicians 5 days a week for 4 weeks
Matsuda et al 2020 [5]	dTMS compared to sham	Low	Low	Moderate	Low	Moderate	Moderate	Excluded patients that dropped-out during the study from the analysis.  No protocol found. Risk that the result after 6 weeks is chosen due to a significant result at that time point not seen at other time points.

### Effect of maintenance treatment

Author Year Reference	Comparison	Randomisation	Deviation from intended interventions	Missing outcome data	Measurement of the outcome	Selection of the reported results	Overall bias	Comments
Levkovitz et al 2015 [1]	Maintenance treatment with dTMS compared to sham	Low	Low	High	Low	Moderate	High	Large proportion of the patients dropped out until end of maintenance treatment (57–75%)
Rapinesi et al 2015 [6]	Maintenance treatment with dTMS compared to no maintenance treatment	High	High	-	-	-	High	Not clearly reported how randomisation was done. Study unblinded for patients and therapists.

## References

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3. Kaster TS, Daskalakis ZJ, Noda Y, Knyahnytska Y, Downar J, Rajji TK, et al. Efficacy, tolerability, and cognitive effects of deep transcranial magnetic stimulation for late-life depression: a prospective randomized controlled trial. *Neuropsychopharmacology* 2018;43:2231-8.
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5. Matsuda Y, Kito S, Igarashi Y, Shigeta M. Efficacy and Safety of Deep Transcranial Magnetic Stimulation in Office Workers with Treatment-Resistant Depression: A Randomized, Double-Blind, Sham-Controlled Trial. *Neuropsychobiology* 2020;79:208-13.
6. Rapinesi C, Bersani FS, Kotzalidis GD, Imperatori C, Del Casale A, Di Pietro S, et al. Maintenance Deep Transcranial Magnetic Stimulation Sessions are Associated with Reduced Depressive Relapses in Patients with Unipolar or Bipolar Depression. *Front Neurol* 2015;6:16.