

Appendix 1 to Sohn MN, Brown JC, Sharma P, et al. Pharmacological adjuncts and transcranial magnetic stimulation-induced synaptic plasticity: a systematic review. *J Psychiatry Neurosci* 2024.

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Supplemental Figure 1. Search Strategy

a. MEDLINE

<input type="checkbox"/>	# ▲	Searches	Results	Type	Actions	Annotations
<input type="checkbox"/>	1	exp Transcranial Magnetic Stimulation/ or Repetitive Transcranial Magnetic Stimulation.mp.	16113	Advanced	Display Results More ▼	<input type="checkbox"/>
<input type="checkbox"/>	2	limit 1 to (english language and yr="2013 -Current")	9893	Advanced	Display Results More ▼	<input type="checkbox"/>
<input type="checkbox"/>	3	exp Transcranial Magnetic Stimulation/ or TMS.mp.	22814	Advanced	Display Results More ▼	<input type="checkbox"/>
<input type="checkbox"/>	4	limit 3 to (english language and yr="2013 -Current")	12893	Advanced	Display Results More ▼	<input type="checkbox"/>
<input type="checkbox"/>	5	exp Transcranial Magnetic Stimulation/ or rTMS.mp.	16103	Advanced	Display Results More ▼	<input type="checkbox"/>
<input type="checkbox"/>	6	limit 5 to (english language and yr="2013 -Current")	9878	Advanced	Display Results More ▼	<input type="checkbox"/>
<input type="checkbox"/>	7	exp Neuronal Plasticity/ or exp Long-Term Potentiation/ or exp Transcranial Magnetic Stimulation/ or theta-burst stimulation.mp.	59957	Advanced	Display Results More ▼	<input type="checkbox"/>
<input type="checkbox"/>	8	limit 7 to (english language and yr="2013 -Current")	26044	Advanced	Display Results More ▼	<input type="checkbox"/>
<input type="checkbox"/>	9	cTBS.mp.	750	Advanced	Display Results More ▼	<input type="checkbox"/>
<input type="checkbox"/>	10	limit 9 to (english language and yr="2013 -Current")	582	Advanced	Display Results More ▼	<input type="checkbox"/>
<input type="checkbox"/>	11	exp Motor Cortex/ or exp Baclofen/ or iTBS.mp.	30644	Advanced	Display Results More ▼	<input type="checkbox"/>
<input type="checkbox"/>	12	limit 11 to (english language and yr="2013 -Current")	10327	Advanced	Display Results More ▼	<input type="checkbox"/>
<input type="checkbox"/>	13	Long term potentiation.mp. or exp Long-Term Potentiation/	17647	Advanced	Display Results More ▼	<input type="checkbox"/>
<input type="checkbox"/>	14	limit 13 to (english language and yr="2013 -Current")	6607	Advanced	Display Results More ▼	<input type="checkbox"/>
<input type="checkbox"/>	15	exp Receptors, N-Methyl-D-Aspartate/ or Long term depression.mp. or exp Long-Term Synaptic Depression/ or exp Long-Term Potentiation/	41539	Advanced	Display Results More ▼	<input type="checkbox"/>
<input type="checkbox"/>	16	limit 15 to (english language and yr="2013 -Current")	12390	Advanced	Display Results More ▼	<input type="checkbox"/>
<input type="checkbox"/>	17	exp Pharmacology/ or pharmacology.mp. or exp Pharmacology, Clinical/	3458745	Advanced	Display Results More ▼	<input type="checkbox"/>
<input type="checkbox"/>	18	limit 17 to (english language and yr="2013 -Current")	861377	Advanced	Display Results More ▼	<input type="checkbox"/>
<input type="checkbox"/>	19	Synaptic Plasticity.mp. or exp Neuronal Plasticity/	59390	Advanced	Display Results More ▼	<input type="checkbox"/>
<input type="checkbox"/>	20	limit 19 to (english language and yr="2013 -Current")	25621	Advanced	Display Results More ▼	<input type="checkbox"/>
<input type="checkbox"/>	21	Facilitation.mp. or exp Neuronal Plasticity/	79079	Advanced	Display Results More ▼	<input type="checkbox"/>
<input type="checkbox"/>	22	limit 21 to (english language and yr="2013 -Current")	29869	Advanced	Display Results More ▼	<input type="checkbox"/>
<input type="checkbox"/>	23	inhibition.mp. or exp Inhibition, Psychological/ or exp Neural Inhibition/	1010603	Advanced	Display Results More ▼	<input type="checkbox"/>
<input type="checkbox"/>	24	limit 23 to (english language and yr="2013 -Current")	382445	Advanced	Display Results More ▼	<input type="checkbox"/>
<input type="checkbox"/>	25	1 or 2 or 3 or 4 or 5 or 6 or 7 or 8 or 9 or 10 or 11 or 12	93360	Advanced	Display Results More ▼	<input type="checkbox"/>
<input type="checkbox"/>	26	13 or 14 or 15 or 16 or 19 or 20 or 21 or 22 or 23 or 24	1113522	Advanced	Display Results More ▼	<input type="checkbox"/>
<input type="checkbox"/>	27	17 and 18 and 25 and 26	3748	Advanced	Display Results More ▼	<input type="checkbox"/>

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b. EMBASE

▼ Search History (27)					View Save
#	Searches	Results	Type	Actions	Annotations
1	repetitive transcranial magnetic stimulation.mp. or exp transcranial magnetic stimulation/ or exp repetitive transcranial magnetic stimulation/	31426	Advanced	Display Results More ▾	
2	limit 1 to (human and english language and "remove medline records" and yr="2013 -Current")	8076	Advanced	Display Results More ▾	
3	TMS.mp. or exp transcranial magnetic stimulation/	40459	Advanced	Display Results More ▾	
4	limit 3 to (human and english language and "remove medline records" and yr="2013 -Current")	10074	Advanced	Display Results More ▾	
5	exp transcranial magnetic stimulation/ or rTMS.mp. or exp repetitive transcranial magnetic stimulation/	32005	Advanced	Display Results More ▾	
6	limit 5 to (human and english language and "remove medline records" and yr="2013 -Current")	8419	Advanced	Display Results More ▾	
7	exp long term potentiation/ or theta-burst stimulation.mp.	24961	Advanced	Display Results More ▾	
8	limit 7 to (human and english language and "remove medline records" and yr="2013 -Current")	2437	Advanced	Display Results More ▾	
9	cTBS.mp.	1264	Advanced	Display Results More ▾	
10	limit 9 to (human and english language and "remove medline records")	512	Advanced	Display Results More ▾	
11	exp baclofen/ or iTBS.mp.	21505	Advanced	Display Results More ▾	
12	limit 11 to (human and english language and "remove medline records" and yr="2013 -Current")	3385	Advanced	Display Results More ▾	
13	exp excitatory postsynaptic potential/ or exp long term potentiation/ or long term potentiation.mp. or exp central nervous system/	2181311	Advanced	Display Results More ▾	
14	limit 13 to (human and english language and "remove medline records" and yr="2013 -Current")	288377	Advanced	Display Results More ▾	
15	long term depression.mp. or exp long term depression/	8668	Advanced	Display Results More ▾	
16	limit 15 to (human and english language and "remove medline records" and yr="2013 -Current")	722	Advanced	Display Results More ▾	
17	Synaptic Plasticity.mp. or exp nerve cell plasticity/	93553	Advanced	Display Results More ▾	
18	limit 17 to (human and english language and "remove medline records" and yr="2013 -Current")	10470	Advanced	Display Results More ▾	
19	Facilitation.mp. or exp facilitation/	43092	Advanced	Display Results More ▾	
20	limit 19 to (human and english language and "remove medline records" and yr="2013 -Current")	4571	Advanced	Display Results More ▾	
21	inhibition.mp. or exp synaptic inhibition/	1560564	Advanced	Display Results More ▾	
22	limit 21 to (human and english language and "remove medline records" and yr="2013 -Current")	152502	Advanced	Display Results More ▾	
23	exp pharmacology/ or Pharmacology.mp.	5650639	Advanced	Display Results More ▾	
24	limit 23 to (human and english language and "remove medline records" and yr="2013 -Current")	599891	Advanced	Display Results More ▾	
25	1 or 2 or 3 or 4 or 5 or 6 or 7 or 8 or 9 or 10 or 11 or 12	84080	Advanced	Display Results More ▾	
26	13 or 14 or 15 or 16 or 17 or 18 or 19 or 20 or 21 or 22	3650590	Advanced	Display Results More ▾	
27	23 and 24 and 25 and 26	1067	Advanced	Display Results More ▾	

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c. PsycINFO

▼ Search History (27)					View	Save	
#	▲ Searches	Results	Type	Actions	Annotations		
<input type="checkbox"/>	1	repetitive transcranial magnetic stimulation.mp. or exp Transcranial Magnetic Stimulation/	10287	Advanced	Display Results More ▼	<input type="checkbox"/>	
<input type="checkbox"/>	2	limit 1 to yr="2013 -Current"	6525	Advanced	Display Results More ▼	<input type="checkbox"/>	
<input type="checkbox"/>	3	exp Somatosensory Evoked Potentials/ or exp Motor Cortex/ or exp Transcranial Magnetic Stimulation/ or exp Evoked Potentials/ or exp Cerebral Cortex/ or TMS.mp.	198771	Advanced	Display Results More ▼	<input type="checkbox"/>	
<input type="checkbox"/>	4	limit 3 to yr="2013 -Current"	82572	Advanced	Display Results More ▼	<input type="checkbox"/>	
<input type="checkbox"/>	5	rTMS.mp.	3759	Advanced	Display Results More ▼	<input type="checkbox"/>	
<input type="checkbox"/>	6	limit 5 to yr="2013 -Current"	2274	Advanced	Display Results More ▼	<input type="checkbox"/>	
<input type="checkbox"/>	7	exp Neural Plasticity/ or exp Transcranial Magnetic Stimulation/ or exp Long-term Potentiation/ or theta-burst stimulation.mp.	30185	Advanced	Display Results More ▼	<input type="checkbox"/>	
<input type="checkbox"/>	8	limit 7 to yr="2013 -Current"	16008	Advanced	Display Results More ▼	<input type="checkbox"/>	
<input type="checkbox"/>	9	ITBS.mp.	537	Advanced	Display Results More ▼	<input type="checkbox"/>	
<input type="checkbox"/>	10	limit 9 to yr="2013 -Current"	329	Advanced	Display Results More ▼	<input type="checkbox"/>	
<input type="checkbox"/>	11	cTBS.mp.	473	Advanced	Display Results More ▼	<input type="checkbox"/>	
<input type="checkbox"/>	12	limit 11 to yr="2013 -Current"	318	Advanced	Display Results More ▼	<input type="checkbox"/>	
<input type="checkbox"/>	13	exp Long-term Potentiation/ or exp Long-term Depression (Neuronal)/ or exp Synaptic Plasticity/ or exp Neural Plasticity/ or long-term depression.mp. or exp Memory/	156161	Advanced	Display Results More ▼	<input type="checkbox"/>	
<input type="checkbox"/>	14	limit 13 to yr="2013 -Current"	59392	Advanced	Display Results More ▼	<input type="checkbox"/>	
<input type="checkbox"/>	15	long-term potentiation.mp. or exp Long-term Potentiation/	7481	Advanced	Display Results More ▼	<input type="checkbox"/>	
<input type="checkbox"/>	16	limit 15 to yr="2013 -Current"	2927	Advanced	Display Results More ▼	<input type="checkbox"/>	
<input type="checkbox"/>	17	Synaptic plasticity.mp. or exp Synaptic Plasticity/	13025	Advanced	Display Results More ▼	<input type="checkbox"/>	
<input type="checkbox"/>	18	limit 17 to yr="2013 -Current"	6908	Advanced	Display Results More ▼	<input type="checkbox"/>	
<input type="checkbox"/>	19	exp Learning/ or Facilitation.mp.	319248	Advanced	Display Results More ▼	<input type="checkbox"/>	
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<input type="checkbox"/>	21	exp Neural Inhibition/ or exp Behavioral Inhibition/ or exp Latent Inhibition/ or inhibition.mp.	83903	Advanced	Display Results More ▼	<input type="checkbox"/>	
<input type="checkbox"/>	22	limit 21 to yr="2013 -Current"	31755	Advanced	Display Results More ▼	<input type="checkbox"/>	
<input type="checkbox"/>	23	pharmacology.mp. or exp Pharmacology/	30373	Advanced	Display Results More ▼	<input type="checkbox"/>	
<input type="checkbox"/>	24	limit 23 to yr="2013 -Current"	9920	Advanced	Display Results More ▼	<input type="checkbox"/>	
<input type="checkbox"/>	25	1 or 2 or 3 or 4 or 5 or 6 or 7 or 8 or 9 or 10 or 11 or 12	211353	Advanced	Display Results More ▼	<input type="checkbox"/>	
<input type="checkbox"/>	26	13 or 14 or 15 or 16 or 17 or 18 or 19 or 20 or 21 or 22	499477	Advanced	Display Results More ▼	<input type="checkbox"/>	
<input type="checkbox"/>	27	23 and 24 and 25	580	Advanced	Display Results More ▼	<input type="checkbox"/>	

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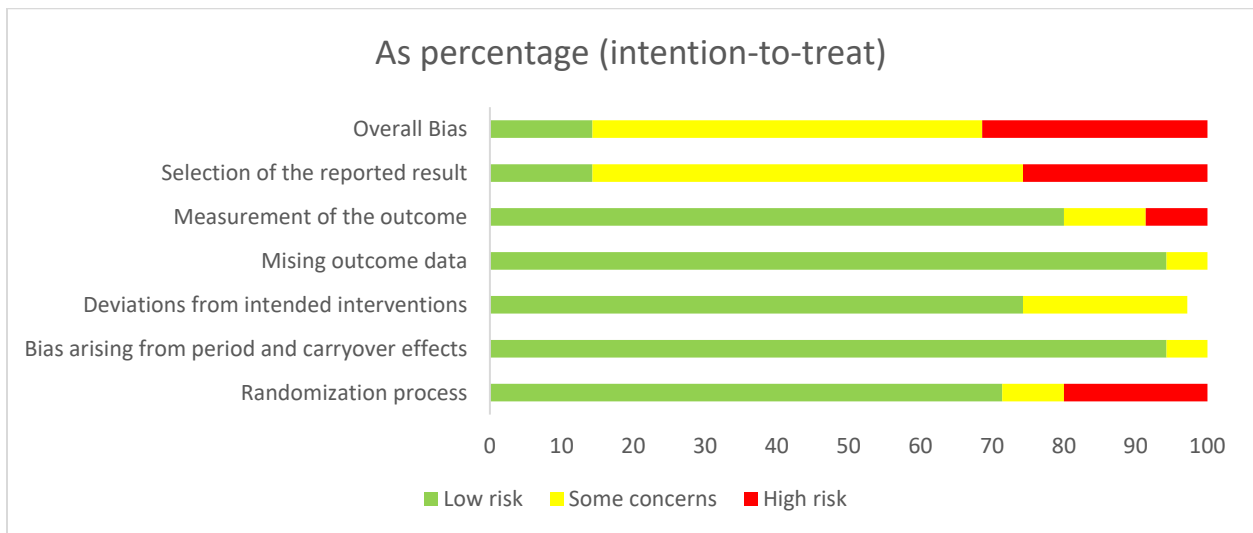
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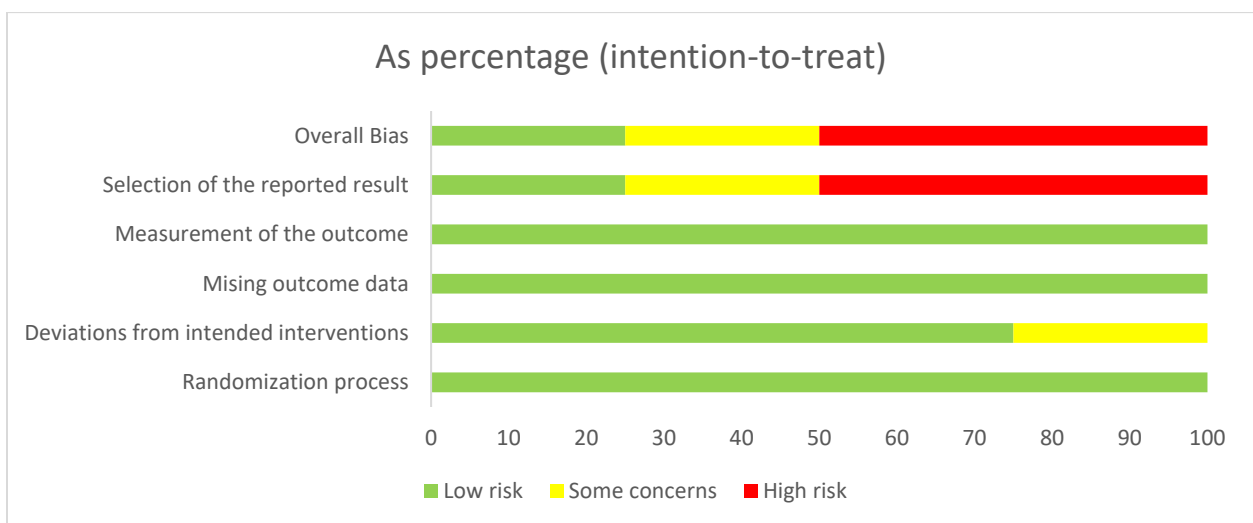
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Supplemental Figure 2. Risk of Bias Assessment

a. Crossover Studies ($k=30$)



b. Randomized Group Comparisons ($k=4$)



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c. Non-Randomized Studies (k=2)

Author Year	Confounding	Selection	Deviation from intervention	Missing Data	Outcome Measurement	Reported Results	Overall
Martorana 2014	Low	Low	Low	Low	Moderate	Moderate	Moderate
Fitzgerald 2004	Moderate	Low	Low	Low	Moderate	Moderate	Moderate