

Table S1. Schedule of enrollment, interventions, and assessments

	Enrollment and Allocation		Intervention Phase		Follow-up Phase		
	In-person Screening	Baseline & Randomization	Sessions 1-10	Sessions 11-20	Immediate F/U 1 Week Post-Tx	3 Months Post-Tx	6 Months Post-Tx Close-out
Timepoint	t ₁	t ₂	t ₃₋₇	t ₈₋₁₂	t ₁₃	t ₁₄	t ₁₅
Enrollment							
<i>Informed Consent</i>	X						
<i>Mini-Mental State Exam, Logical Memory (Story A) I & II</i>	X						
<i>Clinical Dementia Rating Scale</i>	X						
<i>Cognitive Change Index, Geriatric Depression Scale, Alcohol Use</i>	X						
<i>Medical, Psychiatric & Seizure History</i>	X						
<i>Modified Hachinski Rating: PE/NE</i>	X						
<i>MCI classification and determination of Eligibility</i>	X						
<i>Allocation / Randomization</i>		X					
Interventions							
<i>Active DLPFC rTMS</i>			←————→				
<i>Active LPC rTMS</i>			←————→				
<i>Sham rTMS</i>			←————→				
Assessments							
<i>Demographics</i>	X						
<i>Motor Threshold (MT) determination</i>	Left MT		Right MT				
<i>California Verbal Learning Test (Primary outcome)</i>		X			X	X	X
<i>Secondary Cognitive and Mood assessments</i>		X			X	X	X
<i>Secondary Functional assessments (Study partner and participant)</i>		X			X	X	X
<i>MRI scan</i>		X			X		
<i>Blood Sample for Genomic DNA</i>			X				
<i>Plasma BDNF level</i>			X	X			
<i>Vital Signs</i>	X		←————→			X	X
<i>Concomitant Medications</i>	X	X	←————→		X	X	X
<i>TMS Safety Questionnaire</i>	X		←————→				
<i>rTMS Intervention Log</i>			←————→				
<i>TMS Blinding questionnaires (Participant and Operator)</i>			X	X			
<i>TMS Acceptability questionnaire</i>				X			
<i>Adverse Event monitoring</i>		X	←————→		X	X	X