Supplementary videos of severity subscale items before and after two-week therapy

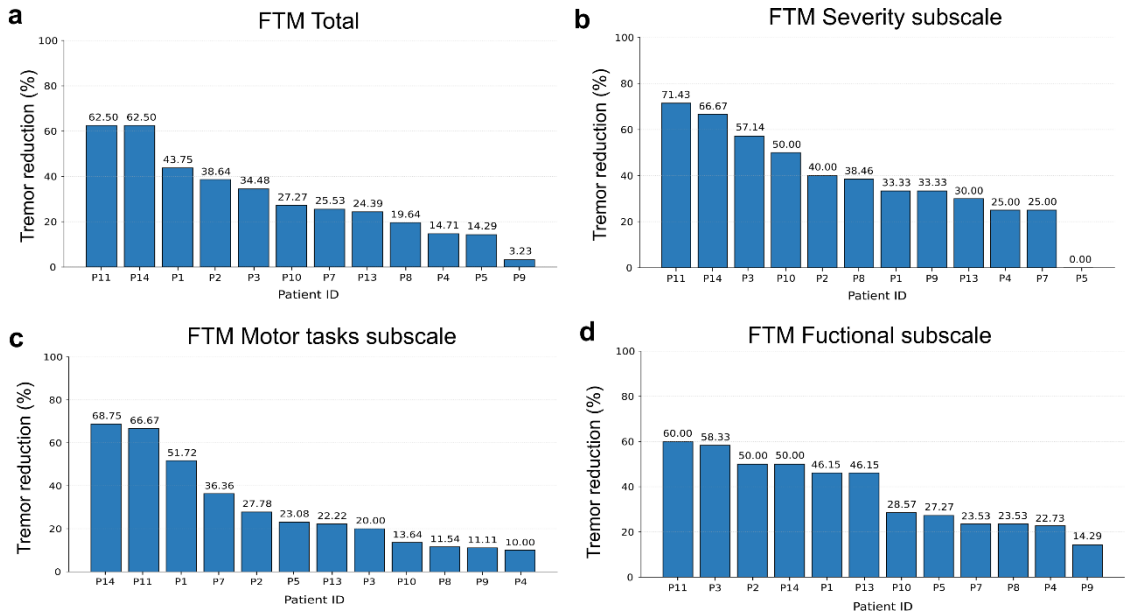
Supplementary videos of patients 2, 3, and 14 performing representative severity subscale items before the start of therapy and after the completion of the two-week intervention can be downloaded here: https://saco.csic.es/s/5bJNG4cLyKAgNXB. The link also includes a video that provides an overview of the entire study.

Supplementary tables and figures

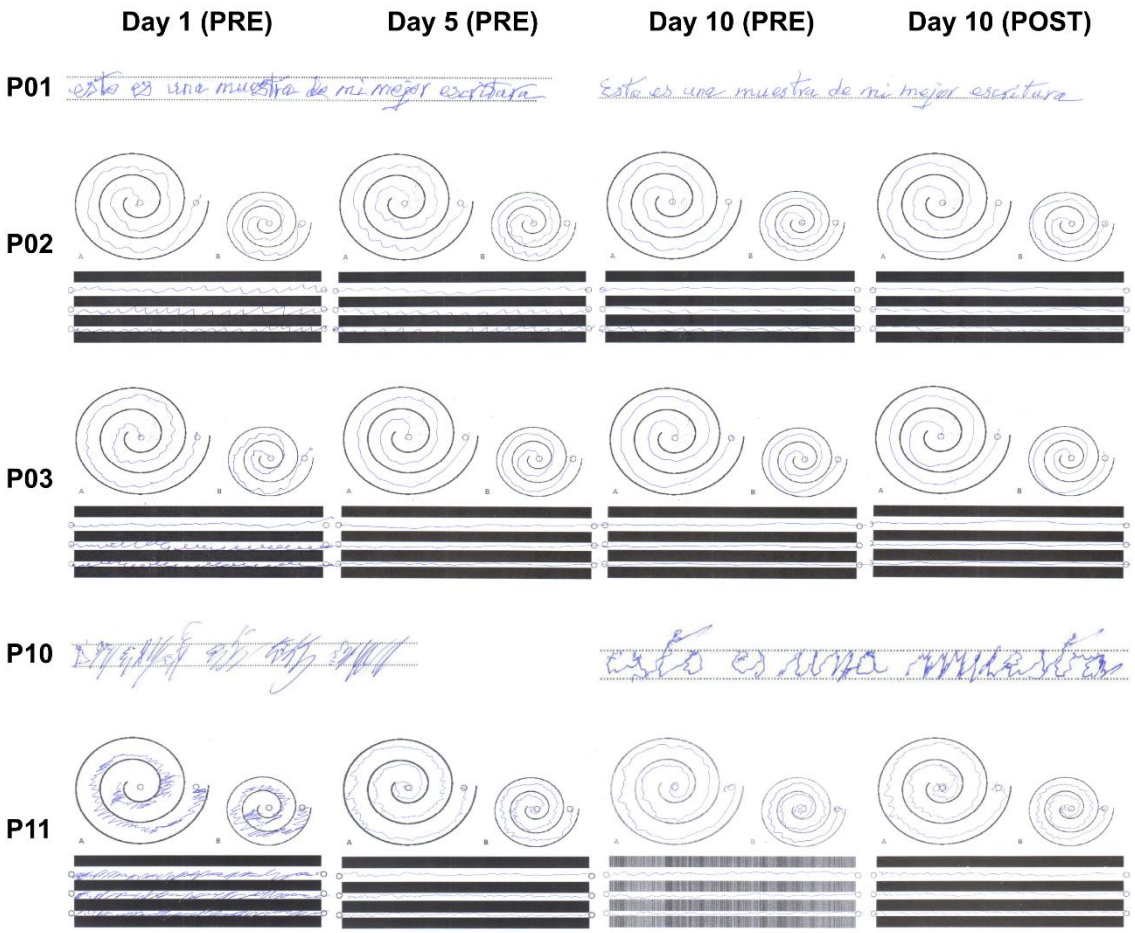
Supplementary Table 1 Patient demographic and clinical characteristics.

P	Gender	DH	MAA	Age	DD	No. anti-tremor med.	Current med.	FTM-Sev. [0-24]	FTM-Motor Tasks [0-36]	FTM-Func. [0-32]	FTM-Total [0-92]	CGI-Sev. [0-7]	Cond.
1	M	R	L	75	40	4	Primidone, perampanel	6	29	13	48	5	ST, LT
2	M	R	R	67	50	3	Propranolol	10	22	16	48	5	ST, LT
3	F	R	L	50	38	3	Propranolol	7	16	14	37	4	ST, LT
4	F	R	L	72	52	2	Propranolol, primidone	18	31	22	71	6	ST, LT
5	M	R	R	61	20	6	Propranolol, gabapentin	8	19	11	38	4	ST, LT
6	M	R	L	62	24	1	Propranolol	5	9	1	15	3	ST
7	M	R	R	67	15	3	Gabapentin, zonisamide	8	22	17	47	5	ST, LT
8	M	R	L	67	10	4	Primidone, perampanel	15	30	17	62	6	ST + LFPs, LT
9	F	R	L	70	40	4	None	8	23	7	38	5	ST, LT
10	F	R	L	77	40	3	Primidone	11	27	18	56	6	ST, LT
11	F	L	R	79	10	5	Zonisamide	10	18	12	40	5	ST, LT
12	M	R	L	66	15	4	Zonisamide	5	22	7	34	5	ST + LFPs
13	F	L	L	79	42	1	Propranolol	13	23	11	47	4	ST, LT
14	M	L	R	70	25	3	Propranolol, primidone, topiramate	5	20	12	37	4	ST, LT
Mean / %	42.86 (% F)	78.57 (% R)	35.71 (% R)	68.71	30.07	3.29	—	9.21	22.21	12.71	44.14	4.79	—

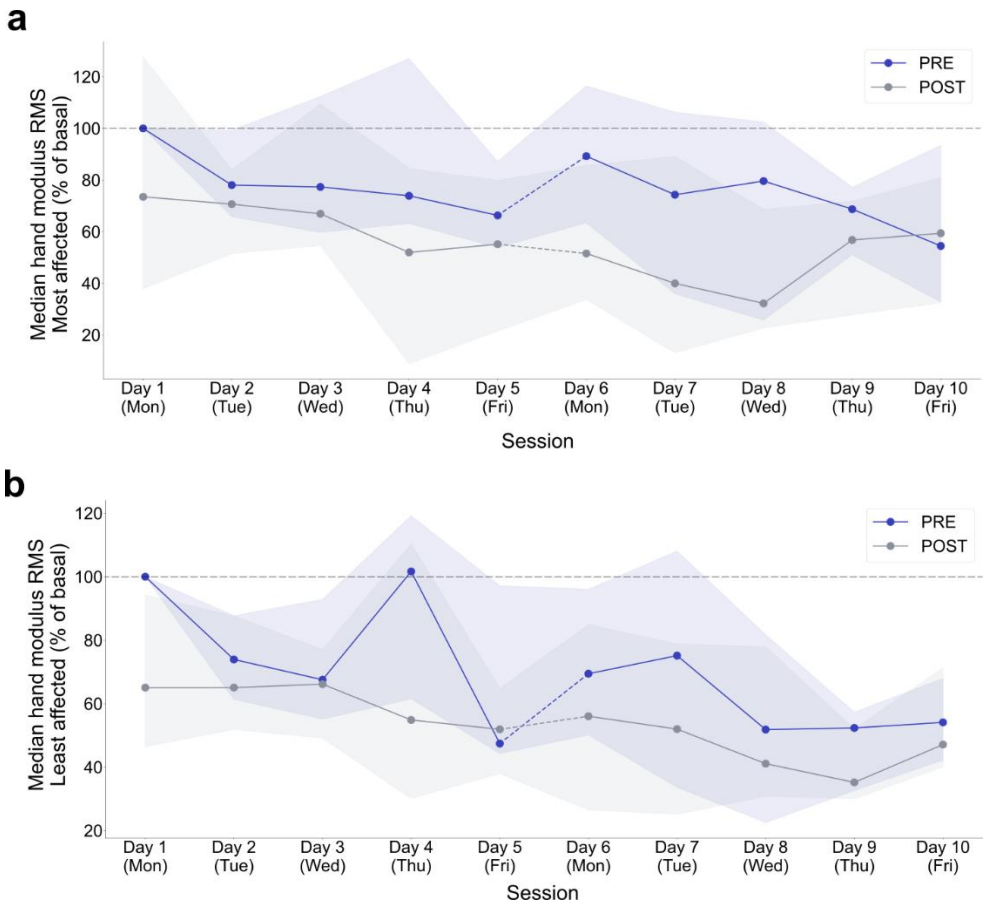
P Patient code, *F* Female, *M* Male, *DH* Dominant Hand, *MAA* Most Affected Arm, *DD* Disease Duration (years), *No. anti-tremor med.* Number of prescribed anti-tremor medications (past and present), *Current med.* Current medication (not interrupted during the study), *FTM-Sev.* Fahn-Tolosa-Marin Severity subscale, *FTM-Motor tasks* Fahn-Tolosa-Marin Motor tasks subscale, *FTM-Functional.* Fahn-Tolosa-Marin Functional Disability subscale, *CGI-Sev.* Clinical Global Impression Severity, *Cond.* Experimental condition indicating participation in the short-term or long-term protocol, *ST* Short-Term condition (single stimulation session versus sham), *LT* Long-Term condition (two weeks of stimulation), *LFPs* Local Field Potentials recording.



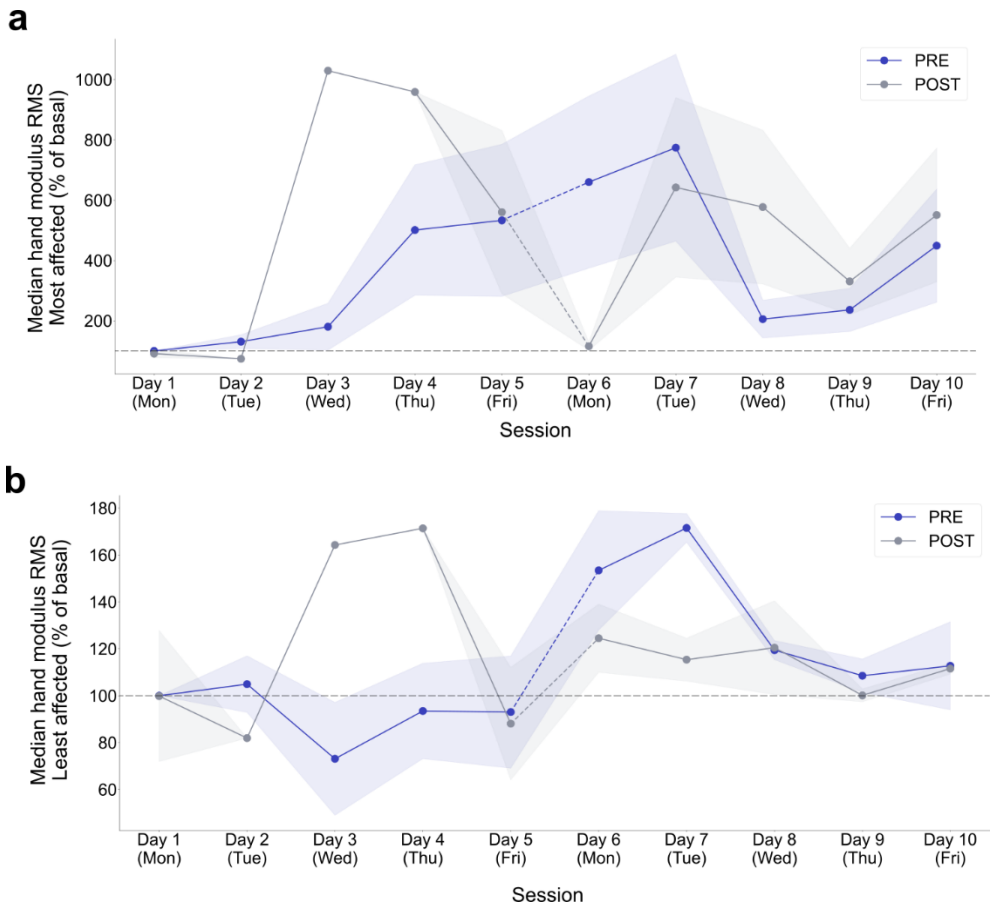
Supplementary Fig. 1 Percentage of tremor reduction achieved by each patient during the 2-week therapy. Results are displayed as function of the basal values (before starting the therapy). **a** FTM total score. **b** FTM severity subscale. **c** FTM motor tasks subscale. **d** FTM functional subscale.



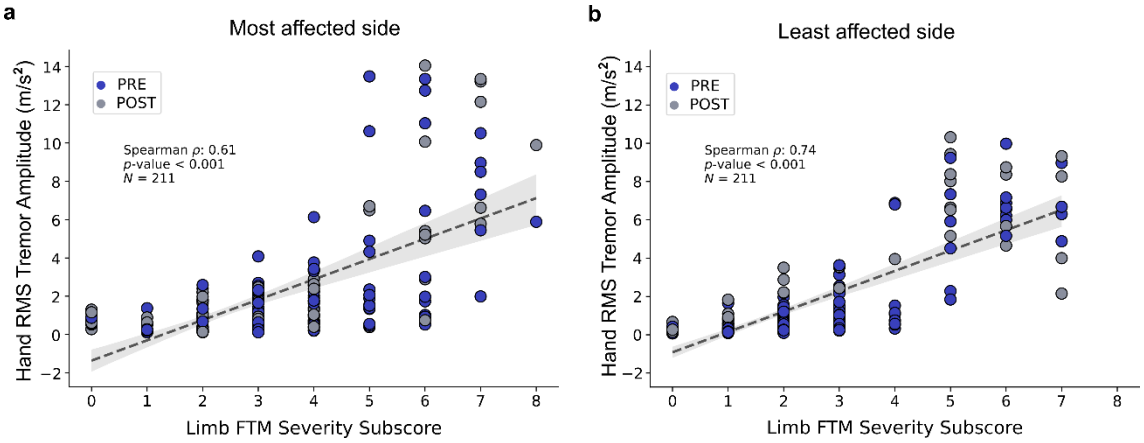
Supplementary Fig. 2 Motor tasks subscale examples. Representative motor task samples from patients 1, 2, 3, 10, and 11 collected before stimulation at sessions 1, 5, and 10, and after stimulation at session 10. Handwriting examples ('*Esto es una muestra de mi mejor escritura*', which means 'This is a sample of my best handwriting') are shown only for the pre-stimulation assessments at sessions 1 and 10.



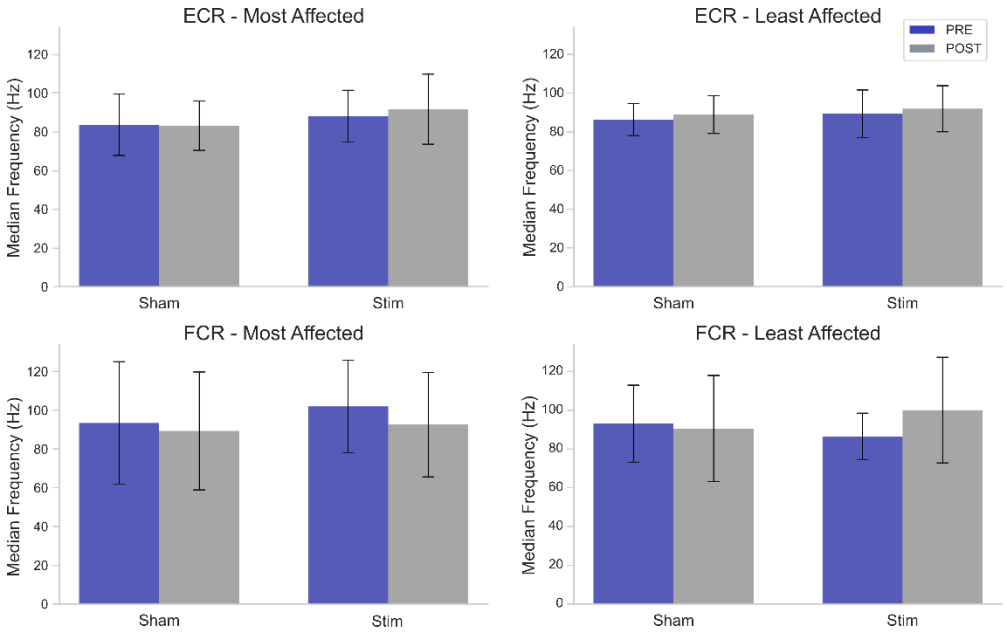
Supplementary Fig. 3 Long-term kinematic assessments from responders. a Median pre- and post-stimulation hand modulus RMS on the most affected side. **b** Median pre- and post-stimulation hand modulus RMS on the least affected side. Error bars represent the interquartile range (Q1–Q3).



Supplementary Fig. 4 Long-term kinematic assessments from non-responders. a Median pre- and post-stimulation hand modulus RMS on the most affected side. **b** Median pre- and post-stimulation hand modulus RMS on the least affected side. Error bars represent the interquartile range (Q1–Q3).



Supplementary Fig. 5 Correlation between the RMS of the hand acceleration modulus and the FTM severity subscores for the (**a**) most affected side and (**b**) least affected side. Hand acceleration showed a strong correlation with the FTM severity subscore on the least affected side and a moderate correlation on the most affected side. The correlation weakens in the upper-right region of the plots because of a ceiling effect: RMS acceleration values continue to increase, whereas FTM severity subscores have already reached their maximum value. This phenomenon is more pronounced on the most affected side.



Supplementary Fig. 6 Fatigue in patients. Median frequency of EMG power spectrum as a measure of fatigue (mean ± standard deviation). No statistically significant differences were found.