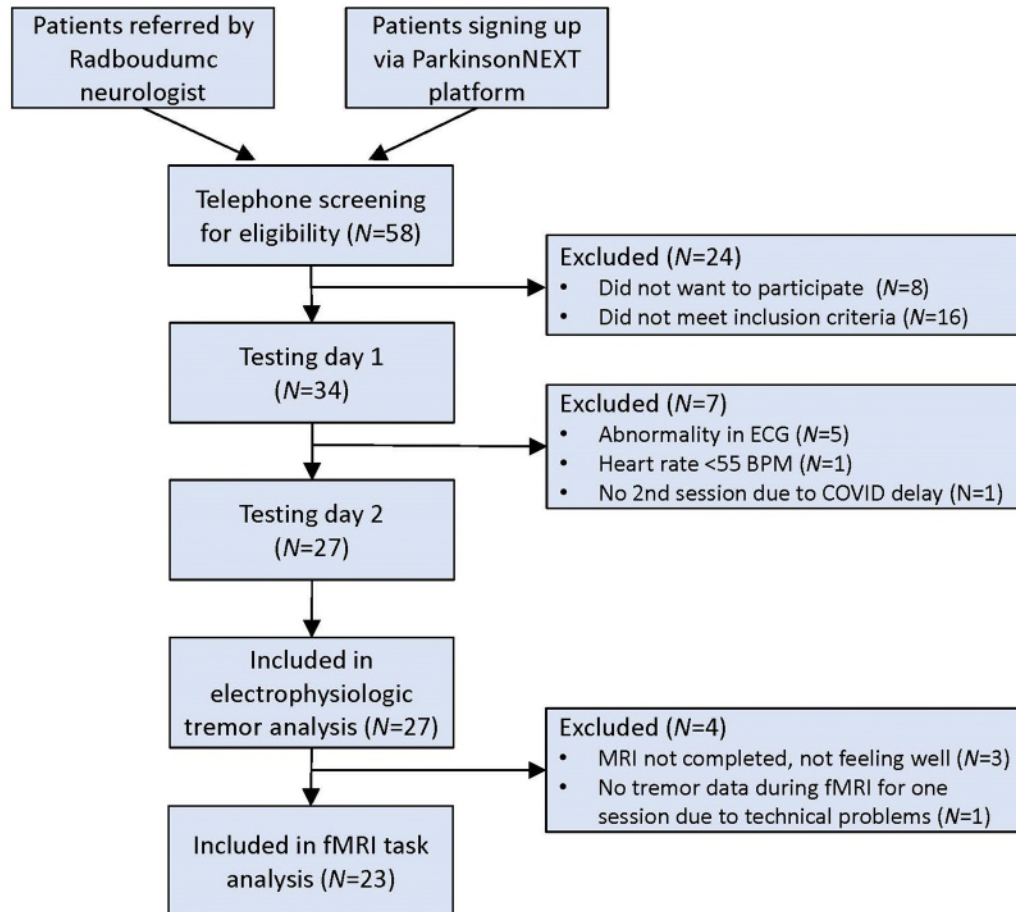


Participant flow



This participant flow chart shows how many patients were screened from the two recruitment sources, how many were eligible and how many were included per testing day and per analysis.

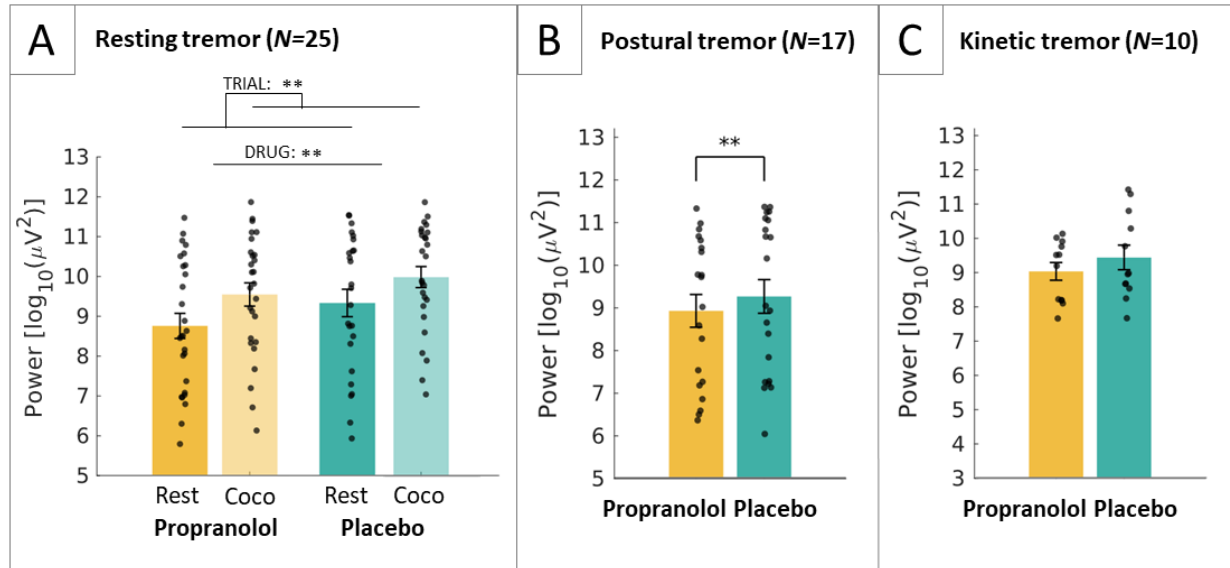
Participant characteristics

Characteristic	Mean (\pm SD) / N
Sex (Female Male)	9 18
Age (years)	61.4 (8.2)
Disease duration (years)	4.2 (2.9)
Most affected side (Right Left)	17 10
Dopaminergic medication user (Yes No)	26 1
LEDD (mg/day)	598.1 (386)
Mini Mental State Examination (total score)	28.8 (1.3)
Hoehn and Yahr stage (HY 1 HY 2 HY 2.5)	4 22 1
MDS-UPDRS III (total score, OFF medication)	28.8 (10.8)
Tremor total	9.3 (4.4)
Resting tremor	6.1 (2.6)
Postural tremor	1.9 (1.4)
Kinetic tremor	1.2 (1.1)
Non-tremor total	19.5 (8.2)
Bradykinesia & rigidity	13.7 (6.9)
Axial symptoms	5.9 (1.9)

This table shows disease characteristics of all patients ($N=27$) included analysis of the electrophysiological tremor assessment are shown here. LEDD = levodopa equivalent daily dosage; MDS-UPDRS = Movement Disorders Society Unified Parkinson's Disease Rating Scale. Tremor total = MDS-UPDRS III items 15-18 (Resting tremor = 17+18; Postural tremor = item 15; Kinetic tremor = item 16); Non-tremor total = MDS-UPDRS III items 1-14 (Bradykinesia & rigidity = items 3 & 4-8; Axial symptoms = items 1-3 & 9-14).

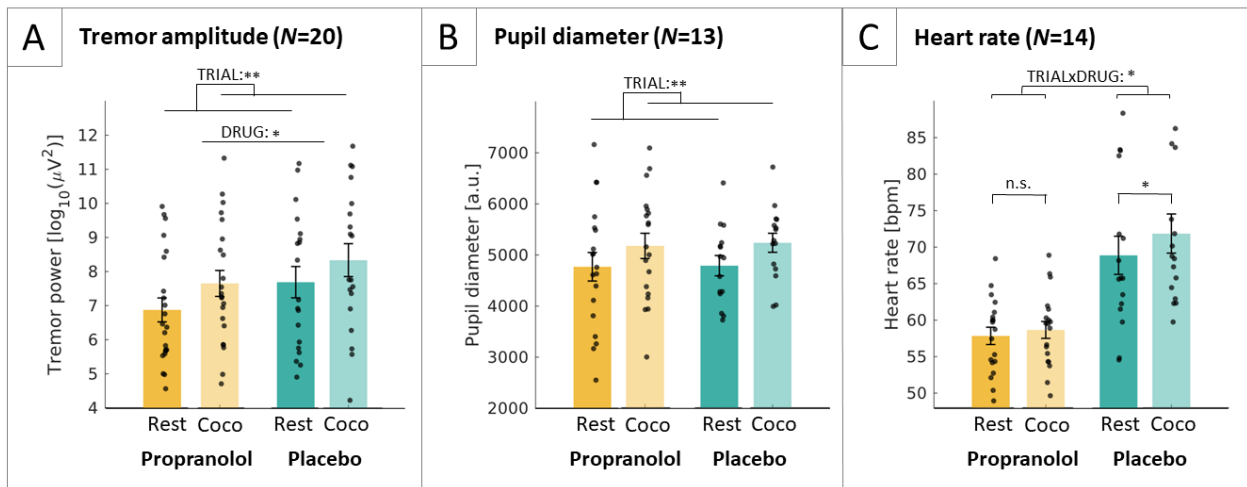
Results

Figure 1. The effect of propranolol on different types of PD tremor (accelerometry outside MRI)



The effect of propranolol on average tremor amplitude (\pm SEM), measured with accelerometry during two one-minute blocks per condition, for (A) resting tremor, (B) postural tremor and (C) kinetic (action) tremor. *: $p < .05$, **: $p < .01$, ***: $p < .001$.

Figure 2. Clinical effects of propranolol during fMRI task



The effect of the cognitive coactivation task and propranolol intake on (A) tremor amplitude, (B) pupil diameter and (C) heart rate during the fMRI cognitive coactivation task. *: $p < .05$, **: $p < .01$, ***: $p < .001$.

Figure 3. Cerebral effects of propranolol during fMRI task

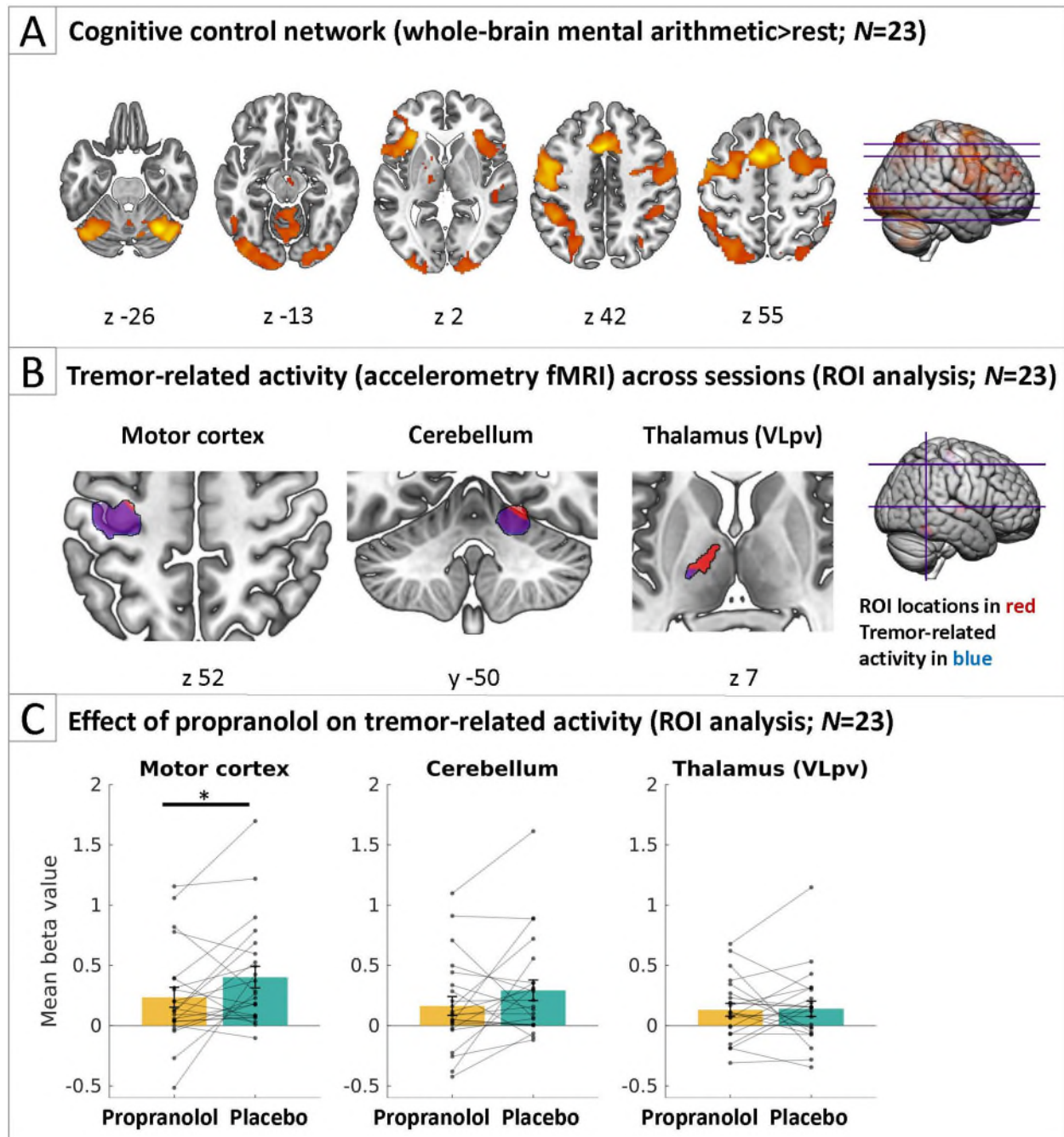


Figure 5. (A) shows the activation of a cognitive control network during the coco task (whole-brain coco>rest, averaged across sessions) The image shows TFCE-values of significant clusters, FWE-corrected. (B) shows tremor amplitude-related activity across conditions in the cerebello-thalamo-cortical network (ROI-based analysis; averaged across sessions and trials). The image shows significant clusters, FWE-corrected. (C) shows the comparison of tremor-related activity during the placebo and propranolol session, averaged over significant voxels in the cerebello-thalamo-cortical network (ROI-based analysis; averaged across trials). Bars represent mean beta values (\pm SEM) and dots show individual beta values. *: $p < .05$, **: $p < .01$, ***: $p < .001$.

Adverse events

Description of adverse event	Number of occurrences	SAE?	Recovered?
Dizziness	1	No	Yes
Pain	2	No	Yes