

Focal Dystonia

Focal [dystonia](#) is a neurological disorder. It causes involuntary muscle contractions in one body part. You may have muscle twitches in your neck, face, jaw, feet, or hands. Focal dystonia that affects hands and wrists is common in musicians, athletes, and writers.

Task-specificity in isolated focal dystonias is a powerful feature that may successfully be targeted with therapeutic [brain-computer interfaces](#). While performing a symptomatic [task](#), the patient actively modulates momentary brain activity (disorder signature) to match activity during an asymptomatic task (target signature), which is expected to translate into symptom reduction ¹⁾.

Case reports

A patient experienced FD-like movement disorders, agraphesthesia, and a reduced sense of shear force on the skin and pressure to deep tissues of the right upper limb following a small infarction in the left posterolateral thalamus. FD-like symptoms improved while the skin was being pulled or the deep tissue was being pushed in a manner proportional to the strength of muscle contractions. Therefore, the lack of these sensations was suggested to be related to FD-like symptoms ²⁾.

¹⁾

Simonyan K, Ehrlich SK, Andersen R, Brumberg J, Guenther F, Hallett M, Howard MA, Millán JDR, Reilly RB, Schultz T, Valeriani D. Brain-Computer Interfaces for Treatment of Focal Dystonia. *Mov Disord*. 2022 Aug 10. doi: 10.1002/mds.29178. Epub ahead of print. PMID: 35947366.

²⁾

Teraoka Y, Hanada K, Iki S, Kawaguchi T, Yokoi K, Fujii H, Inoue K, Hirayama K. Dystonia-like Movement Disorders Ameliorated by Shear Force and Pressure Stimulation - A Case Report of Small Infarction in the Left Posterolateral Thalamus. *Intern Med*. 2022 Aug 20. doi: 10.2169/internalmedicine.9543-22. Epub ahead of print. PMID: 35989278.

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