

# Safety and long-term efficacy of ventro-oral thalamotomy for focal hand dystonia

## A retrospective study of 171 patients

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### Study objective

To assess the safety and long-term efficacy of ventro-oral thalamotomy (vo-thalamotomy) in patients with task-specific focal hand dystonia (TSFD).

### Summary results

Vo-thalamotomy is reasonably safe and effective in patients with TSFD.

### Classification of evidence

Class IV.

### What is known and what this paper adds

Case reports and some small-scale studies have reported that vo-thalamotomy is a highly effective treatment for TSFD. This large case-series study provides further evidence for the efficacy of vo-thalamotomy in patients with TSFD.

### Participants and setting

This study reviewed data for 171 patients with TSFD (76% male; mean age at surgery,  $37.1 \pm 12.3$  years) who underwent unilateral vo-thalamotomy performed by a single surgeon between October 2003 and February 2017 at the Tokyo Women's Medical University Hospital. All procedures were performed  $\geq 12$  months after the onset of TSFD. These patients were free of other neurologic conditions.

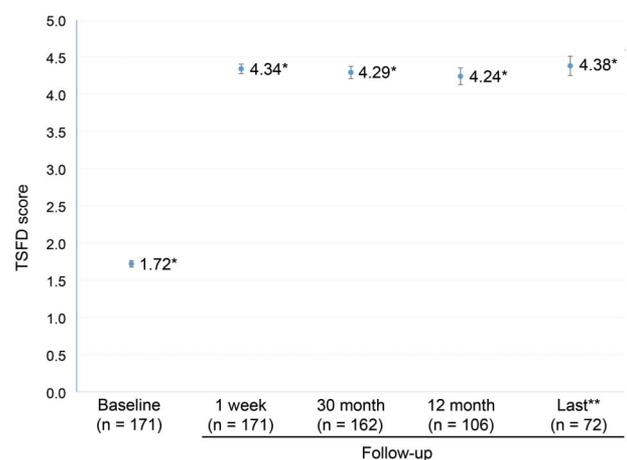
### Design, size, and duration

Each participant's condition was assessed with the TSFD scale, on which lower scores indicate more severely impaired task performance, at preoperative and 1-week, 3-month, and 1-year postoperative timepoints. Later assessments were performed in some patients. This study used 1-way repeated-measures analysis of variance with post hoc Tukey-Kramer multiple-comparisons adjustments to detect from-baseline changes in TSFD scale scores after surgery. Any postoperative adverse events were noted.

### Primary outcome measures

The primary outcomes were from-baseline changes in TSFD scale scores after surgery.

**Figure** TSFD scale scores recorded before and after vo-thalamotomy



\* $p < 0.001$  relative to the baseline scores. \*\*The mean last available follow-up timepoint was 47.36 months after surgery (range, 13–165 months after surgery).

### Main results and the role of chance

From-baseline improvements in TSFD scale scores were observed at all postoperative timepoints, including the last available follow-up assessments ( $p < 0.001$  for all postoperative timepoints). Permanent adverse events, such as mild foot weakness, were recorded in 6 patients (3.5%), and temporary adverse events were recorded in 28 patients (16.4%).

### Bias, confounding, and other reasons for caution

This study was conducted retrospectively and did not have a control group or any blinding.

### Generalizability to other populations

This study's single-center nature may limit the generalizability of the results.

### Study funding/potential competing interests

This study received no funding. Some authors report receiving consulting and speaking fees from various healthcare companies. Go to [Neurology.org/N](#) for full disclosures.

A draft of the short-form article was written by M. Dalefield, a writer with Editage, a division of Cactus Communications. The authors of the full-length article and the journal editors edited and approved the final version.

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