

Video Abstracts

# Jaw Tremor Resulting in Broken Teeth: On the Essential Tremor Spectrum

Nora C. Hernandez<sup>1</sup> & Elan D. Louis<sup>1,2,3,\*</sup>

<sup>1</sup> Department of Neurology, Yale School of Medicine, Yale University, New Haven, CT, USA, <sup>2</sup> Department of Chronic Disease Epidemiology, Yale School of Public Health, Yale University, New Haven, CT, USA, <sup>3</sup> Center for Neuroepidemiology and Clinical Neurological Research, Yale School of Medicine, Yale University, New Haven, CT, USA

## Abstract

**Background:** Jaw tremors in essential tremor (ET) rarely represent anything other than a cosmetic concern.

**Phenomenology Shown:** A case of an ET patient whose jaw tremor was severe enough to result in cracked teeth.

**Educational Value:** It behooves treating clinicians to be aware of the full spectrum of this movement disorder.

**Keywords:** Essential tremor, clinical, jaw tremor, teeth

**Citation:** Hernandez NC, Louis ED. Jaw tremor resulting in broken teeth: on the essential tremor spectrum. Tremor Other Hyperkinet Mov. 2015; 5. doi: 10.7916/D8T15339

\*To whom correspondence should be addressed. E-mail: elan.louis@yale.edu

**Editor:** Julian Benito-Leon, Hospital “12 de Octubre”, Spain

**Received:** October 5, 2015 **Accepted:** October 15, 2015 **Published:** November 2, 2015

**Copyright:** © 2015 Hernandez et al. This is an open-access article distributed under the terms of the Creative Commons Attribution–Noncommercial–No Derivatives License, which permits the user to copy, distribute, and transmit the work provided that the original authors and source are credited; that no commercial use is made of the work; and that the work is not altered or transformed.

**Funding:** Dr. Louis has received research support from the National Institutes of Health: NINDS R01 NS042859 (principal investigator), NINDS R01 NS39422 (principal investigator), NINDS R01 NS086736 (principal investigator), NINDS R01 NS073872 (principal investigator), NINDS R01 NS085136 (principal investigator) and NINDS R01 NS088257 (principal investigator).

**Financial Disclosures:** None.

**Conflict of Interest:** The authors report no conflict of interest.

**Ethics Statement:** All patients that appear on video have provided written informed consent; authorization for the videotaping and for publication of the videotape was provided.

Cranial tremors, including head, voice, and jaw tremors, can occur in patients with essential tremor (ET), often becoming more prevalent with longer disease duration.<sup>1</sup> Jaw tremor has been estimated to occur in 7.5–18.0% of ET patients, with prevalence related to the method of case ascertainment.<sup>2</sup> The tremor more often occurs when the mouth is open (e.g., during speech) rather than closed. While the tremor may range from mild to severe, it is rare for jaw tremor to represent anything other than a cosmetic concern. We are unaware of any documented cases of jaw tremor producing bodily injury. We now report an 86-year-old female diagnosed with ET in her early 70s; her symptoms had begun at age 71. In August 2015, she was enrolled and consented to be a participant in a clinical research study approved by the Yale University Ethics Committee. At that time, she reported no family history of ET. By history, the tremor involved her arms, head, jaw, and voice, with marked jaw tremor being a major issue. On examination, there was mild postural tremor and moderate-to-severe kinetic tremor of both arms, with head and voice tremors. There was also a prominent jaw tremor. Additional history was as follows: by 2014, her jaw tremor had become so severe that she described her

teeth as clicking continuously, at times forcefully striking against one another. The first catastrophic event occurred in September 2014. Her jaw movements had become severe and she broke her first right upper



**Video 1. Tremor of the Jaw Is Evident during Speech and Sustained Phonation.** The patient is treated with primidone 250 mg/day, which has resulted in a substantial (i.e., 50%) reduction in her jaw tremor.

bicuspid tooth; a crown was introduced as a result of this. A second episode occurred soon after when she broke that crown and her adjacent canine tooth, for which she required a bridge. After that episode, she was placed on primidone, eventually reaching a dose of 250 mg/day, with a consequent marked (>50%) reduction in jaw tremor (Video 1). Such severe jaw tremor is a rare occurrence in patients with ET. Nevertheless, it behooves clinicians to be aware of the full spectrum of this disorder and of the potential consequences of cranial tremors in ET patients.

## References

1. Louis ED, Gerbin M, Galecki M. Essential tremor 10, 20, 30, 40: clinical snapshots of the disease by decade of duration. *Eur J Neurol* 2013;20:949–954, doi:<http://dx.doi.org/10.1111/ene.12123>.
2. Louis ED, Rios E, Applegate LM, Hernandez NC, Andrews HF. Jaw tremor: prevalence and clinical correlates in three essential tremor case samples. *Mov Disord* 2006;21:1872–1878, doi:<http://dx.doi.org/10.1002/mds.21069>.