

# Neurology®

The most widely read and highly cited peer-reviewed neurology journal  
The Official Journal of the American Academy of Neurology



Neurology Publish Ahead of Print  
DOI: 10.1212/WNL.000000000011053

## Teaching Video Neuroimages: Spontaneous nystagmus reversal in acute attack of ménière's disease

Anand K. Bery, MD<sup>1</sup>; Tzu-Pu Chang, MD<sup>2,3</sup>

**Affiliation:**

<sup>1</sup>Division of Neurology, Department of Medicine, University of Ottawa, Ottawa, Canada

<sup>2</sup>Department of Neurology/Neuro-medical Scientific Center, Taichung Tzu Chi Hospital, Buddhist Tzu Chi Medical Foundation, Taichung, Taiwan

<sup>3</sup>Department of Neurology, School of Medicine, Tzu Chi University, Hualien, Taiwan

**Corresponding Author:** Tzu-Pu Chang, E-mail: [neurochang0617@gmail.com](mailto:neurochang0617@gmail.com)

**Study funding:** No targeted funding reported.

**Disclosure:** The authors report no disclosures relevant to the manuscript

*Neurology*® Published Ahead of Print articles have been peer reviewed and accepted for publication. This manuscript will be published in its final form after copyediting, page composition, and review of proofs. Errors that could affect the content may be corrected during these processes.

**Word Count:** 140  
**Video:** 1 **Figure:** 1  
**Reference:** 2

A 65-year-old woman with right-sided Ménière's disease experienced one of her usual and frequent, acute vertigo attacks during eye movement recording (video). The attacks were associated with right-sided tinnitus, hearing loss, and vomiting. She initially demonstrated right-beating nystagmus, but after 2 minutes, the nystagmus gradually reversed and became left-beating (video). During the reversal, downbeat nystagmus was present temporarily. The left-beating nystagmus then persisted for 2 hours.

We captured the classic change in direction of spontaneous nystagmus in acute Ménière's disease (figure).<sup>1</sup> Our patient demonstrated initial "irritative" nystagmus beating towards the affected ear, followed by paralytic nystagmus beating towards the unaffected ear.<sup>1</sup> The temporary downbeat nystagmus suggests vertical canal involvement. Although downbeat nystagmus usually indicates a cerebellar lesion, our case supports the existence of "peripheral" downbeat nystagmus, caused by either stimulation of the anterior canal or inhibition of the posterior canal.<sup>2</sup>

**Appendix 1: Authors**

Name	Location	Contribution
Anand K. Bery	University of Ottawa	Drafting the paper and the video legend
Tzu-Pu Chang	Tzu Chi University	Recording the video and drafting the paper

**Video-**<http://links.lww.com/WNL/B256>

**Teaching Slides-**<http://links.lww.com/WNL/B257>

**References:**

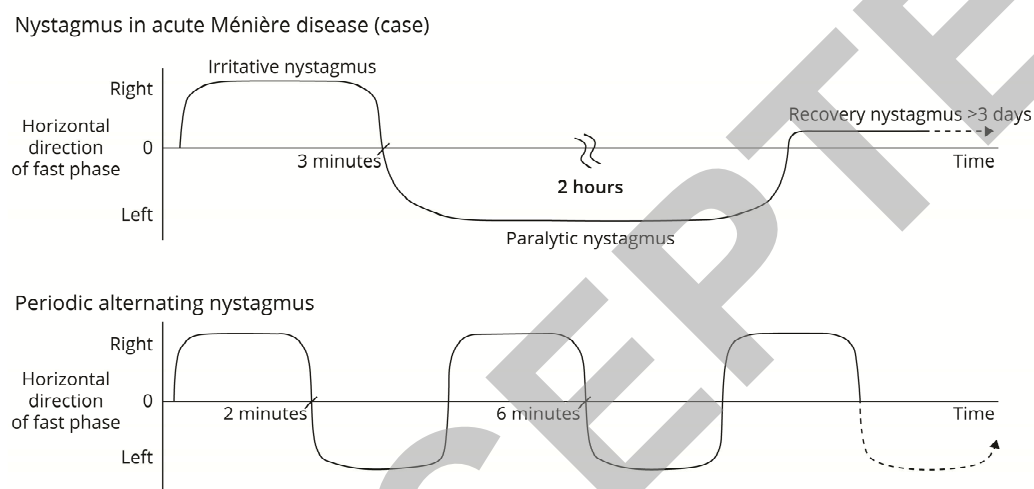
1. Bance M, Mai M, Tomlinson D, Rutka J. The changing direction of nystagmus in acute Meniere's disease: pathophysiological implications. *Laryngoscope* 1991;101:197-201.
2. Lee SU, Kim HJ, Lee ES, Choi JY, Kim JS. Ictal downbeat nystagmus in bilateral Meniere's disease. *J Neurol* 2017;264:2024-2026.

**Legends:**

**Video. Reversal of spontaneous nystagmus in acute right Ménière's disease.** At vertigo onset, there was right-beating nystagmus. Three minutes later, the nystagmus gradually reversed, and became left-beating. During the transitional stage, downbeat nystagmus was present temporarily. Vestibulo-ocular reflex (VOR) was abnormal after direction reversal, confirming the left-beating nystagmus was paralytic.

**Figure.: Differentiating the nystagmus reversal in acute Ménière's disease from periodic alternating nystagmus.** Nystagmus in acute Ménière's disease (top trace) initially beats towards the affected ear. Over minutes, it changes direction. In some patients, there is one more direction change and a recovery nystagmus. By contrast, periodic alternating nystagmus (bottom trace) alternates direction (through a 'null point') indefinitely with a fixed period of 1 or 2 minutes.

*Traces are illustrative only*



# Neurology®

## Teaching Video Neuroimages: Spontaneous nystagmus reversal in acute attack of ménière's disease

Anand K. Bery and Tzu-Pu Chang  
*Neurology* published online October 14, 2020  
DOI 10.1212/WNL.0000000000011053

**This information is current as of October 14, 2020**

<b>Updated Information &amp; Services</b>	including high resolution figures, can be found at: <a href="http://n.neurology.org/content/early/2020/10/14/WNL.0000000000011053.citation.full">http://n.neurology.org/content/early/2020/10/14/WNL.0000000000011053.citation.full</a>
<b>Subspecialty Collections</b>	This article, along with others on similar topics, appears in the following collection(s): <b>All Neurotology</b> <a href="http://n.neurology.org/cgi/collection/all_neurotology">http://n.neurology.org/cgi/collection/all_neurotology</a> <b>Nystagmus</b> <a href="http://n.neurology.org/cgi/collection/nystagmus">http://n.neurology.org/cgi/collection/nystagmus</a> <b>Vertigo</b> <a href="http://n.neurology.org/cgi/collection/vertigo">http://n.neurology.org/cgi/collection/vertigo</a>
<b>Permissions &amp; Licensing</b>	Information about reproducing this article in parts (figures, tables) or in its entirety can be found online at: <a href="http://www.neurology.org/about/about_the_journal#permissions">http://www.neurology.org/about/about_the_journal#permissions</a>
<b>Reprints</b>	Information about ordering reprints can be found online: <a href="http://n.neurology.org/subscribers/advertise">http://n.neurology.org/subscribers/advertise</a>

*Neurology*® is the official journal of the American Academy of Neurology. Published continuously since 1951, it is now a weekly with 48 issues per year. Copyright © 2020 American Academy of Neurology. All rights reserved. Print ISSN: 0028-3878. Online ISSN: 1526-632X.

