

# Teaching Video NeuroImages: Cerebellar esotropia

## A pitfall in ophthalmology and neurology

Anne-Catherine Chapelle, MD, Gordon T. Plant, MD, PhD, and Diego Kaski, MD, PhD

*Neurology*® 2019;93:e114-e115. doi:10.1212/WNL.00000000000007729

### Correspondence

Dr. Kaski  
d.kaski@ucl.ac.uk

**Figure** T1-weighted axial MRI shows a type 1 Chiari malformation



### MORE ONLINE

#### Video

#### →Teaching slides

[links.lww.com/WNL/A914](https://links.lww.com/WNL/A914)

A 17-year-old girl presented with slowly progressive binocular horizontal diplopia, worse for distance viewing. She had distance esotropia (video), gaze-evoked nystagmus, broken smooth pursuit, reduced horizontal optokinetic nystagmus, and impaired vestibulo-ocular reflex suppression (VORS; video), in keeping with cerebellar dysfunction. The patient had full abduction during monocular viewing and head rotations, and normal saccadic velocities, excluding a bilateral sixth nerve palsy. An MRI scan confirmed a type 1 Chiari malformation (figure). A careful oculomotor assessment in patients with esotropia, including bedside VORS,<sup>1</sup> may identify cerebellar signs that would suggest the tropia is cerebellar in origin.<sup>2</sup> Cerebellar esotropia may arise from dorsal vermis impairment,<sup>2</sup> or possibly from floccular and parafloccular dysfunction, explaining the associated abnormalities in smooth pursuit, optokinetic nystagmus, and VORS that share common neural pathways.

### Study funding

Not targeted funding reported.

### Disclosure

The authors report no disclosures relevant to the manuscript. Go to [Neurology.org/N](https://Neurology.org/N) for full disclosures.

From the Department of Ophthalmology (A.-C.C.), Centre Hospitalier, University of Liege, Belgium; Department of Neuro-ophthalmology (G.T.P.), National Hospital for Neurology and Neurosurgery, London; and Department of Clinical and Motor Neurosciences (D.K.), University College London, UK.

Go to [Neurology.org/N](https://Neurology.org/N) for full disclosures. Funding information and disclosures deemed relevant by the authors, if any, are provided at the end of the article.

---

## Appendix Authors

Name	Location	Role	Contribution
<b>Diego Kaski, MD</b>	University College London, UK	Author	Designed and conceptualized study, drafted the manuscript for intellectual content, video editing, approved final version
<b>Anne-Catherine Chapelle, MD</b>	Centre Hospitalier, University of Liege, Belgium	Author	Drafted the manuscript for intellectual content, video acquisition, approved final version
<b>Gordon Plant, MD</b>	National Hospital for Neurology and Neurosurgery, UK	Author	Approved final version

## References

1. Zee DS. Suppression of vestibular nystagmus. *Ann Neurol* 1977;1:207.
2. Wong SH, Patel L, Plant GT. Acquired esotropia in cerebellar disease: a case series illustrating misdiagnosis as isolated lateral rectus paresis and progression over time. *Neuro-ophthalmology* 2015;39:59–63.

# Neurology®

## Teaching Video NeuroImages: Cerebellar esotropia: A pitfall in ophthalmology and neurology

Anne-Catherine Chapelle, Gordon T. Plant and Diego Kaski

*Neurology* 2019;93:e114-e115

DOI 10.1212/WNL.00000000000007729

**This information is current as of July 1, 2019**

<b>Updated Information &amp; Services</b>	including high resolution figures, can be found at: <a href="http://n.neurology.org/content/93/1/e114.full">http://n.neurology.org/content/93/1/e114.full</a>
<b>References</b>	This article cites 2 articles, 0 of which you can access for free at: <a href="http://n.neurology.org/content/93/1/e114.full#ref-list-1">http://n.neurology.org/content/93/1/e114.full#ref-list-1</a>
<b>Subspecialty Collections</b>	This article, along with others on similar topics, appears in the following collection(s): <b>All Clinical Neurology</b> <a href="http://n.neurology.org/cgi/collection/all_clinical_neurology">http://n.neurology.org/cgi/collection/all_clinical_neurology</a> <b>All Neuro-ophthalmology</b> <a href="http://n.neurology.org/cgi/collection/all_neuroophthalmology">http://n.neurology.org/cgi/collection/all_neuroophthalmology</a> <b>All Neurotoxicology</b> <a href="http://n.neurology.org/cgi/collection/all_neurotoxicology">http://n.neurology.org/cgi/collection/all_neurotoxicology</a> <b>Diplopia (double vision)</b> <a href="http://n.neurology.org/cgi/collection/diplopia_double_vision">http://n.neurology.org/cgi/collection/diplopia_double_vision</a> <b>MRI</b> <a href="http://n.neurology.org/cgi/collection/mri">http://n.neurology.org/cgi/collection/mri</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 © 2019 American Academy of Neurology. All rights reserved. Print ISSN: 0028-3878. Online ISSN: 1526-632X.

