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# Troublesome eye movements

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## IMAGES IN MEDICINE

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A previously healthy girl of junior school age visited an ophthalmologist because of reading difficulties and an increasing number of "homework errors" that were due to small, rapid, horizontal eye movements that occurred when she focused her gaze in order to concentrate. A clinical examination revealed bilateral, rapid, horizontal nystagmus with near focusing that disappeared with distance focusing. The patient had neither double vision nor other eye motility disorders. An MRI examination revealed a contrast-enhancing mass corresponding to the posterior horn of the right lateral ventricle, most consistent with plexus chorioideus papilloma, assessed in consultation with the neurosurgeon as being a secondary finding.

The patient was hospitalised in the Department of Paediatric Neurology for further assessment. Neither a clinical nor a neurophysiological examination could detect a pathological aberration. Because of continued uncertainty surrounding the provenance of the symptoms, the patient was referred on to a neuroophthalmologist, who made the diagnosis voluntary nystagmus. Our patient was very relieved to hear that this was a benign, harmless condition unrelated to systemic disease. She relaxed more, and no longer had problems with reading and homework.

Voluntary nystagmus often starts with a convergence movement, and is characterised by rapid (10–20 Hz), horizontal, conjugate, pendular eye movements with low amplitude (1). Voluntary nystagmus is distinct from other types because it is only seen with near focusing and not distance focusing. Nor does it occur with horizontal or vertical eye movements. The movements start and stop voluntarily, but cannot be maintained for more than 40–50 seconds. With repeated attempts, the episodes will grow shorter and shorter (2). Eyelid vibration can often be observed (3).

The eye movements give the patient the illusion that static objects are moving (oscillopsia) (3). While the patient is relating his or her history to the doctor, eye motility is usually normal, but when examined the patient blinks frequently and grimaces to express effort (4). Surveys show that up to 8 % of school children manage to produce voluntary nystagmus and use it as a party trick (4).

An important differential diagnosis is ocular flutter, which can be seen with paraneoplastic syndrome. The condition is characterised by brief, rapid, conjugate horizontal eye movements, without intersaccadic intervals, which are

present throughout the consultation and often accompanied by other neurological impairment.

Voluntary nystagmus is treated by reassuring the patient and family by informing them that the oculomotor system is in order, the condition is not pathological and that the prognosis is good. Unnecessary assessments can make the situation worse. In some cases treatment by an orthoptist may help (5).

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*The patient and the patient's family have consented to the publication of the article with video.*

*The article has been peer-reviewed.*

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## LITERATURE

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