Nonorganic Vision Loss

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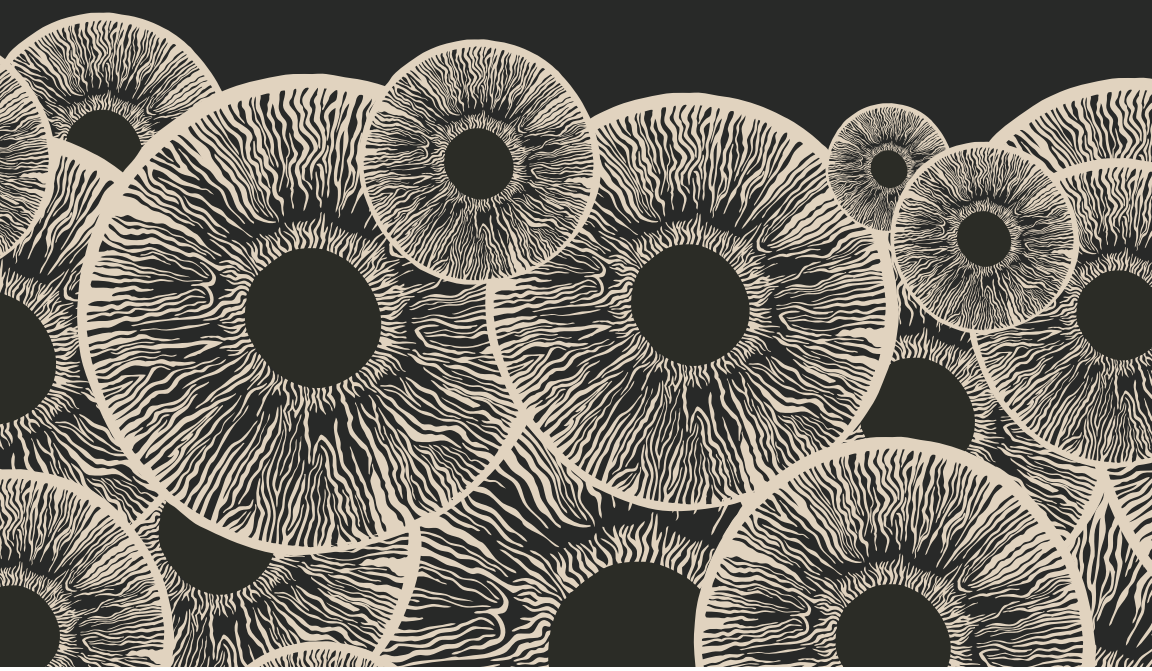

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eye Insights

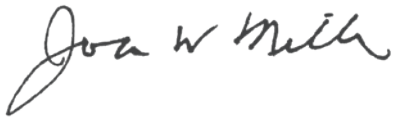
Dear Colleagues,

In this issue of *eye Insights*, we take a close look at nonorganic vision loss (NVL). Inside, you'll find techniques and tips for evaluating and managing patients with NVL.

It can be challenging and extremely time consuming to prove that a patient's visual acuity potential is better than reported. It is important to keep in mind that approximately half of patients with NVL have objective examination abnormalities. Therefore, establishing the presence of NVL does not exclude other pathologies.

Patients with suspected NVL may be referred to a neuro-ophthalmologist when specific tests (e.g., Goldmann perimetry, tangent screen testing, optokinetic testing, or assessment of stereopsis) are necessary to confirm a diagnosis. However, effective management often requires coordination with primary care physicians and psychiatrists. Nationwide, there are about 200 full-time neuro-ophthalmologists. For a list of doctors who specialize in neuro-ophthalmology, please visit the website for the North American Neuro-Ophthalmology Society (nanosweb.org).

We hope you find this issue of *eye Insights* useful in your practice. Back issues are available online at masseyeandear.org. If you have questions or comments, please email us at eyeinsights@meei.harvard.edu.



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What is Nonorganic Vision Loss?

Nonorganic vision loss (NVL)—previously known as functional or hysterical vision loss—is subjective vision loss that does not comport with a recognized pathologic process.

Prevalence

Some reports suggest that approximately 10% of neuro-ophthalmic patients may have NVL, although half of that population is often accounted for by patients with organic pathology and functional overlay.

Risk Factors

It is difficult to clearly define risk factors for NVL. Disability claims are a poor predictor, with widely variable rates of claims by patients with NVL being reported (14% to 86%). Somewhat counterintuitively, a history of prior psychogenic illness should not influence suspicion for NVL. Vision complaints in patients with prior nonorganic illness are sometimes assumed to be nonorganic by default, leading to diagnostic error and missed organic pathology.

TECHNIQUES FOR

Evaluating Patients

ASK THE EXPERT

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Nonorganic Vision Loss (NVL) is established by the following:

- Demonstrating features of vision loss incompatible with organic disease
- Demonstrating that vision is better than reported

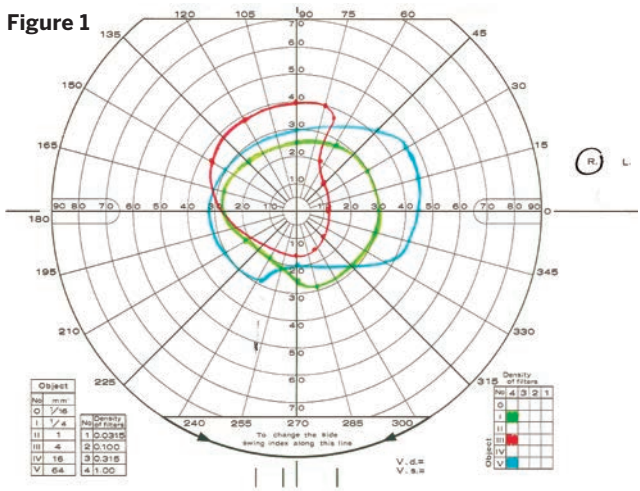
A history that does not comport well with the natural history of pathophysiologic processes or dysfunction not consistent with a reported injury are often the most meaningful reasons to suspect NVL. Some tests are helpful for evaluating decreased acuity in both eyes, while some are helpful if vision loss is reported in only one eye. When evaluating visual field complaints, Goldmann perimetry and tangent screen testing are indispensable for identifying nonorganic features.

Tests for Bilateral Vision Loss

Optokinetic response: Eliciting an optokinetic response is helpful if the reported visual acuity (VA) loss is severe and binocular. Optokinetic nystagmus is difficult to suppress and requires a VA of at least 20/400 in one eye.

Navigating skills: When very poor VA is reported in both eyes, it is helpful to watch patients navigate the waiting and examination rooms. The ability to navigate a complex environment without auditory cues is difficult to reconcile with vision of reported light perception or worse.

Figure 1



Crossing Isopters
This Goldmann visual field (figure 1) performed reliably on the right eye demonstrates crossing isopters. A smaller stimulus is perceived more peripherally than a larger stimulus in several locations. When performed reliably, these findings are inconsistent with organic visual field loss.

Tests for Unilateral Vision Loss

Duochrome testing: This can be helpful in establishing that patients with asymmetric VAs can see better than reported. When the duochrome chart is viewed through the glasses used for Worth 4 dot testing (one eye viewing through a red lens and one through a green lens), the eye viewing through the red lens only perceives the red portion of the screen and vice versa for the eye viewing through the green lens. Many patients do not recognize that each eye should only be able to see the letters on one side of the screen. For example, if the reported VA with conventional testing is 20/100 OD and 20/20 OS, but the patient can read the entire 20/20 line through the Worth 4 dot glasses, the vision has to be at least 20/20 in each eye.

Fogging the good eye: Progressively (and subtly) "fogging" the "good" eye in cases of markedly asymmetric VA can also be helpful. If a phoropter is available, the patient can be given a line perceived by the "good" eye but too small to be perceived by the "bad" eye. Progressive plus lenses can be added to the "good" eye until the lens is adequately strong to render the eye unable to see the image. If the patient can continue reading lines of equivalent size, it is clear that the "bad" eye has vision better than reported. However, the patient's refraction must be taken into account, and one must be certain that the lens used over the "good eye" is actually strong enough to prevent it from reading the line used.

Tests for Unilateral or Bilateral Vision Loss

Ishihara color plates: Correct identification of the Ishihara color plates requires a VA of at least 20/400.

Stereopsis: Evaluating stereopsis can be helpful if the reported VA loss is subtle and ocular alignment is normal. The correlation between VA in the worse eye and number of Titmus dots perceived is well established (see figure 2).

Comparing distance VA to near VA (given proper refraction): This can be a quick and helpful way of assessing the reliability of a reported level of vision. VA can also be checked by starting at the 20/10 line and increasing the size slowly ("bottom up acuity"), or by trying multiple attempts at different 20/20 lines as the examiner explains that the optotypes are "getting bigger."

Figure 2

STERIOPSIS EVALUATION TABLE

Number of Titmus Dots Correct	Required VA in the Worse Eye
9	20/20
8	20/25
7	20/30
6	20/40 – 20/50
5	20/60 – 20/70
4	20/80 – 20/100
3	20/200

Tests for Visual Field Loss

Goldmann perimetry: Spiraling or crossing isopters are inconsistent with organic field loss (see figure 1).

Tangent screen: The failure of the visual field to expand as the subject is tested at increasing distances from a tangent screen indicates a nonorganic deficit. It is important to move the target at a fixed speed and to remember to double the stimulus size when the subject's distance from the tangent screen is doubled.

Comparing monocular and binocular fields (either with a Goldmann or automated perimeter): This can be helpful in patients with bitemporal hemianopia or monocular temporal hemianopia. Patients often do not realize the degree to which the visual field overlaps between eyes. A temporal defect that respects the vertical meridian in the "bad" eye should not be present to the same extent when tested with both eyes open, assuming that the "good" eye actually does have an intact nasal field.

TIPS FOR

Managing Patients

Emphasize the positive: Establish a therapeutic relationship with the patient where the positive aspects of the encounter are emphasized. For example, reassure patients that the eye and central nervous system are not damaged, rather than using phrases like "there is nothing wrong," which can seem dismissive.

Follow-up: Offer a follow-up visit to most patients so that they do not feel dismissed. This also ensures that a nonorganic component of the examination has not obscured an underlying organic process.

Psychiatric referral: It is the role of the ophthalmologist to clearly communicate the nature of the vision loss to the referring physician and primary care physician. Determining the need for psychiatric referral should generally be deferred to the patient's primary care physician, who typically has a longer standing relationship with the patient. Most patients with NVL do not appear to benefit from talk therapy.

Be aware of cognitive bias: Some authors suggest that certain personality traits (overly aggressive or passive) or habits (wearing sunglasses in a dimly lit examination room) can suggest NVL, but it is important to remember that these features are not reliable indicators and may be potential sources of cognitive bias on the examiner's part.

Financial Ramifications

Distinguishing between organic vision loss, legitimate psychiatric conditions resulting in vision complaints (e.g. conversion disorder), and intentionally feigned causes of vision loss may have serious financial implications for patients. The ophthalmic examination only distinguishes organic from nonorganic causes. Differentiating underlying psychiatric disease from feigned symptoms ("malingering") should be left to the expert opinion of a psychiatrist.

Referral Guidelines

Referral to a neuro-ophthalmologist should be considered in cases of unexplained visual complaints that might be clarified by neuro-ophthalmic testing, such as Goldmann perimetry, tangent screen testing, optokinetic testing, or assessment of stereopsis.

Further Reading

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