

Contrast Sensitivity Eye Exam

Your Comprehensive Guide

[Contrast Sensitivity Eye Exam](#)

The Visual Contrast Sensitivity Test at a Glance

List of Ocular Diseases Monitored and Diagnoses Identified by Visual Contrast Sensitivity Testing

Billing and Coding for Contrast Sensitivity Eye Exams

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Most eye exams measure vision using high-contrast stimuli, but that doesn't tell the whole story. The visual contrast sensitivity test captures the nuance of how vision performs in low-light, low-contrast, or high-glare conditions. This often underutilized test is relevant for patient quality of life and can help diagnose progressive conditions at their earliest stages.

Patients with poor contrast sensitivity may have normal visual acuity. However, everyday activities like reading, driving, and identifying faces may seem unnecessarily challenging, especially in low light. Patients with low contrast sensitivity may complain that they need to read large-print books or turn up the brightness on their devices. The world may appear foggier than they remember.

[Visual acuity](#) and color vision testing may be leveraged more frequently, but the contrast sensitivity eye exam deserves more focus.

Contrast Sensitivity Exam Overview

Contrast sensitivity testing is increasingly recognized as a valuable tool for evaluating visual function, but it is still not a core component of most routine eye exams. Traditionally, contrast sensitivity is measured using printed [sine-wave gratings](#) or contrast charts, such as the Pelli-Robson, Bailey-Lovie contrast chart, and the Mars Letter test. These tests determine the minimum level of contrast a patient can detect. However, these paper-based methods can fade, be inconsistently lit, or suffer from observer bias.

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Academic references and clinical validation



[A recent survey in the British Journal of Ophthalmology](#) found that, for patients with age-related macular degeneration, contrast sensitivity has a stronger correlation with vision-related quality of life than visual acuity.



Changes in contrast sensitivity could indicate damage to the retina. Conducting this exam could help lead to earlier [diagnoses of diabetic retinopathy](#).



[Tablet-based](#) and [virtual reality](#) contrast sensitivity testing methodologies have been shown to be as effective and reliable as traditional methods.

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The Visual Contrast Sensitivity Test at a Glance

It's essential to distinguish visual contrast sensitivity testing from visual acuity and visual field exams. In a contrast sensitivity test, patients are challenged to detect subtle patterns at varying contrast levels. They may notice a reduction in "sharpness" in their daily life, but often, patients don't realize how much their functional vision has declined until they struggle with this test. Eye care professionals sometimes skip this test because it can produce imprecise results using traditional methods, but it is a valuable diagnostic tool that should not be overlooked.

Pros and Cons of Visual Contrast Sensitivity Testing

We know the visual contrast sensitivity test is efficient, useful, and widely used, but there are pros and cons to incorporating this test into your routine.

PROS	CONS
This exam provides insights that aren't detected using standard visual acuity tests.	Contrast sensitivity is not a standard component of routine screenings. Therefore, it may add time to your workflows.
Its results have real-world applications that can improve patient quality of life.	Traditional, manual methods can provide subjective test results.
Results can indicate the early stages of common conditions, such as AMD or diabetic retinopathy.	Contrast sensitivity testing cannot be billed separately.
	Patients can take a contrast sensitivity test online, which can yield mixed results.

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Cataracts	Even early-stage cataracts can scatter light and degrade contrast sensitivity. This test can be more sensitive than acuity charts in early detection.
Glaucoma	As retinal ganglion cells die off, especially in the early stages of glaucoma, contrast sensitivity can decrease before noticeable vision loss is detected on a visual field test.
Diabetic Retinopathy	Patients with diabetes may report foggy or “washed-out” vision even when their acuity remains good. Contrast testing helps explain this disconnect and can help identify early stages of diabetic retinopathy.
Age-Related Macular Degeneration (AMD)	Difficulty distinguishing fine details can be the first sign of AMD . It can also signal changes in the retinal pigment epithelium. In both cases, contrast sensitivity testing can help inform management techniques.
Multiple Sclerosis (MS)	MS can impact the optic nerve, leading to reduced contrast even when central acuity is unaffected. It’s also helpful in tracking recovery post-optic neuritis.

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Contrast sensitivity is not an independently [billable](#) test, but it can be documented as part of a sensorimotor or functional assessment. Depending on the context, you can bill it under CPT code 92060 or 92283. Review the Medicaid Fee Schedule in your state for the latest definitions and details.

When is the contrast sensitivity test required?

Patients with complaints of poor night vision, glare issues, or visual discomfort in low-contrast settings should be tested for contrast sensitivity. They may have vague complaints of their vision feeling foggy or faded. This sensation becomes more common with age, so patients at high risk of cataracts, glaucoma, [AMD](#), or diabetic retinopathy should be tested. Contrast sensitivity can temporarily drop after LASIK or PRK, so regular testing helps measure patient recovery.

People with certain professions, such as pilots or machine operators, may need vision contrast sensitivity testing to meet occupational requirements. For other patients, it can be a matter of everyday [safety](#).

Is contrast sensitivity testing required for driver's licenses?

Surprisingly, no, the U.S. Department of Transportation doesn't mandate contrast sensitivity testing for standard [driver's licensing](#). Although low contrast sensitivity can be highly hazardous to drivers, most states rely on visual acuity and visual field testing for licensing. Results from the [Esterman exam](#) or [Full Field 120](#) are usually sufficient.

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Early detection of contrast sensitivity issues is vital in the ongoing pursuit of patient vision protection. For patients at risk of AMD or diabetic retinopathy, you can add this test to your screening routines without disrupting your workflow.

Carrot's visual field tests can provide more insight and help monitor disease progression. You can [add Carrot to your testing routines](#) for comprehensive, precise, and patient-friendly eye exam experiences on a larger scale.

Ready to get started?

Schedule a demo or begin your 30-day free trial of Carrot to offer an exceptional eye exam experience in your practice.

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