

# Real-world simulation shows patients they need cataract surgery

## Contrast and glare testing help educate them about their impairments

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Take-home Message: Ophthalmologists discuss the importance of routine contrast sensitivity and glare testing in cataract-age adults and specifically the use of a platform that includes a real-world driver's scene.

By Cheryl Guttman Krader, Reviewed by Glenn Pomerance, MD and Cynthia Matossian, MD

Contrast sensitivity and glare testing using a platform that includes a real-world driver's scene (CSV-1000, VectorVision) is invaluable for identifying patients with functional vision loss due to cataract and educating them about their impairment, according to ophthalmologists who have made the evaluation a standard part of their practice for years.

Cynthia Matossian, MD, CEO of a multi-specialty ophthalmology private practice in Doylestown, PA, noted that the topic of assessing functional vision is not often mentioned in articles that focus on the evaluation of patients with cataract. Based on her 10+ years of experience performing contrast sensitivity testing with the CSV-1000, Dr. Matossian said there is no doubt that relying on Snellen visual acuity alone to assess deterioration in vision related to cataract can be misleading for clinicians and patients.

“Night vision assessed with functional testing can plummet to 20/100 in patients whose refraction is stable and have relatively good Snellen acuity in the range of 20/25-2 to 20/30-1,” said Dr. Matossian. “I make functional vision assessment with contrast sensitivity and glare testing a routine part of the annual eye examination for all phakic patients aged 50 years and older, and I strongly recommend it to colleagues.”

The CSV-1000 test incorporates a real-world low contrast image of a little girl playing in the street with a ball. Dr. Matossian observed that after completing the test, patients may react with what she described as “an epiphany-like moment” after they realize their inability to see the toy or the child and are struck by what would have been the dire outcome if they encountered the situation while driving. The results strongly demonstrate a need for surgery.

“There may be some patients who suspected they were having some problems with their vision while driving. The testing for those individuals objectively validates their belief and thereby may even bring relief if they had some concern that perhaps a serious neurological problem was the underlying cause,” said Dr. Matossian.

“For patients who know they have a developing cataract and were questioning whether they needed surgery, the testing gives them a definitive answer and totally eliminates any pushback.”

## Opening patient eyes

Glenn N. Pomerance, MD, in private practice in Chattanooga, TN, also said he includes contrast sensitivity testing in the examination of every patient who is in the cataract age population. He said the results are useful for medical record documentation of cataract-related vision loss, but concurred that the contribution for patient education is of major importance considering that patients who have developed cataracts may be unaware that their vision is affected in any way.

“Patients can be very tolerant of and not notice cataract-related changes in their vision because the lens opacity generally develops and progresses slowly at the same rate in both eyes, and it can be subtle in terms of any effect on high contrast visual acuity. Contrast sensitivity testing incorporating a real-world low contrast image of a child in the street points out to patients what they may not realize is going on in terms of how their vision is deteriorating because of their cataract and the accompanying risk,” Dr. Pomerance said.

“I see the testing has what I call a ‘miniature wow factor impact’. The contrast sensitivity testing experience really opens patients’ eyes to their vision impairment by allowing them to understand its real-life consequences.”

He added that repeating the contrast sensitivity testing postoperatively also can provide documentation of the benefits of cataract surgery in situations where the patient reports some dissatisfaction with the outcome despite an excellent refractive result.

“Comparison of their performance on the test before and after the cataract surgery makes patients appreciate how much their vision has improved,” Dr. Pomerance said.

In addition, he uses it in the postoperative evaluation of patients who have vision complaints after laser vision correction to identify glare disability as well as in following patients with glaucoma, recognizing that the disease has a detectable impact on contrast that can be measurably reversed by treatment.

## In-office implementation

The CSV-1000 is the instrument of choice for both Dr. Matossian and Dr. Pomerance because unlike other options for contrast sensitivity testing, the CSV-1000 provides the real-world situational testing paradigm. Dr. Pomerance notes that a newer version of the device, the CSV-1000HGT, integrates a glare source using halogen lamps. The device simulates the effect of halogen headlights from an oncoming car and is self-calibrating so that light levels are constant through each test and from test to test.

The VectorVision devices also are incredibly dependable, he said.

“I am not only using the CSV-1000 in my practice, but using the same devices that I purchased more than a decade ago,” Dr. Pomerance said.

Dr. Pomerance said he has the CSV-1000 in each of his examining lanes whereas Dr. Matossian has a few of the mobile devices in each of her offices that are kept in the hallway and rolled into a room by the technician to perform the testing as needed. She said the testing is user and patient friendly and does not interfere with patient flow.

“The learning curve for administering the test is very shallow, even for a junior technician, and the full test battery, which includes both eyes with daytime and nighttime conditions, takes just 4 to 5

minutes to complete,” she said.

Once patients know they need cataract surgery and are ready to proceed, Dr. Matossian conducts a thorough evaluation to determine the presence of meibomian gland dysfunction/dry eye disease, recognizing that the presence of a healthy ocular surface is fundamental to optimizing refractive and visual results after surgery. Guided by the findings of the examination, patients are started on an individualized treatment regimen.

At the same visit, patients receive information on implant options, including printed brochures and directions on accessing educational information on the practice website along with emailed video links for other online sources.

“Different people learn best through different methods and so we provide multiple options for patients to educate themselves. By the time patients return for their visit to reassess their ocular surface health, they are ready to have a discussion with me about the implant that may be most suitable for them,” Dr. Matossian said.

“Because after the contrast sensitivity testing patients are no longer questioning whether or not they need cataract surgery, they are able to focus fully on understanding the options available to them to best correct their vision.”

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Neither Dr. Matossian nor Dr. Pomerance has any relevant financial interests to disclose.