

A New Way To Detect AMD

The principles of chromatic aberration can help you detect changes in your patients' vision.

by Dominic Cianciullo, O.D.

The Casa Vision Screener is a tri-colored eye chart designed to detect physiologic or pathological changes in vision using the principles of chromatic aberration. It's comprised of a chart that displays black letters in 20/40 type (the minimum requirement for driving in most states) against a colored background in red, green and yellow, each of which are refracted differently in the eye.

The screener is useful for diagnosing several patient groups. Older presbyopic patients will see the yellow wavelength more clearly, even with hypermetropia. Myopic shifts often associated with cataract formation and diabetes will result in better vision against the red background.

The patient sits ten feet from the chart, with his or her spectacle prescription in place and observes how clear his or her vision is in each colored section. Clarity in one color, with respect to the others, relays information about the visual state of the patient.

Hyperopic patients experience better vision in the green part of the chart and myopic patients in the red section. Clearer vision in the yellow section of the chart indicates a patient has some form of astigmatism, whether mixed, hyperopic or myopic.

It is interesting to note that color vision anomalies do not affect the results of the screener.

In clinical studies, we also noted that squinting of the eyes (pin-hole effect) cannot "override" the effect of chromatic aberration. Although squinting will improve a patient's vision, the relative clarity of one color in reference to another is the same.

AMD screening

In our clinical studies, we have noted a hyperopic shift in patients who are in the early stage of wet AMD. This hyperopic shift is characteristic of a shallow elevation of the sensory retina at the macula. The amount of hypermetropia in early stage, wet AMD is usually

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CLEAR IN EVERY COLOR YOUR
VISION MAY NOT BE
SAFE FOR THE ROAD**

**ANOTHER HEALTH SERVICE;
VISUAL SCREENING
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Patients sit in front of the screener, either in the office or at home on their computer. Their visual clarity in each color provides information about the patient's visual state.

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in the range of +1.00D. These patients will see the green wave length more clearly when tested with the screener. (The patient must be wearing his or her distance prescription.)

WE ADVISE PATIENTS TO SELF-TEST EACH WEEK.

Metamorphopsia can also occur in the early stage of dry or wet AMD. Distortions and scotomas can easily be detected with the Amsler grid. However, you can't guarantee patients will comply with using the Amsler grid at home. The absence of metamorphopsia does not necessarily rule out the presence of AMD. Many patients with early AMD have reported experiencing no distortion.

Patients can use the screener at home on their personal computers. Consider having patients who are at increased risk for wet AMD monitor vision at home as well. Systemic hypertension is a high risk factor for the conversion of dry to wet AMD. Even those with the dry form of AMD should be regularly performing this test because a percentage of these cases will go on to develop the wet form.

Take it home

The screener can help you build your practice as well. My associate and I have noticed an increase in patient referrals since we placed the poster-version of the screener in the waiting areas of our respective offices, through a project sponsored by Johnson & Johnson Vision Care.

When we diagnose patients

with early stage AMD, we advise them to self-test with the screener on a weekly basis. The in-office poster helps emphasize the message during their office visit. We direct them to the web-

site, www.casa-vision.com, which provides an online version of the test. We strongly advise they report to us immediately if they begin to see clearer vision in the green section. Quick referral to a retinal specialist after the hyperopic shift is detected can help prevent choroidal neovascular membrane formation.

Laser photocoagulation and photodynamic therapy are useful tools in the war on AMD. Current treatments for wet AMD cannot regain lost vision. Several other new treatments and drugs are under investigation and may be available in the near future. In the meantime, however, it's essential O.D.s detect patients with wet AMD early in the disease process to preserve as much remaining vision as possible.

The Casa Vision screener is a quick, easy and simple way for patients to test themselves and detect changes in vision that are often associated with the early stages of AMD. Regular testing may help prevent serious vision loss. **OM**

Dr. Cianciullo is in private practice in Montreal. He is also president of Casa-Vision Inc., a professional online optometric community, designed to provide information and visual screening tools to the optometrists, students and their patients. Send e-mail to dominic@casa-vision.com.