New device aids early AMD diagnosis

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SECO International has a nearly 100-year history of providing optometric meetings of the highest caliber. SECO 2014 was no different. Lectures by our most esteemed colleagues were plentiful, and the knowledge base which was available to attendees was impactful. The exhibit hall provided the opportunity to demo many of the new technologies mentioned in the lectures. One such piece of equipment was AdaptDx by MacuLogix.

Upon registering for SECO 2014, the digital marketing barrage began. Having signed up for several age-related macular degeneration (AMD) lectures, I must have been more receptive to such marketing and opened an e-mail. I read as follows:

“70% of patients are unaware of retinal disease until vision loss may be irreversible, despite widespread testing with sophisticated imaging tools. Are there patients in your practice you can help earlier?”

Are there patients in your practice you can help earlier? I pondered that question for a few minutes and came to the conclusion of maybe, well yes, I think probably so. I was intrigued and wanted to learn more. What exactly was MacuLogix offering up to us with AdaptDx?

How it works

AdaptDx can aid in the diagnosis early-stage AMD before visual loss occurs and often before structural changes are observed, according to the company. Early detection helps facilitate optimal preservation of visual function and maintenance of quality of life in our AMD patients. It has been known for many years that dark adaptation in individuals with AMD is significantly impaired. Historically, dark adaptation testing was a lengthy process, often nearing 1 hour of testing per eye, and was primarily reserved for research purposes. AdaptDx is the first instrument designed to provide practical dark adaptation testing in a practitioner's office, much in part due to its small footprint, ease of use, automation of testing, and improved test speed.

Upon arriving at the MacuLogix booth, I was greeted by the company's chief operating officer, Jim Pietropaolo. He provided me with information and demo. I was given a research paper that concluded that a rapid dark adaptation test, like AdaptDx, is useful for the detection of AMD. It also impressively listed a diagnostic sensitivity of 90.6% and a specificity of 90.5%.¹

The machine itself is visually familiar with a strong resemblance to a common desktop visual field machine. In fact, the experience for both the patient and the tech is also very similar. However, instead of charting a patient's field of vision, AdaptDx is measuring the time it takes a person to adapt to darkness. This retinal function is captured by AdaptDx in a single parameter called the
rod intercept. The rod intercept is the time of recovery of scotopic sensitivity to a benchmark level. It is patient friendly because it is non-invasive and does not require any patient pre-adaptation other than a darkened room. During testing, the patient is exposed to a brief flash of 505 nm light, similar to that of a camera, and then simply indicates the presence of a spot of 505 nm light by clicking a button. These intensities of the stimulus lights are varied over a 5-minute period, at about 1 minute apart. In total, 5 thresholds are collected. The test is determining the least amount of light a patient can detect at these multiple threshold points in the dark adaptation process. Individuals with normal macular function will dark adapt in 5 minutes or less. However, individuals with even mild AMD often take 10 minutes or more to adapt. This dramatic departure from normal, even in early stages, is significant and an excellent way to detect AMD. If an abnormal result is found during the 5 minute or less screening test, the patient can be re-run on the machine with a more extensive threshold test that can take up to 20 minutes.

I was quoted that AdaptDx will cost approximately $30K and typical reimbursement for dark adaptometry (CPT code 922284) is around $60 for both eyes. AdaptDx could fit into your AMD testing protocol similarly to how a visual field test is part of your glaucoma testing protocol.

Patients are more likely to initiate behavioral modification to reduce risk of AMD when they are presented with evidence of structural damage. Presenting them with a fundus picture or OCT image of their damaged macula often helps solidify compliance. However, it’s challenging for them to implement those changes when “risk” is the only evidence there is. AdaptDx will allow us to present to our patients evidence of functional loss, which will help them realize the importance of acting upon our prescribed therapies and lifestyle changes. Most importantly, it will help us to accomplish this earlier on in the disease process, ensuring our patients the best possible outcomes.

**Next: Video "Dr. Justin Bazan on the Optos Daytona"**
Reference


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