Developing a Dry Eye Center of Excellence

Provide patients a premium experience with point-of-care testing and in-office dry eye products.

BY SCOTT B. HAN, OD

At my practice, we run a robust dry eye clinic that we have been developing and promoting for many years. The specialized treatment we offer helps to differentiate our practice: we offer our patients a comprehensive dry eye protocol that encompasses high-level technology and an advanced level of individualized care.

There are a number of technologies and products available for use by optometrists to help diagnose and manage patients with dry eye disease (DED). In addition to a thorough medical and ocular history (inclusive of a dry eye questionnaire), I perform a careful biomicroscopic examination paying attention to lid apposition and blink function. The DED protocol includes the use of several standard diagnostic tests, including fluorescein corneal staining, lissamine green conjunctival staining, tear breakup time, Schirmer test, and tear meniscus height. We also employ some perhaps less common diagnostics such as Zone Quick Phenol Red Thread (FCI Ophthalmics), anterior segment external photography, and the TearLab Osmolarity System (TearLab Corporation).

YOU ARE THE EXPERT

Our protocol is extensive because the more information we can gather and the more we can learn about the patient's DED, the better the care we can deliver. We also want to demonstrate to patients that we are the experts and that they are receiving a comprehensive evaluation and premium care. Many patients come to our practice for evaluations because they wanted a second opinion after their previous doctor did not address their complaints.

We have learned the importance of explaining the purpose of the testing being performed and its relevance to DED. In educating patients, we are demonstrating that we take their symptoms seriously. I often hear from patients that no one has examined their eyes so thoroughly, and those comments remind me that, as much as DED can be a practice builder, not paying attention to it can be detrimental. Patients will leave your office if they feel you are not listening to them or if you continue to only offer artificial tear samples.

"Our protocol is extensive because the more information we can gather and the more we can learn about the patient's DED, the better the care we can deliver."

OBJECTIVE AND QUANTITATIVE DRY EYE TESTING

The most important device we have incorporated into our dry eye clinic is the TearLab Osmolarity System. We gather many data points to assess DED, but often, the diagnostic tests we use for DED do not correlate with one another. I have heard many doctors state that they do not need any tests because the history of symptoms alone is all that is needed to diagnose and manage DED. Symptoms and a careful history are important, but alone, they can be misleading and are of little help in determining the magnitude of a patient's ocular surface disease. Many asymptomatic patients have signs of DED, and many symptomatic patients do not exhibit any signs. These patients, in whom signs and symptoms of DED do not correlate, present the greatest challenge for treatment.

Tear hyperosmolarity is a core mechanism of DED,[1] and it causes inflammation and ultimately apoptosis.[2] Healthy eyes have stable and repeatable osmolarity due

to proper homeostasis. Eyes with DED, on the other hand, have elevated and variable osmolarity. In the clinic, if I encounter a patient with DED symptoms and consistently normal osmolarity, I know I need to look for other causes of his or her symptoms. The reverse is also true: some patients with DED have symptoms but no visible signs, and osmolarity may be the only objective sign to confirm their DED.

The importance of objective measures of DED cannot be underscored enough. I have had several patients who were diagnosed with DED based on symptoms, but their osmolarity was consistently normal. These patients did not actually have true DED. It should not be surprising that often, these patients did not respond to DED treatment. It is likely true that a certain percentage of DED patients are not improving because the diagnosis is incorrect and, therefore, the treatments are not appropriate.

Osmolarity is also the best predictor of DED's severity.[3] I have been surprised at just how severe DED is in some of my patients based on results from the TearLab test (eg, patients who I believed had mild to moderate DED but their osmolarity was indicative of a moderate or severe grading). I discovered that I was prone to minimizing symptoms because I was not seeing the staining. Now, because I am measuring osmolarity, I am able to recommend more aggressive treatments to appropriately match the level of dryness at symptom onset. I can then use osmolarity testing over the course of treatment to objectively track patients' responses to my management plan.[4]

DISPENSE IN-OFFICE PRODUCTS

In addition to the usual medical treatments for DED, we also prescribe many over-the-counter products and carry them in the office. Having products available for patients allows them to start using exactly what you recommended right away. Patients appreciate the convenience, and seeing the products in the office also reinforces for them that DED is a main focus of our practice.

Artificial tear substitutes are a mainstay of DED treatment. I prescribe and offer for purchase Oasis Tears (Oasis Medical) lubricating eye drops. Oasis Tears and Oasis Tears Plus are preservative-free formulations that contain a mixture of glycerin and sodium hyaluronate. This viscoadaptive formulation allows for greater retention time without the blurry vision associated with higher-viscosity eye drops. The Plus version contains a higher concentration of hyaluronic acid and is recommended for moderate to severe DED.

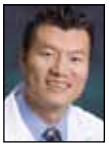
Lid disease is a key contributor to evaporative DED. Warm compresses are often prescribed, but compliance is low because the process is cumbersome and messy. Tranquileyes goggles (EyeEco) utilize reusable microwavable beads that create moist heat for up to 15 minutes. The soft and flexible goggle is convenient and can be worn overnight to counteract nocturnal drying.

I prescribe dietary and nutritional modifications as an adjunct to DED medical therapy. I recommend HydroEye nutritional supplements (ScienceBased Health) because they contain a blend of omega-3 fatty acids (eicosapentaenoic acid and docosahexaenoic acid), omega-6 fatty acids (gamma-linolenic acid), and other nutrients. This formulation has demonstrated clinically significant reductions in DED symptoms and ocular surface inflammation while maintaining corneal surface smoothness.[5]

Environmental modification is one of the first treatment steps for DED. Computer use seems unavoidable nowadays, and it is one of the leading causes of DED. I recommend that my patients using computers purchase Gunnar computer eyewear (Gunnar Optiks). These computer glasses utilize FRACTYL lens geometry, a design that creates a face-forming wrap and reduces eyestrain. The high base curve traps moisture near the eye and acts as a barrier to drying. Gunnar computer glasses are available with and without prescription.

CONCLUSION

Offering your patients the newest dry eye treatments and products can differentiate your practice and improve the lives of your patients. Point-of-care diagnostics allow earlier and more accurate diagnosis. Dispensing dry eye products in the office eliminates confusion for the patient and makes it convenient to start your treatment plan right away. ■



Scott B. Han, OD, is the director of optometry and a partner in The Eye Associates, a multilocation practice with offices in Bradenton, Sarasota, Ellenton, and Sun City, Florida. He acknowledged no financial interest in the products or companies mentioned herein. Dr. Han may be reached at shan@theeyeassociates.com

1. Lemp MA. The definition and classification of dry eye disease: report of the Definition and Classification Subcommittee of the International Dry Eye WorkShop. *Ocul Surf*. 2007;5(2):75-92.
2. Luo L, Li DQ, Pflugfelder SC. Hyperosmolarity-induced apoptosis in human corneal epithelial cells is mediated by cytochrome c and MAPK pathways. *Cornea*. 2007;26:452-460.
3. Sullivan BD, Whitmer D, Nichols KK, et al. An objective approach to dry eye disease severity. *Invest Ophthalmol Vis Sci*. 2010;51(12):6125-6130.
4. Sullivan BD, Crews LA, Sönmez B, de la Paz MF. Clinical utility of objective tests for dry eye disease: variability over time and implications for clinical trials and disease management. *Cornea*. 2012;31(9):1000-1008.
5. Sheppard JD Jr, Singh R, McClellan AJ, et al. Long-term supplementation with n-6 and n-3 PUFAs improves moderate-to-severe keratocojunctivitis sicca: a randomized double-blind clinical trial. *Cornea*. 2013;32(10)1297-1304.