

As a condition often dubbed the common cold of vision, dry eye remains the commonest complaint encountered in eye clinics. And as patient exposure to factors such as prolonged computer use, air conditioning, and refractive surgery continues to grow, so does the prevalence of the condition. Living with dry eye can be likened to walking around with a stone in your shoe. The constant discomfort leads to a high level of frustration that only the wearer of the shoe can fully appreciate. Nonetheless, many practitioners continue to rely on *ad hoc* use of eye drops as a solution, but unfortunately, this strategy usually provides little more than temporary relief.

Creating an effective dry eye management setting

A well-run dry eye clinic can serve as a light at the end of a very long tunnel for dry eye patients. Such a service provides patients with an effective management programme, tailored specifically to their needs (as good control of dry eye for every patient cannot be adequately achieved with a one-size-fits-all approach). The benefits of a structured dry eye clinic also extend to eye specialists. Specifically, dedicated dry eye clinics allow practices to secure new patient groups and additional business avenues.

After years of hearing patients repeatedly complain about their relentless dry eye symptoms, such as ocular itching, stinging and watering, my colleagues and I decided that a dedicated dry eye protocol was needed in our Newcastle-based practice. To that end, in 2011 we developed and implemented a protocol based on an innovative dry eye diagnosis device, the TearLab Osmolarity Testing System (TearLab Corp, San Diego, CA). This hand-held machine was

Creating a profitable dry eye practice

The TearLab Osmolarity Testing System proves its worth in a practice setting. **Lesley Oglethorpe** reports



Author and patient

developed to provide a quick and easy method of measuring tear osmolarity. The user simply mounts a test strip onto the device and dabs the strip against a patient's lower eyelid. The device then provides a numerical value that reflects the presence and severity of dry eye disease, all within a matter of minutes. My colleagues and I found that a little training from a TearLab representative was all that was needed to familiarise ourselves with the full capabilities of the device. Once we saw the machine in action, we instantly appreciated its value as a diagnostic tool and knew it had to feature as a key tool in our dry eye clinic.

Implementing the system into a real-life practice

The TearLab system is an ideal dry eye screening tool for any practice that desires a quick and easy method of identifying dry eye patients. It also provides instant results in a less invasive manner than many other methods of dry eye detection,

such as slit-lamp biomicroscopy and Schirmer's test. We are currently only using the device on individuals with suspected dry eye disease, rather than screening every single patient who walks through the doors of our practice. By focusing on this specific population, we believe we will be able to better determine the exact impact of this test on the outcomes of dry eye patients.

Our general approach at present is to offer any patient who presents with dry eye symptoms the opportunity to attend our dry eye clinic. During clinic, the TearLab system is the first diagnostic test performed. It provides precise information on tear osmolarity, which clearly indicates dry eye presence and severity. Although the device is highly accurate, we prefer to follow its use with other conventional tests to make certain that all potential causes of any patient's complaint are investigated. This ensures that each and every patient receives the best management possible.

In my experience, the numerical indicator of eye health provided by the TearLab is a source of reassurance for patients. If a patient is told that a 'normal' tear osmolarity lies below 308 mOsm/L, they can appreciate that they need treatment if their value lies above this cut-off. This is made even more important given the poor correlation between dry eye symptoms and severity. Some patients come to clinic with few symptoms, but their tear osmolarity tells another story. It really can be difficult to predict a patient's dry eye severity without testing for tear osmolarity. The TearLab system eliminates this issue. In my practice and in many others that use the TearLab device, a universal cut-off value of 308-316 mOsm/L is used as an indication of mild dry eye and over 316 mOsm/L for moderate to severe dry eye. And as the system diagnoses dry eye with such a high level of precision, practitioners can confidently rule out dry eye in patients with an osmolarity reading of less than 308



The TearLab Osmolarity Testing System



mOsm/L. This is not only reassuring to both patient and practitioner, but it also allows the practitioner to turn his or her focus to exploring the other (non-dry eye) causes of any symptom present.

Placing the patient in a position of power

For patients diagnosed with dry eye during the first clinic visit, the development of a customised treatment plan forms the next step of our practice's dry eye management pathway. Conventional therapies, including diligent use of lubricating eye drops, daily lid hygiene and warm eye bag compresses, are 'prescribed' as a starting point. This is in addition to the daily completion of a symptom log book that allows patients to determine for themselves the activities that worsen their symptoms. Once identified, patients can take an active role in managing their symptoms, which, in turn, helps compliance. Take for example, individuals who work with computers. Such individuals are advised to use the 20-20-20 rule: every 20 minutes take your eyes off the computer and look 20 yards ahead for 20 seconds. We also encourage them to increase blink frequency and keep well hydrated throughout the day. Simply modifying daily computer habits can actually produce a greater improvement in dry eye symptoms than flooding the eyes with eye drops, while continuing to stare endlessly at a computer screen.

Use of the TearLab system on follow-up visits is generally limited to patients who fail to respond to their treatment plan. As physiologic response to treatment often precedes symptomatic improvement, it is important to avoid dismissing a treatment as ineffective based solely on persistence of symptoms. Comparing the tear osmolarity reading obtained during the first clinic visit with that measured during follow up visits provides conclusive evidence about the efficacy of a treatment plan. Repeat testing also serves as an effective patient reminder of the importance of complying with recommended treatment regimes. Patients are notoriously keen to please their practitioner and will often report good compliance when in reality they have been less than diligent. However, showing them a tear osmolarity value that has remained the same since their last visit is surprisingly effective at prompting them to divulge their true level of dedication to the treatment



The TearLab system in use

plan. In contrast, patients who report improved symptoms on follow-up do not undergo repeat testing with the TearLab system as standard. Some, however, ask to be tested again to be reassured that their tear osmolarity is improving, and in such cases, we are happy to oblige.

The business of dry eye

Our dry eye clinic is an inclusive service. Patients are not asked to pay for different tests, instead they are charged a general clinic fee, which covers all we have to do to accurately diagnose and manage their dry eye symptoms. This strategy reflects our dedication to providing a comprehensive management programme. In the specific case of repeat TearLab testing, an additional charge is made because this is a service that a patient desires rather than needs. To date, my colleagues and I have found that patients who do desire additional testing appreciate that a second test is not necessary and does not alter their treatment plan. With this in mind, they are happy to pay the additional charge. Furthermore, they acknowledge that the TearLab system serves only to restore the good eye health they have



The TearLab test strip is mounted in the instrument

desired for a long time, and when this is the task at hand, cost ceases to be an issue.

Any practice considering starting a dry eye clinic can rest assured that the financial benefits are noteworthy and extend beyond the clinic itself. Since setting up the clinic, sales of dry eye products within the practice have risen massively. As we are able to diagnose dry eye with confidence, we are also able to recommend specific drops and treatment aids with the confidence that they will make a difference to each patient's symptoms. In addition, the convenience offered by picking up eye drops while at the practice is appreciated by patients. Word-of-mouth referrals have also increased, resulting in an additional source of business. Recommendations made by satisfied patients are a highly effective (and free) form of endorsement for any practice. Simply using the TearLab system as it is designed to be used and keeping patients well informed is enough to achieve satisfied patients; and these satisfied patients pass on the message to family and friends.

The start of something new

The decision to set up our dry eye clinic was not one that was made on a whim. My colleagues and I were unsure about how patients would respond: did patients want such a service and would they appreciate the benefits of tear osmolarity testing? Looking back, we can see that there really was no need to worry. Patients like to know that you can help them, but they will only approach practices they know are equipped to help. The TearLab system allows a practice to do this in a manner that patients can understand.

Today, we frequently see dry eye patients who have been treated by trial and error at other practices and remain symptomatic. On attending our clinic, however, their symptoms improve significantly. Patients are often surprised at how much improvement they gain from being treated in our clinic, particularly because we prescribe the same conventional treatments that brought them little benefit in the past. We succeed where other practices have failed simply by using a precise dry eye protocol in which treatment is guided by tear osmolarity levels. ●

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