

FITTING WITH CONFIDENCE

How osmolarity testing can help guide contact lens selection and make patients feel good about choosing healthier options—even when they cost more. **By David Geffen, OD and Paul Karpecki, OD**

While switching materials and solutions can't solve every patient's contact

lens woes, making a change is not without virtue in many cases. The key to success lies in making educated decisions that can be measured versus following the well-tread trial-and-error path.

Part of the reason why 16% of contact lens wearers drop out every year^{1,2} is because patients and doctors hesitate to move into a more appropriate lens. More often than not, such wavering is driven primarily by fear of the increased expense with little regard to the long-term consequences of discomfort.

Similarly, it's equally precarious to switch patients into new lenses if we're not quite sure whether the new lenses can offer any meaningful improvement. TearLab osmolar-

ity testing can directly address these challenges by providing an objective measure that offers peace of mind to both patient and doctor alike.

BE DIRECT

If you ask a patient how he's doing with his contact lenses, he will likely say he's doing "fine"—even if he's taking his lenses out as soon as he gets home from work. Patients are afraid that you will either tell them they can't wear their lenses anymore or you will try to prescribe a more expensive lens. To combat this, it's important to ask specific targeted questions such as, "Do you feel like you need to take your lenses out when you get home from work?" Any patient who says "yes" is a dropout waiting to happen. Or ask how the comfort compares when first inserting the lenses to when removing them at the end of the day on a 1 to 10 scale. What's more, these patients don't merely drop out

of lenses, they tend to drop out of the practice as well. Missed annual exams are a common byproduct of contact lens dropout with consequences that can far outweigh a conversation about pricier contacts.

STAY ONE STEP AHEAD

Dry eye affects nearly 30 million Americans—including 50% of all contact lens wearers.³⁻⁷ Therefore, even if a patient is asymptomatic, we must be diligent about addressing the ocular surface before it's too late. Indeed, research suggests that relying on symptoms to diagnose dry eye would produce a missed or incorrect diagnosis more than 40% of the time.⁸⁻¹⁰ Without the use of measurable clinical indicators, these patients are at risk of one day dropping out of contact lenses.

For this reason, anytime a contact lens patient shows a sign or symptom of dry eyes, we test their osmolar-

CASE #1

A 36 year-old female presents wearing Acuvue 2 monthly replacement (OD -2.75, OS -3.00). The patient reports that her eyes are irritated and she needs to take out her contact lenses when she gets home from work. She also reports that her wearing time has diminished and comfort has decreased. Slit-lamp exam reveals clear corneas and grade 1 GPC OU, with all other findings normal. Osmolarity scores are 308 OD and 311 OS. We recommended switching to a daily replacement lens, but the patient was wary of the increased cost. The patient agreed to try Dailies Total One for one week to see how her eyes would feel.

At the one-week visit, the patient commented on how much better her eyes feel, adding that she now has to remember to take the contacts out before going to bed. Slit-lamp exam showed minor GPC with no injection. Osmolarity scores were lowered to 299 OD and 300 OS. Convinced, the patient is currently wearing the new lenses.

CASE #2

A 33 year-old male reports that his contact don't feel as comfortable as they used to. He has been wearing Frequency 55 (-5.00 OD, -4.50 OS) for the past seven years and reports that he replaces them about every month. He uses Kirkland disinfectant. Slit lamp reveals grade 1+ papilla OU and minor injection OU. Osmolarity was 307 OD, and 312 OS.

We recommended that the patient switch to a daily lens to improve comfort and compliance. Though the patient was wary of cost increase, we asked him to trial Biotrue ONEday.

At the one-week visit, the patient reported great improvement in comfort and much clearer vision. He says he can now wear lenses all day and not think about them. Osmolarity dropped to 300 OD/OS. The patient purchased an annual supply of the new lenses.

ity with the existing contact lenses in place. One of the most convenient aspects of the TearLab test is that it can be performed while wearing contact lenses.

If osmolarity is out of range, we recommend that the patient trial a different lens. Explain that there is no obligation to switch. You are simply testing out the new lenses to determine whether it will make a difference. Most patients are eager to try new lenses when there is an understanding that it's just a test drive.

After the trial is over, check osmolarity again and compare the number with what you measured in the initial lens. Present this data to the patient and ask if they also feel any different. When patients are presented with hard numbers on top of the general improved comfort that they often experience, they are much more likely and willing to make good choices—regardless of cost. Indeed, an improved osmolarity score goes a long way toward justifying increased contact lens expenses and a better patient experience.

Keeping presbyopes in contact lenses can be especially challenging since this group is at particularly high risk of developing dry eye. Patients who wear multifocal lenses tend to have dryer eyes to begin with and are a lot more likely to drop out. As clinicians we tend to regard presbyopes as a group looking for simplicity and we sometimes ask ourselves “why fight it?” Yet keeping this population happy does not need to be complicated. When you check the osmolarity scores in a presbyope's current lenses

and then compare them to improved scores in a different lens, these patients readily recognize the healthier advantages. Switching alone without producing an osmolarity score, on the other hand, is more challenging. We have found that some of the newer technology lenses help significantly regarding osmolarity improvement of the tear film.

EVIDENCE DEMONSTRATES VALUE

Osmolarity testing allows you to justify your clinical decision-making in a way that patients can easily understand. When this quick test shows that osmolarity is high, it opens the door to a conversation about why trying something new is in the patient's best interest.

TearLab osmolarity testing is one of the few tests we have to confirm dry eye, and it's the most predictive test for dry eye. It provides scientific, objective proof and reasoning for our recommendations. It's also the fastest

test for dry eye, requiring fewer than 30 seconds from test to result.

As we discussed in part one of this series, the most effective way to combat dropout is to identify patients who are at risk before they start to complain (see *A Game-Changing Approach to Help Overcome Contact Lens Dropout*, May issue, page 30). Once a patient is complaining, it's often too late. We need to identify which patients are at risk of dropping out prior to first fittings and at each exam thereafter. The TearLab test makes this easy to accomplish. And, in the event you need to ask a patient to spend more money, you can be sure that the patient can see real value in the objective evidence that you present.

1. Nichols JJ. 2010 annual report on dry eye diseases. *CL Spectrum*. 2010;15(8):22.

2. Key JE. Development of contact lenses and their worldwide use. *Eye Contact Lens*. 2007;33(6 Pt 2):343-5.

3. National Eye Institute. Facts about dry eye. Available at: <https://nei.nih.gov/health/dryeye/dryeye> (last accessed June 13 2016).

4. Begley CG, Caffrey B, Nichols KK, et al. Responses of contact lens wearers to a dry eye survey. *Optom Vis Sci*. 2000;77(1):40-6.

5. Schaumberg DA, Sullivan DA, Buring JE, et al. Prevalence of dry eye syndrome among US women. *Am J Ophthalmol*. 2003;136(2):318-26.

6. Paulsen AJ, Cruickshanks KJ, Fischer ME, et al. Dry eye in the beaver dam offspring study: prevalence, risk factors, and health-related quality of life. *Am J Ophthalmol*. 2014;157(4):799-806.

7. US Census Bureau. Age and sex composition: 2010. <http://www.census.gov/prod/cen2010/briefs/c2010br-03.pdf> (last accessed June 13, 2016).

8. Bron AJ, Tomlinson A, Foulks GN, et al. Rethinking dry eye disease: a perspective on clinical implications. *Ocul Surf*. 2014 Apr 12(2 Suppl):S1-31.

9. Sullivan BD, Crews LA, Messmer EM, et al. Correlations between commonly used objective signs and symptoms for the diagnosis of dry eye disease: clinical implications. *Acta Ophthalmol*. 2014 Mar;92(2):161-6.

10. Fuerst N, Langelier N, Massaro-Giordano M. Tear osmolarity and dry eye symptoms in diabetics. *Clin Ophthalmol*. 2014 Mar;8:507-15.

CASE #3

A 59 year-old female presented wearing PureVision2 multifocal (+1.00 high OD, +1.25 high OS). She reported that comfort has consistently decreased with her contacts over past five years and her vision has become more variable. She is thinking of giving up contacts for glasses, concluding that her lenses are “not worth the hassle.” Slit-lamp exam reveals G1 MGD, dry eyes, and grade 1 injection OU. Osmolarity is 319 OD and 320 OS.

We educated the patient about new innovative technology in the ULTRA for Presbyopia lens material and described how this would be better for her. We also ask her to use artificial tears, start Omega fatty acids, and use a Bruder mask for 10 minutes a day.

At the one-week visit, the patient feels much better in her contacts. She reports that her eyes feel much less dry, and her vision is not variable throughout day. Her osmolarity also dropped to 307 OD/OS. Considering the great overall improvement, she proceeds with the ULTRA for Presbyopia lenses.