SIGHT SCIENCES

TearCare®

TREATING DRY EYE EARLY: WHY & HOW WE DO IT

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Many of the patients sitting in your waiting room right now are ideal candidates for a service you can provide—one that will change your patients' lives and drive revenue in practice. So, why aren't you offering it yet?

I believe strongly in the value of aggressively managing dry eye disease (DED). As a practice administrator, businessman, and consultant, I am constantly recommending adding DED services to my colleagues and friends. But DED programs shouldn't be considered simply an add-on value; they should be created, dedicated, and offered the support required to become first-line offerings in ophthalmic and optometric practices. This advice is akin to the business concept of digging for oil in your own backyard. The beneficiary of this service is likely already in your waiting room, and the financial impact it can have on your practice is game-changing.

So, why is the advanced management of DED missing in so many practices?

WE COULD ALL USE A RISING MARKET RIGHT NOW

DED affects more than 40 million adults[1,2] in the United States today, and this number is rising quickly. Some say the rise might be due to the increase in allergy-driven ocular ailments. Others suggest the overuse of digital technologies as the main driver. Perhaps we are just more sensitive to our visual discomfort than we have been in generations past, or all of the above. The market for DED is massive, and it is growing.

DED is affecting our cataract patients and may affect cataract outcomes.[3] About 77% of eyes being screened for cataract surgery have positive corneal staining,[4] an incidence rate much higher than anticipated. Additionally, 86% have some component of meibomian gland dysfunction (MGD).[5] DED is more prevalent than most practices think, far less diagnosed than it could be, and even more infrequently adequately treated. This is an opportunity.

IDENTIFYING DED PATIENTS

Your lobby is very likely already full of patients dealing with DED. Half of patients with DED are asymptomatic, so it is important to screen all patients for DED.[6] This can easily be done using a DED questionnaire, such as the Standard Patient Evaluation of Eye Dryness (SPEED) questionnaire.[7] This subjective approach to identifying dry eye patients is helpful and meaningful. However, it is driven by what the patient says, not what the patient actually sees, so testing and consultation are needed alongside the questionnaire.

One of the challenges of diagnosing DED is first identifying symptoms and then assessing where they are on the spectrum of severity. Where they are placed on the spectrum of severity determines the best first step for treating the disease.

TREATING DED PATIENTS

The type and severity of dry eye disease can dictate the use of innovative new tools, but it can also interrupt the flow of a practice, so it's important to plan your diagnostic and treatment workflow to optimize your staff and clinic time. Choosing a path or protocol can help expedite decision-making for flow and efficiency.

Once this kind of flow and efficiency is established, more attention should be paid to the treatment of DED. This is where operational excellence can make or break the success of an implementation. Many practices believe that more technology is always better when treating the patient and answering the patient's needs. In many cases this is true. However, an increase in choices

can delay the decision-making by the provider and delay treatment options that could help a patient more quickly.

Many programs offer innovative and interventional DED treatments without DED standards of protocol and flow. What this can invite is a 'dry eye circus' instead of a dry eye center of excellence. A dry eye circus occurs when, amongst infinite options, it is not clear which one should be the best first-line treatment. Which treatment plan is best for the type and severity of the patient?

ACCESS, DEMAND, PAYMENT LANDSCAPE

Now that we have discussed the great need in the marketplace for DED therapy and potential value to a practice, let's talk about access. The number of ophthalmologists has been decreasing every year for the past decade. Last year, Dr. Richard Edlow reported that the number of ophthalmologists has and continues to decline by 3.5% per year.

While the number of ophthalmologists is declining, demand for age-related services in eye care will grow by 7.5% per year every year for the next 10 years (Figure). In a few short years, there will be far too much demand to be met by those currently offering interventional DED treatment. Greater use of tablets and small screens will likely produce more patients that need you to fill the treatment gap that currently exists with advanced dry eye management availability. Just as phacoemulsification changed the practice of cataract surgery, we must approach dry eye technology in similar fashion, as the most dominant approaches today only address half the problem and do nothing to advance the financial wellbeing of our practices.

When combining the decrease in reimbursement for many ophthalmic procedures to this same understanding of access and demand, it is easy to see the problem arising. Based on current projections, there will be fewer providers who will do more work for far less money in the future. To counter this trend, you need to strategically begin offering services that provide both therapeutic and economic upsides to your practice. MGD device-driven DED treatment is exactly this type of service.

TearCare® BACKGROUND

TEARCARE DELIVERS A PERSONALIZED, OPEN-EYE EXPERIENCE THAT'S EASY TO INCORPORATE

For practices yet to take the plunge into evacuating the meibomian glands, TearCare (Sight Sciences) is a good starting point. The TearCare system includes a small SmartHub that controls heat duration and temperature consistency, as well as SmartLids, which are wearable heating elements that universally adhere to any upper and lower lids. The TearCare SmartHub has a very small footprint and is portable. We use the provided clearance tool to manually express the softened meibum of both the upper and lower lids, so we can be attentive to every single meibomian gland. Disposable costs are reasonable, and using the TearCare device takes only about 20 to 30 minutes, including the heating period and gland clearance.

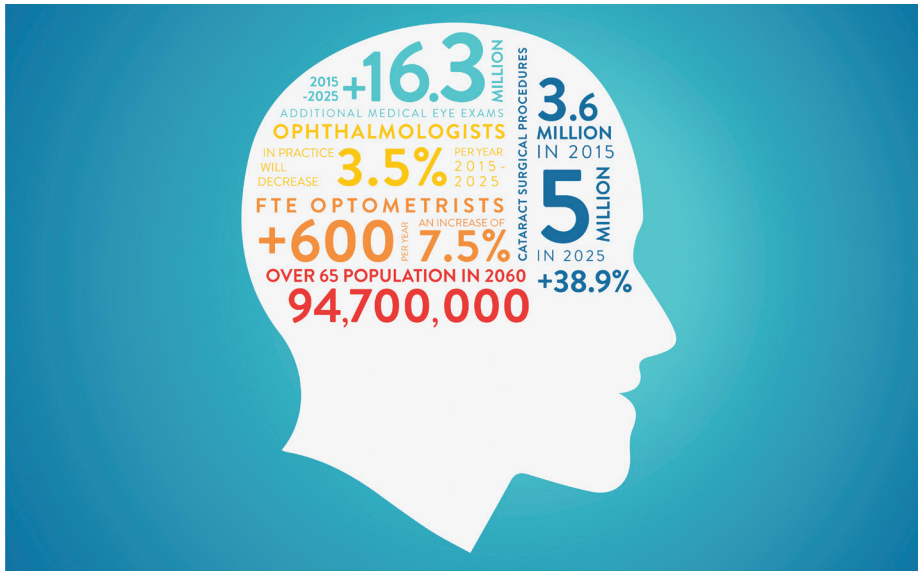

Figure. Ophthalmology and optometry in 2015 versus 2025.

DED TREATMENT IN ACTION

At Vance Thompson Vision, we have been diligently working on developing a nomogram to better classify the diagnostic levels of DED (based on severity and progression), as well as an algorithm tool for eye care providers. This tool guides our treatment decisions while taking into consideration the diagnostic technologies now available. Our nomogram includes

CASE STUDY

BRANDON BAARTMAN, MD

A 65-year-old male presented for evaluation of decreasing vision secondary to cataract at the request of his daughter, who was his referring optometrist. He had noted slowly decreasing vision and had a history of ocular surface disease (OSD) and stable primary open-angle glaucoma (POAG), medically controlled in both eyes on brimonidine and latanoprost at the usual dose. An ocular review of systems and Standardized Patient Evaluation of Eye Dryness (SPEED) Questionnaire score revealed clinically significant symptoms of dry eye disease. The patient reported routine use of artificial tears QID and nighttime ointment.

Examination of the patient revealed bilateral findings of lid margin telangiectasia and moderate meibomian gland capping (Figure 1). Ocular surface evaluation demonstrated injection of the bulbar conjunctiva and 3+ inferior superficial punctate keratitis with abnormal tear breakup time (TBUT) and low tear lake in both eyes. Tear film testing was performed and showed increased osmolarity and inflammatory markers in both eyes, while meibomian gland imaging demonstrated generally normal architecture (Figure 2). Nuclear sclerosis of both lenses was also confirmed to be visually significant.

Figure 1. External photograph of patient's left eye demonstrating lid margin inflammation, meibomian gland capping, and conjunctival injection.

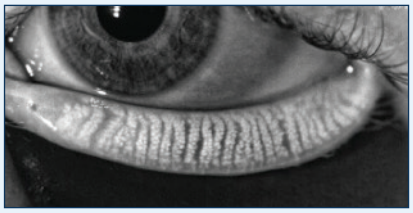

Figure 2. Lipiscan image of the patient's left eye revealing generally normal gland structure.

DIAGNOSIS

As anticipated, the patient was diagnosed with a cataract and needed cataract surgery with lens implant bilaterally. However, his ocular surface health was notably poor and needed to be addressed prior to proceeding with cataract surgery. The appearance of the lids was consistent with ocular rosacea. Given the ocular history of primary open-angle glaucoma and current treatment regimen, this was thought to be a contributing factor to his ocular surface disease as well.

a three-part process: clinical indicators, treatment options, and engagement.

The first part (clinical indicators) includes the structured and standardized testing needed to diagnose patients into the correct stage of DED.

The second part (treatment options) then allows the clinician to better manage the patient by instituting the proper treatment regimen paired with the corresponding diagnostic tests.

Finally, the third part (engagement) helps to set the standard for having patients return for follow-up care. At Vance Thompson Vision there can be nearly $400 in additional office visit revenue annually when patients return for their scheduled DED follow-up appointments, in addition to the nearly $1,000 in revenue from incorporating a personalized option for MGD, like TearCare or a DED retail center.

CONCLUSION

Identifying, diagnosing, and treating DED can create sustained value for both your practice and your patients. DED is a long-term, chronic disease that affects tens of millions of people in the United States, compared to about 2 million suspected glaucoma patients in this country.[1,4] DED can disrupt the quality of life for many patients. In fact, it is estimated that people spend up to $2 billion annually on DED products and treatments.[1,5]

Identifying those patients with signs and symptoms of DED early and educating these patients on the root causes of their DED is critical to increasing patient compliance with your selected treatment plan. Specifically targeting the root causes of each patient's DED with products and treatments designed to improve patient clinical outcomes will make a difference in your patient's well-being and quality of life.

DED is multifactorial, but 86% of the time it is MGD-related, driven by obstruction and inflammation. If you incorporate new testing modalities into your practice

and follow a systematic protocol for management of the disease that includes inflammation control and obstruction removal, your decision-making will be less like 'practicing medicine' on your patients. You can potentially make your patients much happier and your practice more sustainable in the coming years. ■

1. 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.
2. Vespa J, Medina L, Armstrong DM. Demographic turning points for the United States: population projections for 2020 to 2060. census.gov. https://www.census.gov/content/dam/Census/library/publications/2020/demo/p25-1144.pdf. Published March 2018. Accessed July 6, 2020.
3. Ram J, Gupta A, Brar G, et al. Outcomes of phacoemulsification in patients with dry eye. *J Cataract Refract Surg*. 2002;28:1386-1389.
4. Trattler WB, Majmudar PA, Donnenfeld ED, et al. The prospective health assessment of cataract patients' ocular surface (PHACO) study: the effect of dry eye. *Clin Ophthalmol*. 2017;11:1423-1430.
5. Lemp MA, Crews LA, Bron AJ, et al. Distribution of aqueous-deficient and evaporative dry eye in a clinic-based patient cohort: a retrospective study. *Cornea*. 2012;31(5):472-478.
6. 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;92(2):161-166.
7. Ngo W, Situ P, Keir N, et al. Psychometric properties and validation of the standard patient evaluation of eye dryness questionnaire. *Cornea*. 2013;32(9):1204-1210.

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MANAGEMENT

A multi-faceted approach was taken to address our patient's OSD and tear film prior to surgical intervention for cataract. Lotoprednol was used QID in both eyes to treat the inflammation on the ocular surface, while bilateral lower lid collagen plugs were placed to increase tear volume. The patient's meibomian gland dysfunction was addressed with TearCare (Sight Sciences), performed in office that day (Figure 3). A short course of doxycycline was also prescribed for the ocular rosacea. For long-term management, the patient was scheduled to undergo cataract surgery with trabecular microbypass surgery in an attempt to reduce his topical glaucoma therapy. Importantly, surgery was scheduled 4 weeks out from our initial evaluation to allow time for ocular surface optimization, and ocular biometry was repeated on the day of surgery.

OUTCOMES

Our patient noted rapid improvement in symptoms of OSD and improvement in objective measurements, including TBUT and tear osmolarity. He underwent successful cataract surgery with lens implantation and trabecular microbypass stent bilaterally. He was maintained on topical steroid through the first postoperative month and has been managed successfully on one-drop glaucoma therapy. The patient has enjoyed the spectacle freedom provided by accurate biometry for distance vision correction, as well as an improvement in OSD symptoms.

Figure 3. External photograph of patient's left eye after TearCare gland clearance.

EXAM FINDING:

SPEED QUESTIONNAIRE SCORE: 7

TEAR OSMOLARITY: 309 OD, 313 OS

MMP-9: + OD, + OS

TBUT: 6 OD, 5 OS

FOLLOW-UP TEAR OSMOLARITY: 295 OD, 291 OS

FOLLOW-UP TBUT: 10 OD, 10 OS