

DRY EYE Essentials

By Desiree Ifft, Contributing Editor

A broadening palette of diagnostic and treatment tools enables doctors to provide patients with the relief they deserve.

Dry eye is running out of places to hide. With the new diagnostic tests and devices available today, doctors can detect a key inflammatory marker of ocular surface disease (OSD)¹, quantify tear osmolarity, which is a proven OSD diagnostic metric,² help themselves differentiate between dry eye and ocular allergy, and objectively assess tear film quality. In addition, following the development of topical cyclosporine (Restasis, Allergan) as a breakthrough therapy for aqueous-deficient dry eye,³ a new appreciation of meibomian gland dysfunction (MGD) as a primary cause of evaporative dry eye has emerged⁴ and led to additional MGD treatment options.^{5,6}

"There has been a very nice evolution with every treatment option and innovation that we've experienced, and along the way, there have been some truly revolutionary new developments," says Darrell E. White, MD, Skyvision Centers, Westlake, OH. "Each of these has enhanced the ability of anyone who looks at the front of the eye to be a dry eye expert. We also have a growing realization that dry eye is a serious problem for patients. It's satisfying to take care of patients with dry eye and

actually great for a practice, too, because it generates new patients of all types."

Tools for Targeting Treatment

Given the many new diagnostic tools at his disposal, James E. Croley III, MD, Cataract & Refractive Institute of Florida, no longer uses the Schirmer's test, but still relies on corneal staining as an indicator of the health of the corneal epithelial cells and to monitor the effectiveness of treatment. Also, as he explains, "I use the TearLab Osmolarity System (TearLab), the LipiView device (Tear Science), and the Oculus Keratograph 5M (Oculus), which taken together, tell me whether a patient's OSD is predominantly the tear-deficient type or the evaporative type and how severe it is, so I can base my treatment on that. LipiView measures the thickness of the tear film lipid layer. The Keratograph 5M measures several aspects of the tear film, such as break-up time and meniscus height, and it images the meibomian glands in 3D. The latter lets me really see what the glands look like, which can be valuable information. For example, in severe cases of MGD, the patient may have virtually no glands left, which means thermal pulsation with

the LipiFlow (Tear Science) device, in general a successful treatment for MGD, would not be the best treatment option."⁷ While he doesn't use in-office testing for allergy, such as the Doctor's Allergy Formula diagnostic system, Dr. Croley says such tests would be helpful. "Many patients have ocular allergy and dry eye at the same time, and we don't want one to mask the other," he says. "I suspect we'll have more of these types of tests in the future, perhaps assessing lactoferrin and/or IgE."

Dr. White uses the TearLab osmolarity test as well as the InflammDry (RPS) tear test as part of his dry eye workup. InflammDry identifies MMP-9, an inflammatory marker that is consistently elevated in the tears of patients with dry eye disease, often before any clinical signs appear. He's in the process of evaluating in his practice how symptoms correlate with measurable MMP-9 levels and how best to use InflammDry to guide treatment choices. For quite some time, he's been using osmolarity to determine which artificial tears he recommends for patients. "I don't think of osmolarity levels as normal and abnormal as much as high and low, and I can learn from both," he explains. "For patients with

