Contact Lens Care and the Patient Experience

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Giving patients the best possible experience in contact lens wear requires vigilance for ocular surface issues and thoughtful lens care solution selection.

When evaluating contact lens patients at their annual exams, it is critical to proactively identify and address sources of ocular discomfort. This can be caused by intrinsic ocular health issues, such as tear-film instability, but a review of the contact lens material, modality of wear, and the contact lens care solution should also be a part of this assessment.

Every time a contact lens wearer presents for a follow-up visit, a thorough history and exam are required to identify and address symptoms of discomfort and to uncover signs, including subtle ones, of poor ocular surface health. In addition to probing patients’ habits and level of satisfaction, practitioners must be vigilant for signs of ocular surface compromise, looking closely at the lids and lashes, the tear meniscus, the cornea, and the bulbar and palpebral conjunctiva for nascent pathology. This should include staining the ocular surface with fluorescein and lissamine green.

FOCUS ON SOLUTIONS

Contact lens care must also be part of the investigation. While many things can trigger new symptoms of discomfort or irritation in contact lens wearers, in my experience these symptoms are very often related to lens care.

While the bottles of contact lens solution lining store shelves may appear more or less the same to patients, the disinfectant preservatives in them can result in different interactions with lenses—and, in turn, with the ocular surface. Uptake of disinfectant from contact lens solutions can occur during overnight lens storage. When such lenses are placed on the eye, the disinfectant can be released into the tear film, where it can interact with ocular surface epithelia.1-3 The impact (or biocompatibility) of the released disinfectant can be measured by staining the surface of the eye with fluorescein. In one study, after two hours of wear, patient comfort ratings were consistently lower for patients wearing SiHy lenses when the staining area exceeded 20% of the corneal surface.2 Solutions containing POLYQUAD® and ALDOX® disinfectants have been shown to produce staining patterns similar to preservative free saline solution regardless of what lens material the solution is used with. In contrast, solutions containing the disinfectant PHMB (found in most store brand solutions) have been shown to cause moderate to severe staining patterns with certain contact lens materials when measured with staining after two hours of wear.3

Noncompliance can also impact the contact lens wearing experience, and is staggeringly common, with as few as 2% of lens wearers demonstrating “good compliance.”4 In particular, “topping off” lens solution is common, and this improper use, combined with the widespread lack of proper lens case care, may lead to increased risk of complications due to microorganisms. Clear education is vital to ensure patients understand the risks of reduced efficacy when solutions are “topped off,” and of contact lens case contamination.

Testing care solutions in the presence of contact lenses, FDA sponsored research on one multi-purpose solution containing PHMB (0.0001%, 6-hour soak) found that uptake of this preservative by some lenses during overnight storage could cause a reduction in antimicrobial activity.1 On the other hand, lenses soaked in a solution containing the dual disinfectants polyquaternium-1 (0.001%) (POLYQUAD®) and myristamido propyl dimethylammonium (0.0005%) (ALDOX®) demonstrated insignificant uptake of these preservatives, which did not diminish the solution’s antimicrobial efficacy.5

MAKE IT CLEAR

Differences in lens/solution compatibility become especially important in the real world of patient use. Noncompliance is all too common, and the failure to clean lenses properly, replace cases frequently, and replace the solution daily must be addressed by clear practitioner instruction.4

I go over lens care in detail, and I try to illustrate the discussion in a way that makes sense to patients—for example, nobody would use mouthwash or bathwater a second time. Why do it with contact lens solution? I also make sure to connect proper lens solution use to comfort and disinfection efficacy. By helping patients understand why and how to care for their lenses, I can enhance their experience of contact lens wear and their loyalty to our practice.

REFERENCES

4. Robertson DM, Cavanaugh HD. Non-compliance with practitioner instruction.4

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