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Wash Away Your Old Hygiene Strategy

Early impressions of a new eyelid cleansing option to help keep your patients' eyes clean and microbe-free.

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It really is no secret that clean eyelids promote healthy contact lens wear. As we've all seen clinically, patients who have blepharitis exhibit significant differences in tear physiology than those without blepharitis.¹ Tear lipids are oxidatively stable in their native environment because meibomian glands predominantly secrete only saturated and monounsaturated lipids.² Stable lipids don't degrade and don't cause discomfort or blur.

Blepharitis and meibomian gland dysfunction (MGD) patients typically experience heavy deposits of lipids on their lenses. This phenomenon is not limited to these patients, however. These lipid deposits may also be seen in those with no apparent MGD due to the individual composition of the meibum.

Over time, lipids associated with the contact lens will become unstable and degrade. Once formed, these deposits impair optical quality and the wettability of the lens surface (with the latter resulting in a quick break-up of the tear film), which can eventually lead to intolerance to contact lens wear.³

In addition to affecting the tear film, vision and comfort, the lids play host to myriad microorganisms. Bacterial contamination of soft lenses is associated with microbial keratitis and corneal inflammatory events. Normal ocular organisms include coagulase-negative *Staphylococci*, *Corynebacterium* species, *Micrococcus* species, *Bacillus* species and *Propionibacterium* species.⁴

The lid margin, commonly colonized by microbes, is found to harbor organisms up to 70% of the time.⁵ Additionally, substantial lid bioburden is associated with a 2.5-fold greater risk of substantial lens bioburden, and is likely the major route of lens contamination.⁵

A New Option

Keeping the lids clean, which in turn keeps the lens clean, directly benefits patient comfort, safety and quality of vision. The "old-school" lid hygiene method included the use of diluted baby shampoo to remove debris and contaminants. While it remains convenient and inexpensive, this is not as safe or simple as it may sound.

Baby shampoos—as well as some eyelid cleansers—contain cocamidopropyl betaine, a surfactant and lathering agent that may cause an eyelid dermatitis.⁶ Surfactants, the key ingredient in most lid scrub products, are also known to dry the skin and strip the area of oil—ironically, inducing increased production of oil in the glands.

A novel product, i-Lid Cleanser (NovaBay Pharmaceuticals), which contains pure hypochlorous acid 0.01%, offers practitioners a new option for lid hygiene. Hypochlorous acid is a naturally occurring chemical released by neutrophils to kill microorganisms and neutralize toxins released from pathogens and inflammatory mediators. As it is neutralized quickly, it's nontoxic to the ocular surface.

Other hypochlorous acid products (e.g., Dakin) contain impurities (such as bleach), which are toxic to the ocular surface. In my experience, i-Lid Cleanser offers excellent lid cleansing capability without extraneous ingredients such as surfactants.

Pure hypochlorous acid 0.01% has shown to be fast acting against the five major bacterial pathogens associated with blepharitis during in-vitro laboratory tests. Although some conventional lid scrubs may lack antimicrobial activity even after prolonged exposure, efficacy of pure hypochlorous acid 0.01% was documented after just seconds of exposure, according to NovaBay Pharmaceuticals. In direct comparisons, the company says, pure hypochlorous acid 0.01% demonstrated a similar antibacterial spectrum of activity to Betadine—with 1,000 times less toxicity.

Its antibacterial properties make i-Lid Cleanser a welcome addition to any blepharitis or MGD-related dry eye treatment regimen. Additionally, the product can be useful in make-up removal and as an adjunct to contact lens wear.

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