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GP Insights

Preventing and Managing Scleral Lens Deposits

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As scleral lens use in the United States continues to escalate, common problems associated with their care are being identified. Dr. Melissa Barnett and Michael Ward, two experts in this area, provide a “how to” approach for managing scleral lens deposits.

Prevention

Once meibomian gland dysfunction is ruled out or managed, preventing deposit-related problems should include this four-step approach (Ward, 2013; Ward, 2014):

- 1)** Always wash hands before handling contact lenses. Use mild, basic hand soaps or acne treatment hand soaps; avoid deodorant, scented, or moisturizing liquid soaps.
- 2)** Surface cleaning/debulking with a digital rub and rinse is necessary for good comfort and vision. Inadequate surface cleaning causes irregular, hydrophobic surfaces that may create a debris attachment cycle, causing decreased vision, comfort, and wearing time.
- 3)** Do not apply oil-based moisturizers to the eyelids. Oils can spread along the skin and contaminate the tear film.
- 4)** Do not apply any makeup to the eyelid margin. Practitioners should verify that patients are applying face creams, eye creams, and makeup after lens application.

Using plasma treatment can also optimize initial wetting and help with deposit resistance.

Effective Scleral Lens Cleaning

Traditional GP contact lens disinfection solutions are thick and viscous, which may result in chamber debris and cause fogging on lens surfaces. Instruct patients who use such solutions to rinse the inside bowl of the lens with saline prior to application. If fogging still occurs, recommend a GP lens cleaner.

Non-abrasive, solvent-type cleaners are effective at removing oils and organics. Dr. Barnett has experienced the greatest overnight cleaning success with hydrogen peroxide-based cleaners.

Menicon’s Progent loosens and removes surface protein, deposits, bacteria, fungus, molds, and yeasts after a 30-minute soak without manual rubbing. Bi-weekly cleaning is recommended. Previously available only for in-office use, patients can now get it for home use through the Menicon website.

Isopropanol-based extra strength daily cleaners are especially good at removing oils and makeup from soft and rigid lenses. Several formulations contain isopropanol 15.7% with amphoteric 10 (ionic surfactant) and poloxamer 407 (non-ionic surfactant).

For deposit-prone patients, Mr. Ward recommends alternating a daily GP lens cleaner with an extra strength or an alcohol-based daily cleaner to provide maximum lens surface cleaning maintenance.

Proteolytic enzymes in liquid form may be added directly to peroxide or other GP disinfection solutions. In-office use of an extra-strength cleaner can also be very beneficial.

Additional Tips

Increased lubrication throughout the day with non-preserved artificial tears may dilute or flush away surface debris. For some patients, the only way to eliminate debris is to remove the scleral lens, then manually clean, rinse, and reapply one to two times during the day.

Several resources available on this topic, including webinars, are archived at www.gpli.info. In addition, the Scleral Lens Education Society (www.sclerallens.org) has resources and videos on scleral lens care and handling. **CLS**

For references, please visit www.clspectrum.com/references and click on document #230.

Dr. Barnett is a principal optometrist at the UC Davis Medical Center in Sacramento, Calif. She is an advisor to Acculens, Alcon, and Allergan, has received honoraria from Alden Optical, and has performed research for Nidek. She serves as secretary of the Scleral Lens Education Society. Mr. Ward is an instructor in ophthalmology at Emory University School of Medicine and Director, Emory Contact Lens Service. He is also a consultant or advisor to Alcon and B+L. You can reach him at mward@emory.edu. Dr. Bennett is assistant dean for Student Services and Alumni Relations at the University of Missouri-St. Louis College of Optometry and is executive director of the GP Lens Institute. You can reach him at ebennett@umsl.edu.