

Disposable contact lenses for use as corneal bandages

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Summary

Disposable contact lenses were introduced as a revolutionary alternative to conventional, cosmetic contact lens wear. The use of disposable contact lenses has evolved to include use as corneal bandages and as drug vehicles for delivering medications to the anterior segment.

Words

ENGLISH - disposable contact lenses, bandage contact lenses. SPANISH - lente de contacto desechable, lente de contacto vendaje.

The use of hydrogel contact lenses for therapeutic purposes is well documented in the literature. Hydrogel lenses have successfully been used as corneal bandages to assist in the treatment of current corneal erosion¹, filamentary keratitis², keratoconjunctivitis sicca³, bullous keratopathy⁴, entropion and trichiasis⁵ and various corneal dystrophies⁶. In addition, they have been used as vehicles to deliver medications to the anterior segment⁷.

Although the use of hydrogel lenses as corneal bandages and drug vehicles is nothing new, a new approach may now be taken. The introduction of disposable contact lenses offers two significant advantages over conventional lenses when used as bandage lenses.

The most dramatic advantage of disposable lenses is their extremely low cost. Whereas a conventional bandage lens costs a mere \$2.50 (U.S.), disposable lenses have an average list

price of \$50 (U.S.). Obviously, this offers enormous savings to both the patient and the clinic alike. In chronic conditions where several lenses are necessary, this economic savings may even result in better patient compliance, the cornerstone of any therapy program. Because one free trial lens is provided to the clinic for each package of six disposable lenses ordered, it is even possible to use the free, excess trial lenses at no charge to the patient in cases of true financial hardship.

The other advantage afforded by disposable lenses is the improved ocular health they promote when used on a long-term basis. As a conventional lens becomes soiled with deposits over the course of time, there exists a greater likelihood of acquiring giant papillary conjunctivitis, corneal hypoxia, and other irritations and inflammations of the eye and adnexa. By frequent replacement (weekly or bi-weekly) of disposable lenses, however, these undesirable outcomes may be minimized or eliminated. This is especially critical because when used as a bandage lens, it is being placed on a cornea that is already compromised.

There are currently five different disposable lenses on the market. Between these five different lens types, powers range from +6.00 to -10.00 diopters, base curves are available in 8.4, 8.7, 8.8, or 9.0 mm radii, and water contents vary from 38 to 58%, not to mention differences in center thickness. All lenses are 14.0 mm in diameter. One of the five is designated for daily wear only, whereas the remainder may be worn either daily or extended wear. All five may be worn for a maximum period of two weeks before needing to be discarded. As can be seen, these five lenses provide for a wide selection of parameters from which to choose.

Where there are choices, there are also decisions to be made. The doctor must determine whether daily wear or extended wear of the lenses is

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preferred, the length of the replacement cycle, whether the lenses are going to be worn exclusively or simultaneously with eyeglasses, and ultimately which of the five lens types is going to be prescribed.

When a new medical device is made available, sometimes new uses for that product evolve through practitioner experience. Disposable contact lenses were introduced as a revolutionary alternative to conventional, cosmetic contact lens wear. The use of disposable lenses as corneal bandages and medication vehicles is certainly a natural progression that optimally benefits the patients.

References

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