

WILL EXTENDED WEAR CONTACT LENSES ALWAYS HAVE A PLACE?



The author considers both answers to the question.

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In the late 1980s, extended wear (EW) contact lenses experienced a surge in popularity. Thirty years ago, fully one-third of soft contact lens (SCL) wearers wore EW lenses.¹ Today, however, if 100 eye care professionals (ECPs) were asked what number of their SCL fits are EW, the answer would pale in comparison to that of only a few decades ago.

To be specific, only 3% of SCL fits in the United States today are prescribed for EW purposes, a decline of more than 50% from what was reported

in 1989.^{1,2} Many ECPs are hesitant to prescribe EW lenses due to safety concerns. Given these concerns, one may wonder if EW soft contact lenses could become obsolete, or if they have what it takes to stand the test of time. For this article, I considered both scenarios.

EW LENSES WILL BE PHASED OUT **Complications**

Overnight SCL wear is a well-established risk factor for microbial keratitis and other contact lens–

associated corneal infiltrative events (Figure 1).^{3–11} In fact, there is as much as an eightfold increased risk of developing microbial keratitis with EW compared with daily wear contact lenses.¹¹ The introduction of highly oxygen-permeable silicone hydrogel materials did not diminish the incidence of keratitis, and EW remains a risk factor for severe SCL complications across many lens materials and the frequency of overnight wear.^{7,8,10} Until new materials are developed that change the paradigm of EW risks, the fear of

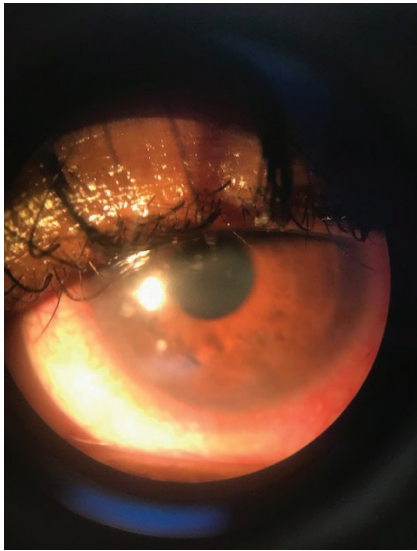


Figure 1. EW lenses can place patients at risk for sight-threatening complications such as microbial keratitis, as shown here.

sight-threatening complications may prevent this modality from thriving.

Discomfort

A key to patient satisfaction with contact lenses has always been comfort. A compromised contact lens surface can lead to compromised comfort (Figure 2), and the longer a contact lens is worn, the greater the opportunity for reduced lens wettability, dehydration, and deposition of certain tear-derived components that can interrupt comfortable lens wear.¹² Even with the best materials, deposit buildup and dehydration remain factors inherent with lenses worn on an EW basis.

Negative Practitioner Perception

Practitioners today overwhelmingly fit daily wear lenses.² The association of EW with SCL complications and suboptimal lens performance appears to have dampened enthusiasm for fitting this modality, so that ECPs no longer warmly embrace this modality. ECPs play a significant role in patients' purchasing decisions and consequently influence the contact lens market. Therefore, unless there is renewed interest in EW lenses among

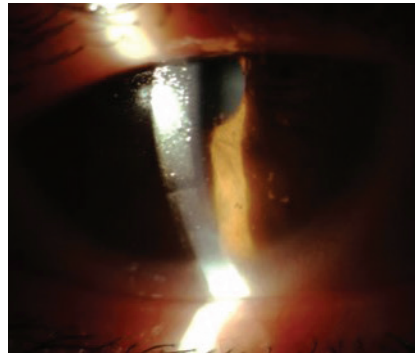


Figure 2. Lens surface issues inherent in EW lenses, such as the deposits seen on this lens, can lead to discomfort.

practitioners, SCL manufacturers will likely continue to respond by not developing new EW lens brands.

Nonetheless, new and improved EW contact lenses may bring back ECPs' interest in this modality. Ultimately, it is practitioners' perception of EW that will determine this modality's fate in the contact lens market.

EW LENSES WILL STAND THE TEST OF TIME Patient Need

Unfortunately, despite extensive patient education against the practice, many patients sleep with their lenses in. In a large national survey, nearly 50% of respondents reported wearing daily wear lenses while sleeping.¹³ If this is to be the case, an FDA-approved EW lens maybe a better alternative for patients who frequently sleep in their lenses.

The need for EW lenses is primarily driven by the therapeutic use of these types of lenses for aphakia and as bandage contact lenses. Bandage contact lenses are crucial for protecting the cornea in the event of large corneal abrasions, bullous keratopathy, and postsurgical corneal healing.

Further, with the recent approval of the world's first vision-correcting, drug-releasing contact lens in Japan,¹⁴ the use of contact lenses beyond vision correction is no longer an impossibility. Contact lenses that could monitor glucose levels in the tears of patients with diabetes and diurnal variations of IOP in patients with glaucoma are in the development pipeline. If these come to market, EW would be an ideal modality to allow around-the-clock health monitoring and disease management.

Patient Interest

An essential aspect of patient satisfaction with contact lenses is convenience. In one survey, respondents overwhelmingly indicated their desire for "permanent" vision correction, with 97% expressing the desire to be able to wear contact lenses continuously for at least 6 nights per week.¹⁵ In another survey, 85% of patients indicated that convenience was an essential feature when choosing contact lenses as a vision correction option.¹⁶ Primary reasons for patient

AT A GLANCE

- ▶ Even with the best materials, deposit buildup and dehydration are inherent problems with lenses worn on an EW basis.
- ▶ The need for EW lenses is primarily driven by the therapeutic use of these lenses for aphakia and as bandage contact lenses.
- ▶ Although EW will probably never again become a mainstream wearing modality, patient interest and a need for overnight wear will likely keep the modality around for years to come.



“**ALTHOUGH MOST OF THE CONVENIENCE BENEFITS OF EW CAN BE ACHIEVED WITH DAILY DISPOSABLE LENSES, THEY CANNOT PROVIDE CONTINUOUS CLEAR VISION AND ALMOST COMPLETE ELIMINATION OF LENS HANDLING CHORES.**”

satisfaction with a continuous wear system include convenience (eliminating the need for care and maintenance and lens handling) and being able to see in the morning.¹⁷ Today, lens handling is still a concern for patients and is cited as one of the key reasons for lens discontinuation, especially among new lens wearers.¹⁸

Although, to the best of my knowledge, no recent research investigation has examined patient enthusiasm for EW, patient interest in contact lenses that offer continuous vision and convenience likely has not changed significantly since the time of those surveys just mentioned. In addition to comfort and good vision, convenience is a cornerstone of patient satisfaction with contact lenses. Although most of the convenience benefits of EW can be achieved with daily disposable lenses, they cannot provide continuous clear vision and almost complete elimination of lens handling chores.

In a randomized crossover trial in 2000, patients were equally successful with both daily disposable and EW lenses, but a significant number expressed preference for EW due to convenience.¹⁹ Public awareness of

the risk of sleeping in contact lenses may have changed this preference in the ensuing 20 years; however, a considerable number of patients still sleep in their contact lenses, and overnight daily disposable wear can still result in severe corneal infection with an incidence as high as that of other modalities.^{13,20}

For some patients, the benefits of convenience with a nonsurgical “permanent” vision correction option might outweigh the risks. I believe that many patients today would prefer EW lenses if they were safer than they are. Future innovation, if supported by safe clinical experience, could possibly make that desire a reality.

EXTENDED WEAR IS HERE TO STAY?

Thirty years from now, will EW lenses be relegated to the annals of history? Although EW will likely never again become a mainstream wearing modality, as with the land-line phone, this is a cord that the contact lens industry might not want to cut. I believe that patient interest and a need for overnight wear, even if modest, will keep EW around for years to come. ■

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