

Marker may help predict success with extended-wear contact lenses

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A simple marker on eye examination may help vision care professionals predict which patients will have a higher or lower rate of problems after starting extended-wear contact lenses, reports a study in the April issue of *Optometry and Vision Science*, the official journal of the American Academy of Optometry.

Over the long-term, deposits of the protein mucin on the eye surface might protect against inflammation and infection in [patients](#) using extended-wear contact lenses, suggests the new research by Loretta B. Szczotka-Flynn of University Hospitals Eye Institute, Cleveland, and colleagues.

Fewer Long-Term Problems with Extended-Wear Lenses in Patients with Mucin Deposits

The researchers monitored short- and long-term responses to extended-wear contact lenses in 219 subjects. Made of oxygen-permeable silicon hydrogel materials, these relatively new products allow patients to wear their contact lenses continuously—including overnight—for up to 30 days.

During their first month with extended-wear lenses, nearly three-fourths of participants developed tiny deposits of mucin ("mucin balls") on the eye. Mucin is part of the [mucus layer](#) that helps to protect and lubricate the surface of the eye.

Nineteen percent of these subjects developed signs of possible inflammation/infection—called "corneal infiltrates"—compared to six percent of those without early mucin deposits. While corneal infiltrates are usually mild, they sometimes develop into serious infections.

Participants were then followed up during one year of extended-wear contact lens use. Once again, most subjects developed mucin deposits.

But this time, participants who developed mucin deposits were less likely to have problems. Rates of corneal infiltrates were 10.5 versus 14 percent for subjects with versus without "repeat" mucin deposits.

The larger the extent of repeat mucin deposits, the lower the risk of problems. Corneal infiltrates were more likely to develop in subjects wearing one of two types of silicone hydrogel contact lenses studied (comfilicon versus balafilicon).

The results question a recent study, which had suggested a lower risk of problems with mucin deposits developing under extended-wear contact lenses. Rather, patients with early mucin deposits appear to have a higher rate of corneal infiltrates, possibly reflecting a "disrupted mucus layer."

In the longer-term, mucin deposits may have a protective effect—"perhaps acting as a physical barrier between the [lens](#) and ocular surface once successful extended wear has been established." Dr. Szczotka-Flynn and colleagues conclude, "These findings are important for clinicians as they place and monitor their patients in extended wear."

More information: Loretta B. Szczotka-Flynn et al. Mucin Balls Influence Corneal Infiltrative Events, *Optometry and Vision Science* (2017). [DOI: 10.1097/OPX.0000000000001045](https://doi.org/10.1097/OPX.0000000000001045)

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