

What's New in Contact Lenses

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Scleral lenses

- Scleral asymmetry grows with lens diameter. At 15 to 17 mm, most ordinary eyes are toric.
- Lens design affects corneal swelling. Toric or channeled landing zones reduced swelling slightly in small studies of healthy eyes. Some studies also support limbal fenestrations.
- Wavefront-guided scleral optics cut higher-order aberrations roughly in half in keratoconus and gave one to two lines better acuity than a conventional scleral. Nearly every patient preferred them.
- Midday fogging is common. It is associated with poor front-surface wetting and haze. One study found fogging associated with faster tear exchange, not with vault depth.
- Studies measuring IOP with the lens on suggest a temporary rise. Small studies saw short-term optic nerve changes. In glaucoma patients and suspects, consider baseline nerve imaging and follow-up.
- Sclerals in complex cases: GVHD, Stevens-Johnson, severe dry eye, and post-graft corneas. Many of these patients are not offered a scleral referral.
- Cost is a barrier. Access programs work.
- In one small survey, many scleral wearers swam, bathed, or showered in their lenses. Counsel on water risks.

Keratoconus and cross-linking

- Fitting a scleral before cross-linking: in a 7-patient series the fit still held at 3 months. The authors suggest wear can resume about a month after surgery.
- Scleral wear after cross-linking was compatible with stable corneal shape over a year.
- Newly fitted corneal rigid lenses flattened some keratoconic corneas slightly. The change was gone a week after stopping.
- Hybrids helped many patients who couldn't tolerate or weren't well corrected by soft or rigid lenses, with better vision and quality of life.
- A 2026 global keratoconus consensus agreed that rigid lenses don't halt progression, that patients should stop eye rubbing, and that children and teens with more than 2 D of astigmatism should get corneal topography or tomography.
- Hydrops after cross-linking is rare but can come years later, usually after minor trauma such as eye rubbing or handling a lens.

Presbyopia

- Many presbyopes in soft lenses never get a presbyopic design: about 4 in 10 presbyopic soft fits worldwide had no presbyopia correction.
- In manufacturer-funded studies, pupil size barely predicted how well patients saw.
- In a small study, refitting failed wearers with the lowest workable add, the least minus, and a week to adapt was successful.

Lens safety

- Acanthamoeba and fungal keratitis have risen. Risks: swimming or other water contact with lenses, tap-water rinsing, and napping in lenses.

- In a small study of ortho-k kids, Acanthamoeba was tied to poor hand hygiene and topping off case solution, and possibly tap water.
- Acanthamoeba is still diagnosed late, and a steroid given before the diagnosis was associated with a worse course.
- In one Norwegian series, hospitalized keratitis was about five times more common with overnight extended wear than with daily disposables, and only about a third of infected patients had known keratitis was possible.
- In lab testing, peroxide systems held up better than several multipurpose solutions against fungi and Acanthamoeba cysts.

Myopia control

- Ortho-k and soft myopia-control lenses both work. Ortho-k plus 0.01% atropine adds benefit; soft multifocal plus atropine has not been shown to.
- Stopping a soft myopia-control lens means age-normal growth, not rebound.