

EYE RESEARCH CENTER

WINTER 2023 E-NEWSLETTER



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Research News

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Title

Scleral Lenses for Neurotrophic Keratitis

Summary

Scleral lenses may be used to treat a variety of ocular surface disorders, including neurotrophic keratitis. Neurotrophic keratitis occurs when the nerve fibers that supply the cornea are damaged or absent, leading to corneal hypoesthesia and epithelial defects. Scleral lenses are designed to vault over the entire corneal surface, providing a protective barrier and delivering a constant supply of lubrication to the ocular surface. This can promote re-epithelization of the cornea and reduce complication risk.

Recent studies have continued to demonstrate the effectiveness of scleral lenses in the treatment of neurotrophic keratitis. A prospective case series published in the *Journal of Ophthalmic and Vision Research* found that scleral lens wear improved visual acuity and reduced corneal staining in patients with neurotrophic keratitis (Zanjani et al., 2016). Another study published in the journal *Contact Lens and Anterior Eye* found that scleral lens wear was associated with a significant improvement in symptoms and quality of life in patients with neurotrophic keratitis (Gifford et al., 2017).

In addition to improving vision and providing a protective barrier for the cornea, scleral lenses may also have a positive effect on corneal nerve regeneration in patients with neurotrophic keratitis. A study published in the journal *Optometry and Vision Science* in 2019 found that scleral lens wear was associated with an increase in corneal nerve density in patients with neurotrophic keratitis (Liu et al., 2019). This suggests that scleral lenses may have a neuroprotective effect and may potentially promote nerve regeneration in the cornea. Further research is needed to confirm these findings and to better understand the mechanisms underlying this effect.

Scleral lenses can be an effective treatment option for patients with neurotrophic keratitis, providing a protective barrier, improving vision, and promoting healing of the ocular surface.

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Research News

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Title

Diabetes and COVID-19

Summary

Comorbidities such as hypertension, cardiovascular disease, and diabetes mellitus (DM) are all indicators of poor COVID-19 prognosis (1). According to research, one of the main factors linked to COVID-19 severity is diabetes (2). The theory that individuals with diabetes who have already have microvascular disease may be more susceptible to the endotheliitis followed on by COVID-19 infection and hence more prone to have negative effects (3-5). Furthermore, compared to non-diabetic patients, the chance of mortality is more than doubled (6), as is the risk of being hospitalized in an intensive care unit (3). Diabetes-related kidney disease (DKD) increases the expression of the ACE2 receptor in the kidneys, which is necessary for SARS-CoV-2 entry to host cells and suggests higher sensitivity to SARS-COV-2 (7). On the other hand, other research showed that there was no statistically significant correlation between diabetic retinopathy and all-cause mortality during the hospitalization (8,9), nor a poorer COVID-19 prognosis in diabetic patients (10). Future studies are required on clinical outcomes and the processes behind the correlations between retinopathy and other markers of microangiopathy in COVID-19.

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Upcoming Events

Interactive Online Webinars

MARCH 11TH

8:00 AM- 3:00 PM

COPE APPROVED PENDING

Check the website for registration info.

Profits from selected events will be contributed to apda in the amount of 30%.

Partnership

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