

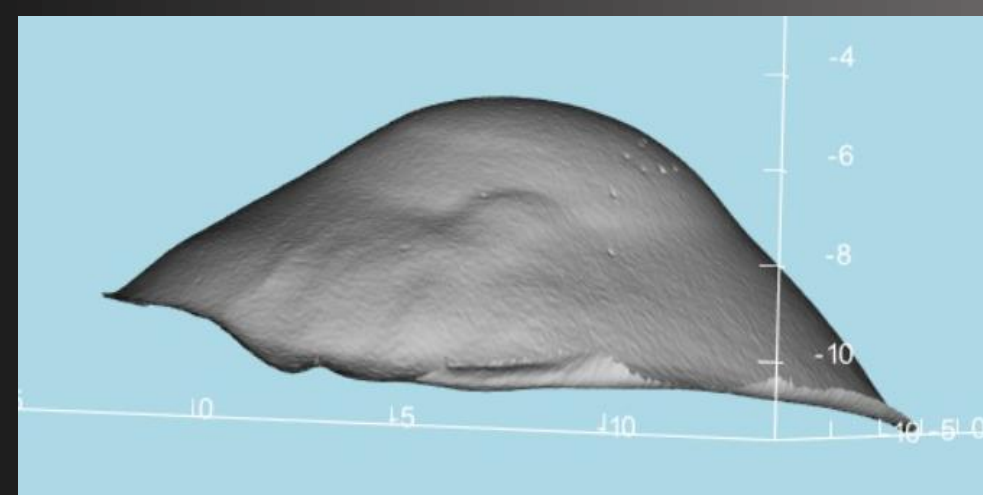
The Shrinking Pinguecula: The Lesser Known Impact of Scleral Lenses on the Ocular Surface

Tiffany Andrzejewski OD₁, Christine Sindt OD_{2,3}

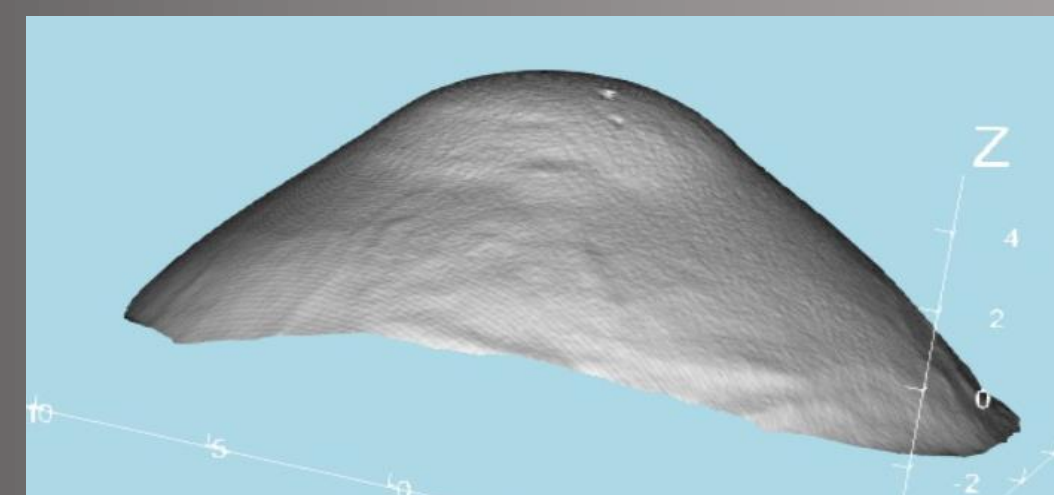
1. Chicago Cornea Consultants, 2. University Of Iowa Ophthalmology 3. EyePrint Prosthetics

CASE 1 DESCRIPTION:

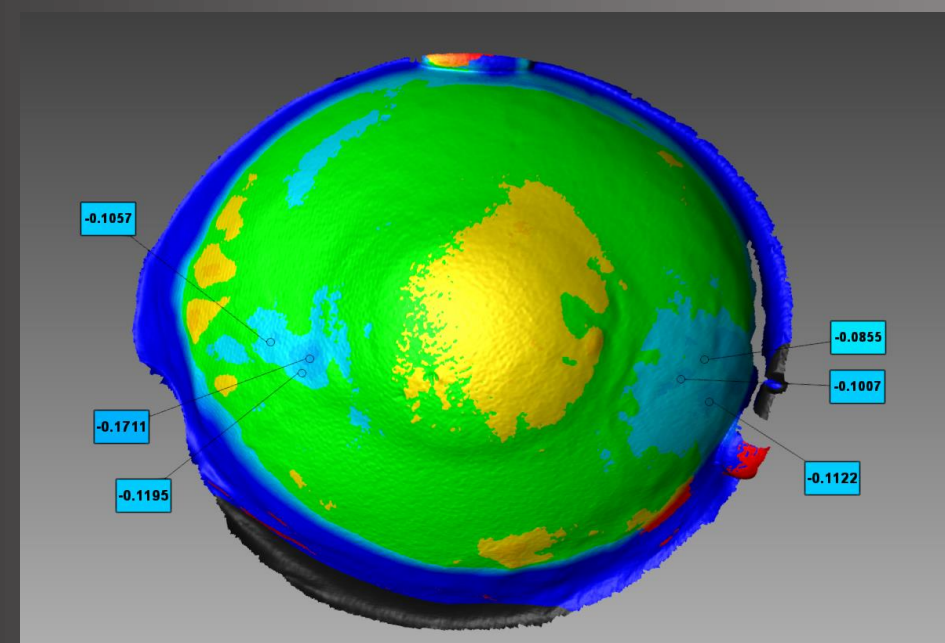
A 64 year old female with a history of penetrating keratoplasty for keratoconus was referred for removal of her pinguecula as they were impacting her satisfaction with her scleral lenses. The patient was suffering from midday fogging, redness and irritation thereby limiting her wearing time. She was refit with 20mm impression based scleral lenses that resolved these issues until which time her pinguecula regressed over a 2 year time which resulted in the need for a new impression and fit.



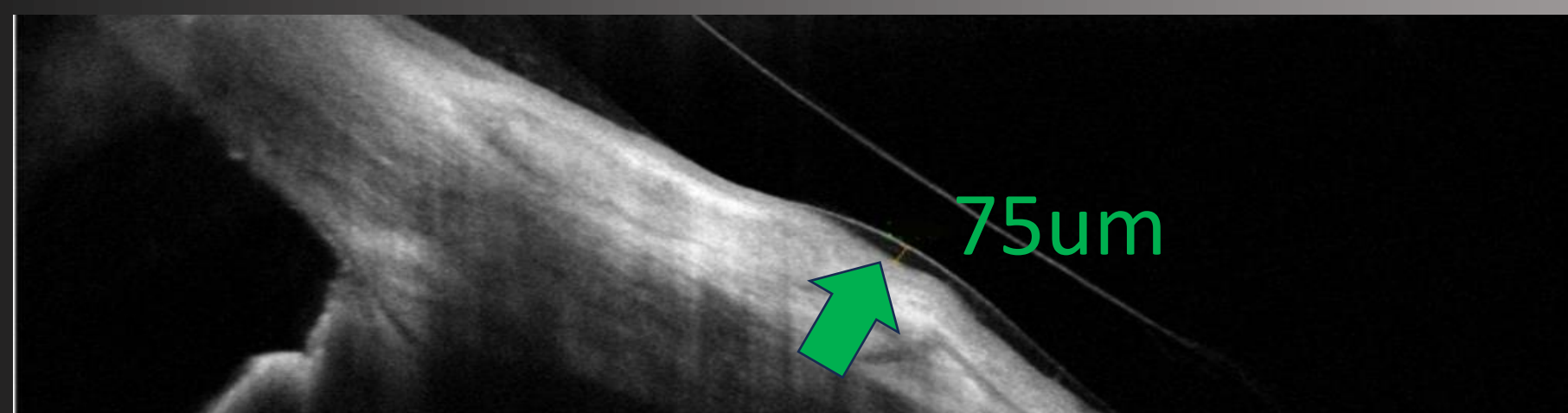
Original ocular surface impression from 2020 with prominent pinguecula



Impression from 2023 after sclera remodeling from scleral lens wear



Ocular surface elevation map: blue signifies flattening from 2020



AS-OCT shows how the tissue remodeled causing a gap between the haptic and the sclera after 3 yrs of wear

BACKGROUND

Pinguecula is a benign, common degeneration of the conjunctiva and appears as a yellow-white mass on the bulbar conjunctiva. It's most commonly found in patients exposed to wind, dust, ultraviolet light and/or those who work outdoors for long duration¹. Patients can be cosmetically aware of it and may have symptoms of foreign body sensation and itching, or in some cases it can become inflamed by blinking or even wearing of a contact lens and lead to inflammation such as a pingueculitis. These benign masses should be accounted for when fitting a scleral lens to avoid compression or impingement on them, which can lead to conjunctival injection and ocular discomfort. This can be done by vaulting over the mass, notching the lens to fit around it, or choosing a smaller diameter to fit inside of it². In cases of vaulting over the pinguecula, the practitioner should be aware that the ocular protection of the scleral lens itself can actually “treat” and cause the pinguecula to regress over time. These two case reports describe patients who were fit with a scleral lens that was designed to vault over the pinguecula and the diameter made large enough to provide full surface protection. Over time the pinguecula regressed necessitating the need for refitting.

CASE 2 DESCRIPTION:

A 50 year old male with history of keratoconus presented in 2013 with complaint of chronic painful red eyes and was originally fit with a notched scleral lens. Upon return in 2015, patient was still experiencing irritation, so an impression was taken and elevation was vaulted over with a first generation elevation specific scleral lens. In 2016, elevation showed improvement from elevation specific scleral lens wear. In 2019, his pinguecula resolved and air was drawn in under the lens edge. New impressions were obtained to manage the lens edge over vault.



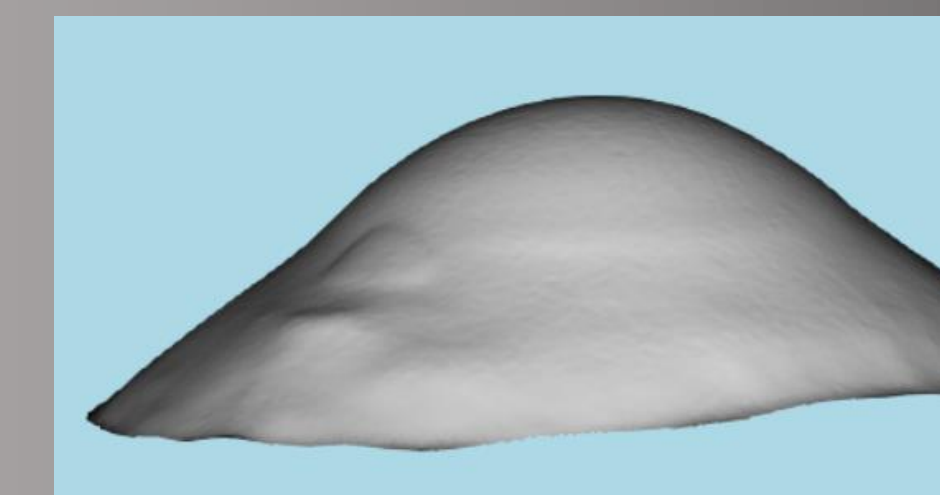
December 2013



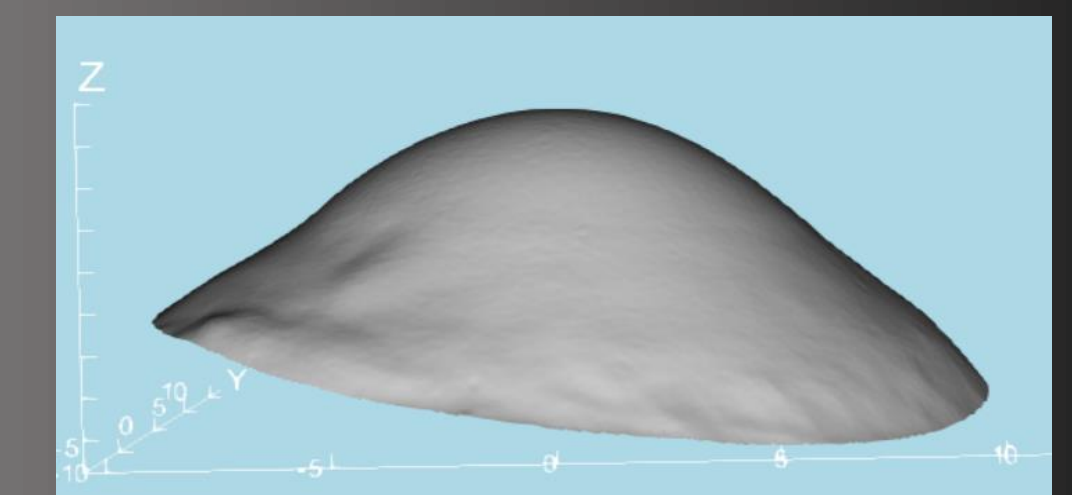
July 2015



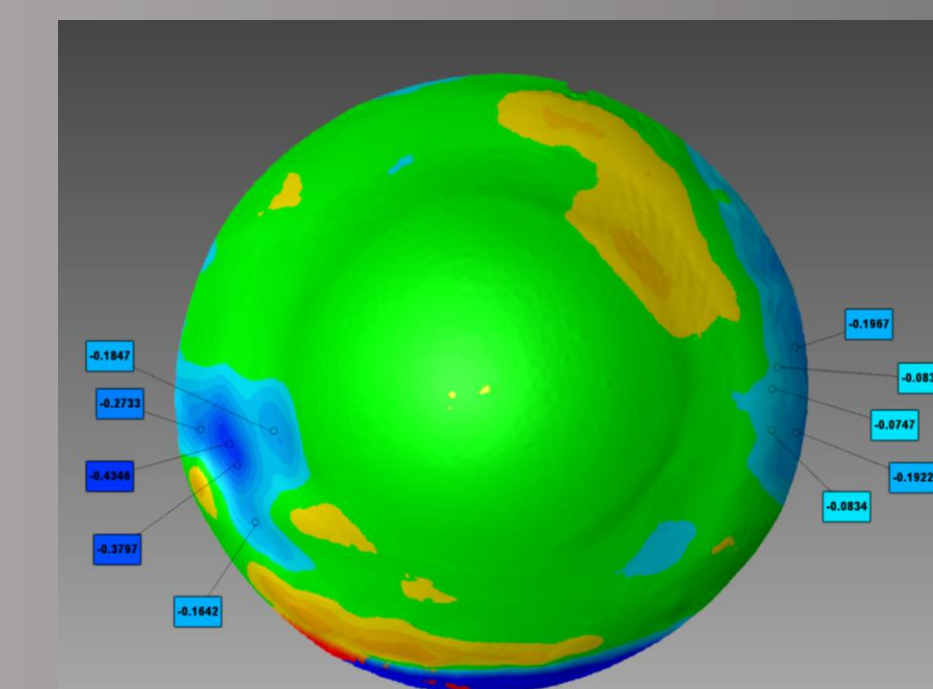
October 2019



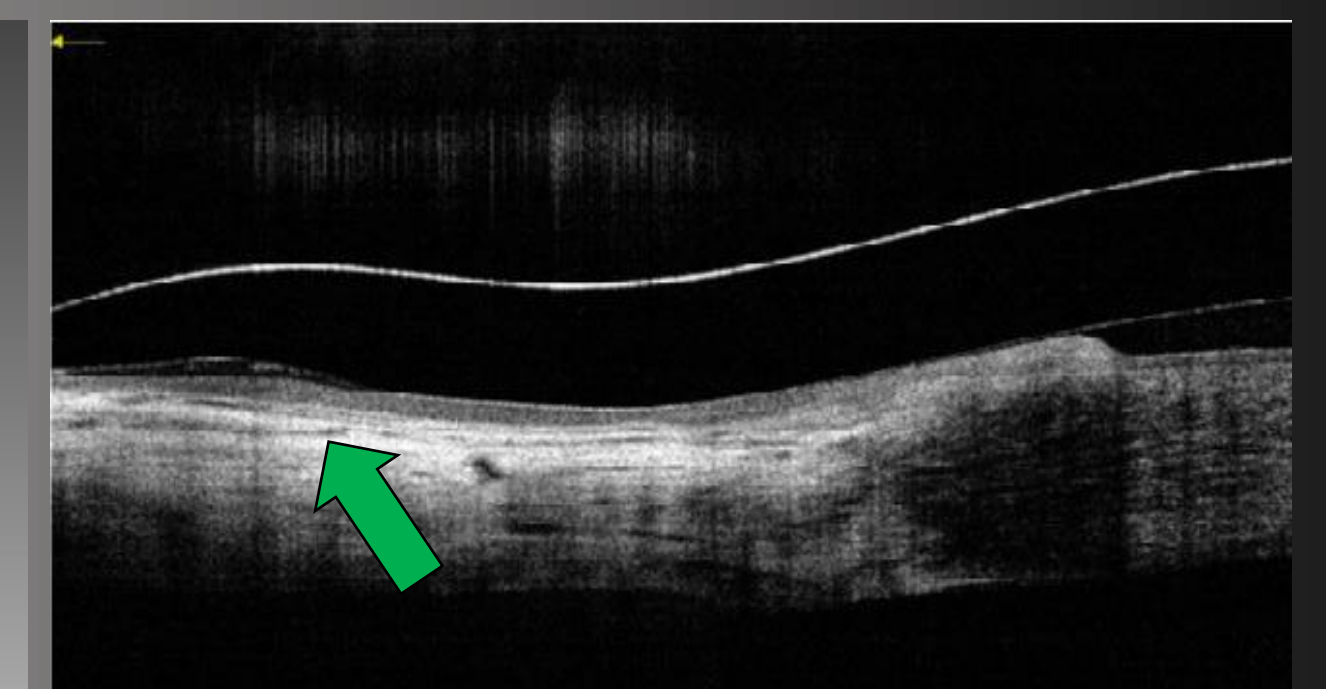
Impression after notched scleral lens removal



Impression after one year of elevation specific lens wear



Ocular Surface elevation comparison map from pre to post elevation specific lens wear



AS-OCT shows tissue remodel causing a gap between the haptic of the lens and the sclera after 4 years of lens wear.

CONCLUSIONS

Scleral lenses not only serve to protect the corneal surface from the elements, frictional forces of the eyelids, and desiccation/dry eye, they also protect the conjunctiva and sclera to the point where pinguecula can shrink over time when they're protected by a well fit scleral lens adequately designed to vault over them. It can be important to let patients know this in advance, as refitting may need to occur over time to ensure optimal alignment with the sclera.

REFERENCES

1. J.C. Yam, A.K. Kwok, Ultraviolet light and ocular diseases, Int Ophthalmol 34 (2014) 383–400.
2. Walker MK, Schornack MM, Vincent SJ. Anatomical and physiological considerations in scleral lens wear: conjunctiva and sclera. Contact Lens and Anterior Eye. 2020 Dec 1;43(6):517-28.