



Prosthetic Contact Lens Use for a Case of Interface Fluid Syndrome 15-Years Post-LASIK

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BACKGROUND

Interface fluid syndrome (IFS) is a rare sight-threatening complication of laser in situ keratomileusis (LASIK) in which fluid collects in the flap interface. IFS generally appears in the early post-operative period, however can occur years after the initial LASIK procedure. The most common causes of IFS are elevated intraocular pressure, endothelial decompensation, and uveitis. This presentation details a case of interface fluid syndrome in a patient who had undergone a complicated retinal detachment surgery with silicone oil 15 years after LASIK surgery in her left eye. She presented to the clinic for consultation of a cosmetic contact lens (CL) to hide the opacification of her eye.

CASE DESCRIPTION

A 66-year-old female presented for an evaluation for a cosmetic soft contact lens (CL) OS. Her ocular history was remarkable for LASIK OU, neovascular glaucoma and a complicated retinal detachment (RD) surgery with silicone oil OS. She reported that she had maintained good vision OU until her RD OS. After a complicated RD surgery, she developed neovascular glaucoma and an ERM. Her retinal surgeons advised against pursuing another surgery OS due to limited visual potential. The patient’s goal was to obtain a cosmetic CL to wear at social functions and hide the opacification of OS. She denied eye pain.

TABLE 1

	Right Eye (OD)	Left Eye (OS)
Visual acuity (cc)	20/20-3	Hand motion
Entrance Testing	Unremarkable	Fixed, non-reactive pupil (+) APD
Conjunctiva	trc-1+ bulbar hyperemia (greatest N/T)	trc-1+ bulbar hyperemia, 3 sutures superiorly (2 loose sutures removed in office)
Cornea	LASIK flap intact	Separation of LASIK flap due to fluid accumulation, 3-4+ diffuse PEE, 2-3+ MCE, diffuse peripheral corneal neo 360
Anterior Chamber	Deep and quiet	Silicone oil bubbles
Iris	Flat and intact, brown	NVI 360, PAS
Lens	1+ NSC	ACIOL with fibrotic membrane (limited view due to corneal haze)
Posterior Segment	Unremarkable	S/p RD repair, scleral buckle, CME, neovascular glaucoma

Given the accumulation of fluid within the LASIK flap interface and significant corneal edema, the patient was educated on the potential risk that her cornea may not be able to support long-term wear of a CL. She expressed that she only planned to wear the CL on a limited basis, primarily for social outings. A discussion regarding different cosmetic CL options were reviewed. The patient elected to pursue a solid brown tinted soft CL. She was fit into a custom clear CL and color-matched with a tinted brown CL. Upon receiving the final tinted soft CL, the patient returned for a dispense visit and a subsequent follow-up visit to ensure that the final color match and fit were deemed acceptable and safe for wear. The patient expressed good comfort and satisfaction with the cosmesis of the final lens and her cornea remained stable. The final brown tinted CL was tinted at a 11.5mm diameter to best match her horizontal visible iris diameter OD. The tinted CL can be seen in Figure 3 on the left eye.

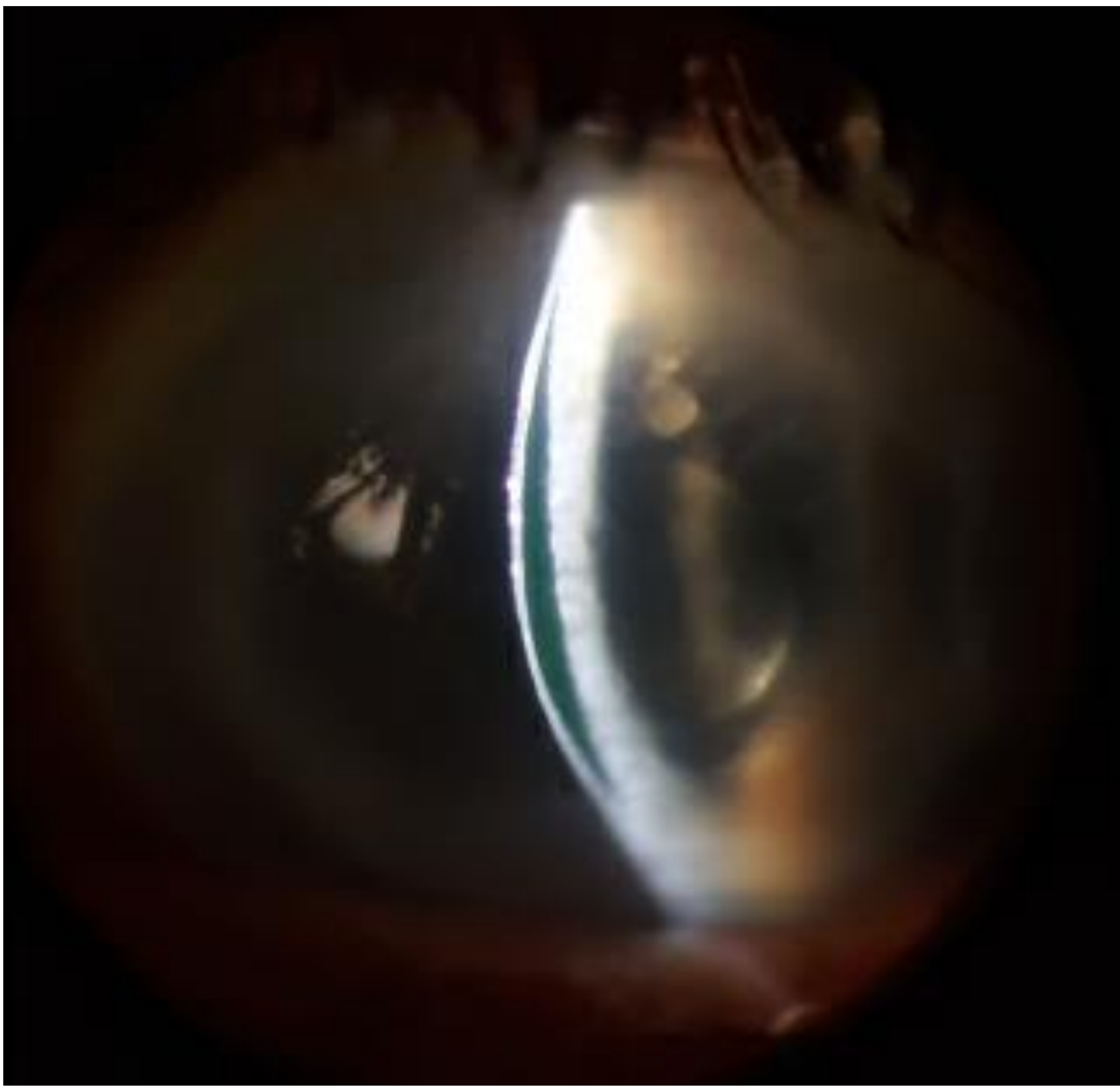


FIGURE 1: A photo of the cornea in the left eye behind the slit lamp demonstrating fluid within the LASIK flap interface and corneal haze after sodium fluorescein application

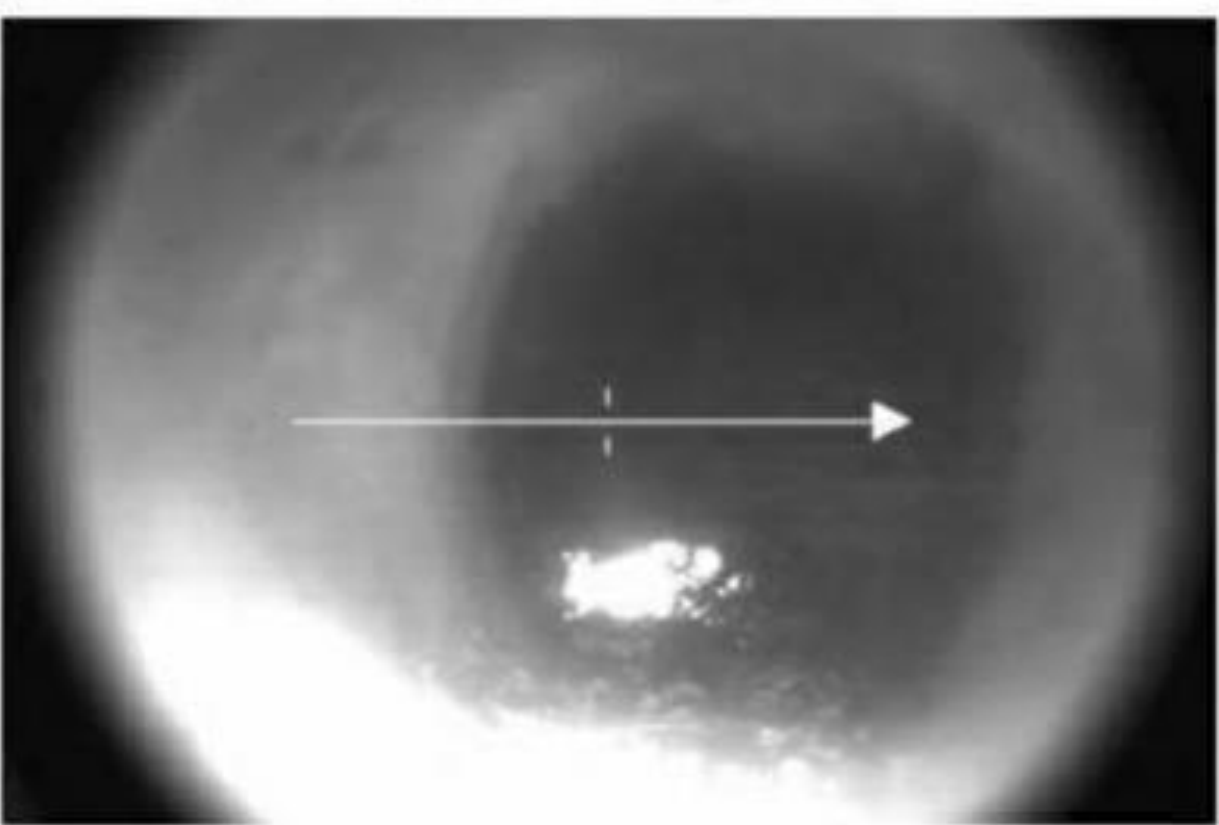
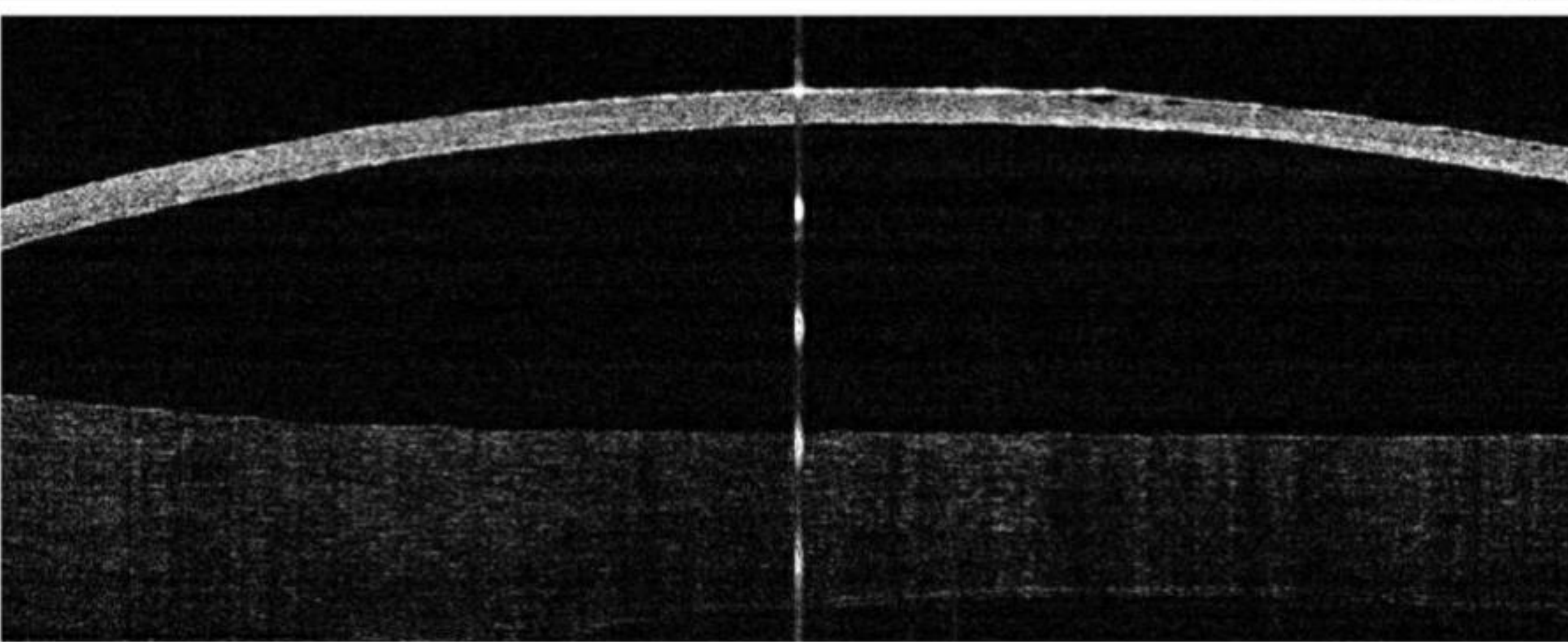
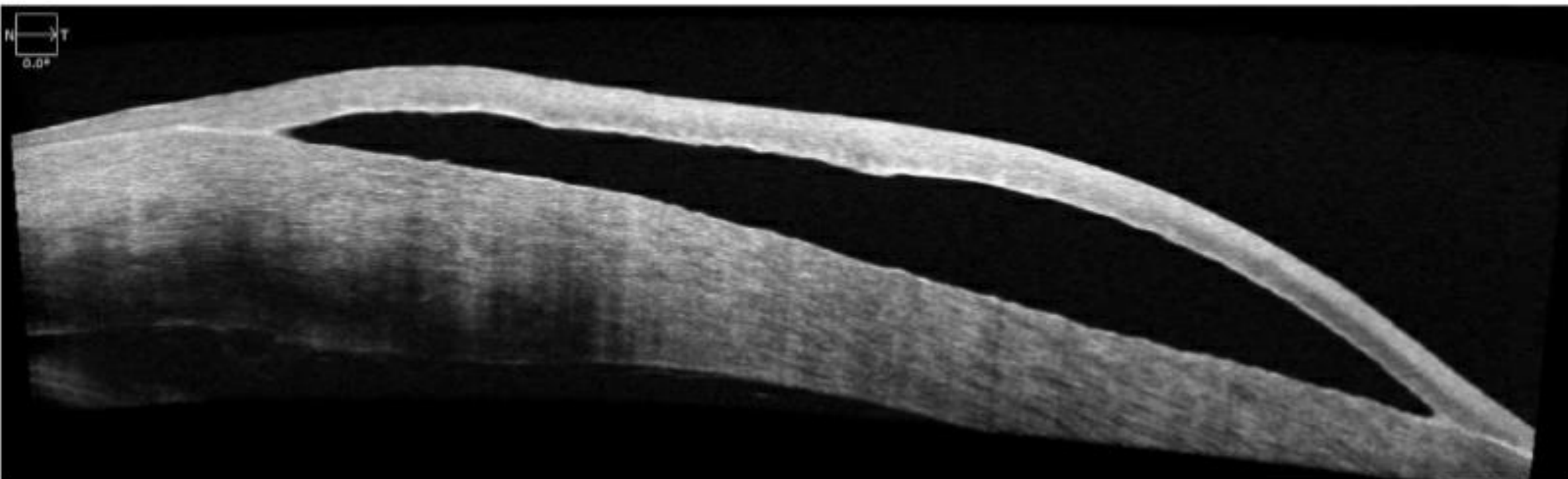


FIGURE 2: Anterior segment OCT images demonstrating the presence of significant fluid within the LASIK flap interface



FIGURE 3: A photo of the tinted prosthetic brown lens on the left eye of the patient

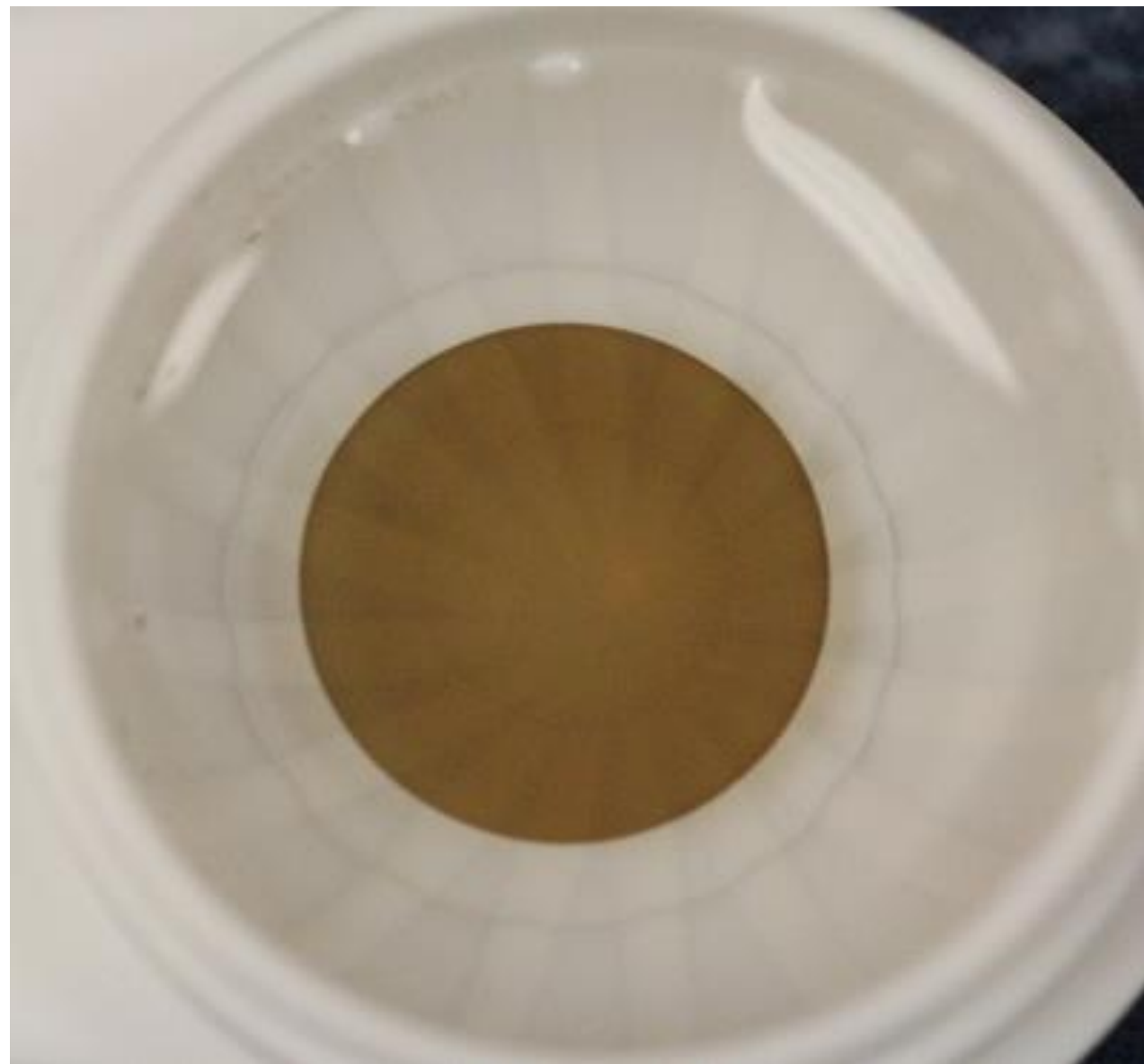


FIGURE 4: A photo of the tinted brown lens within a contact lens case

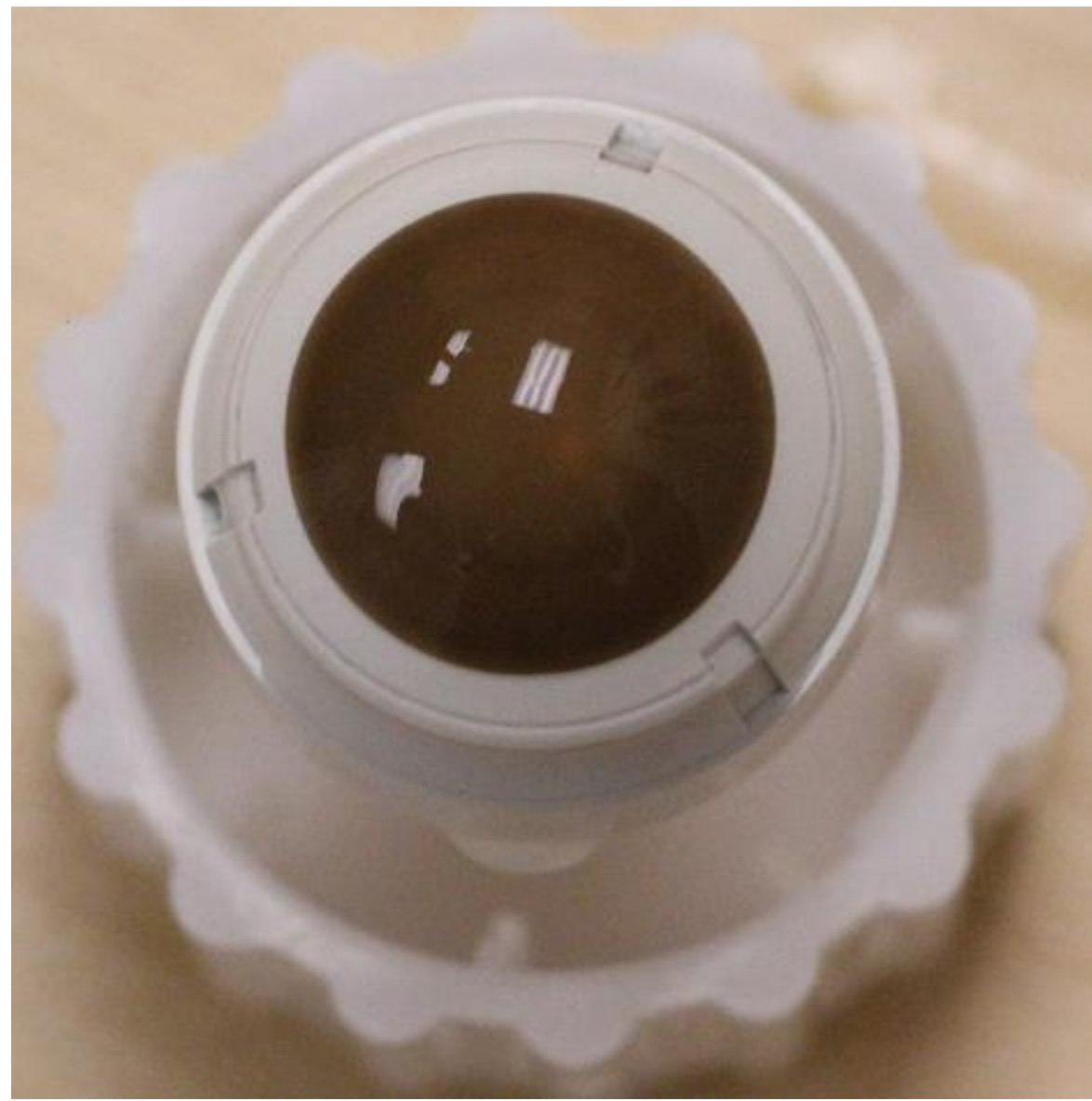


FIGURE 5: A photo of the tinted brown lens on a contact lens stand

DISCUSSION

- Interface fluid syndrome is a complication after laser in situ keratomileusis (LASIK) where fluid collects within the flap interface.
- IFS can occur many years post-operatively, though it most commonly occurs early on in the post-operative period.
- Patients with brown irides may have good cosmesis outcomes with a solid brown tinted lens.
- When fitting a patient with a prosthetic contact lens, it is important to assess the lens on eye as the CL may appear lighter in a case or on a stand than when placed on the eye. It is therefore important to trial lenses on eye for final color matching.
- It is important to assess anterior segment health at follow-ups to ensure that contact lens wear does not negatively impact corneal health.

CONCLUSION

While IFS is an uncommon complication after LASIK and generally occurs in the early post-operative period, it can occur years down the line and should be monitored as a potential life-long complication. The potential space between the flap and stroma may accumulate fluid and cause vision reduction if left untreated. Treatment for IFS typically includes attempts to decrease intraocular pressure, or surgical intervention. For patients who have undergone failed ocular surgeries that result in IFS, significant edema may result in a disfigured eye that patients are self-conscious of. In these cases, a soft prosthetic lens may be considered to improve cosmesis.

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