

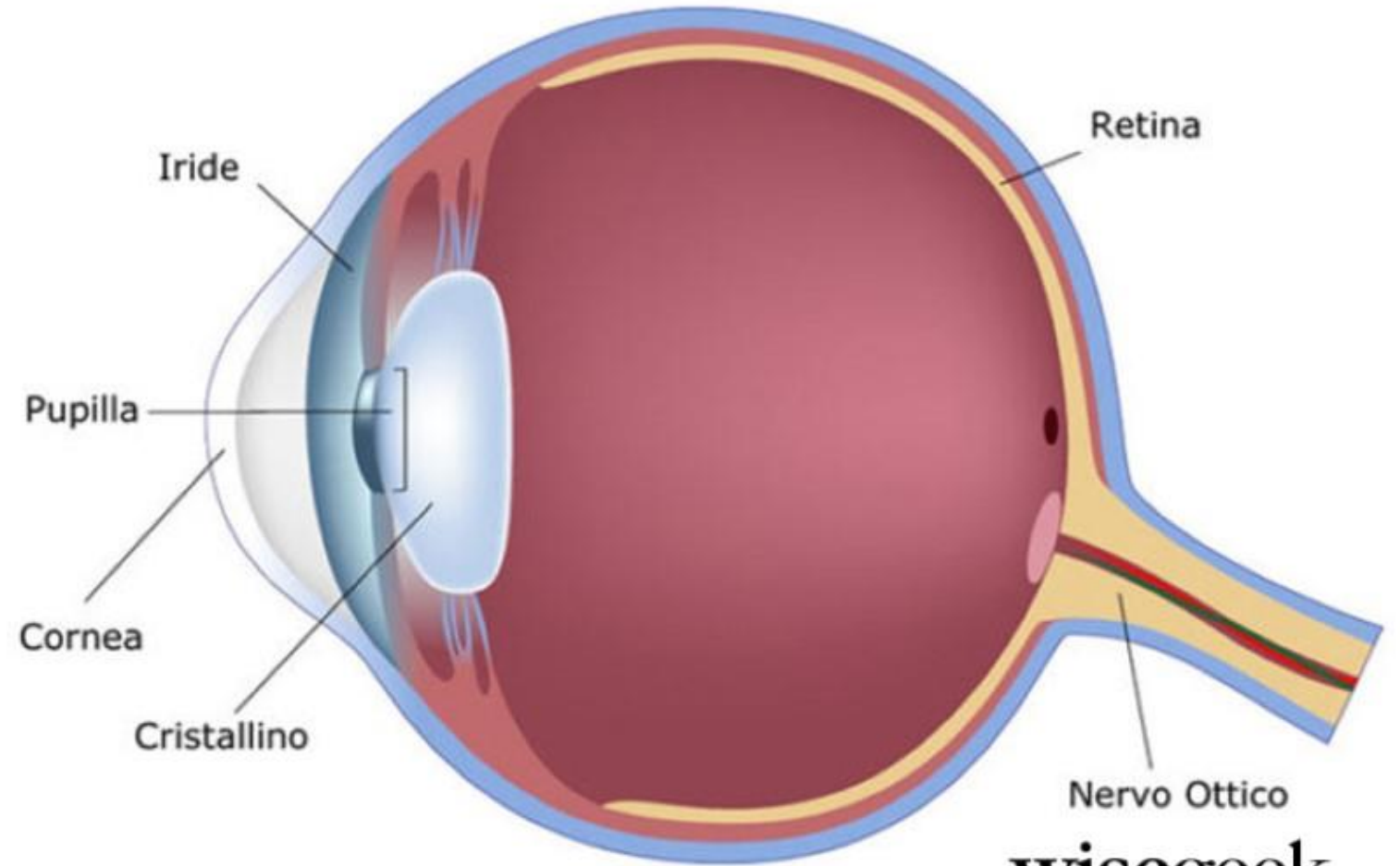
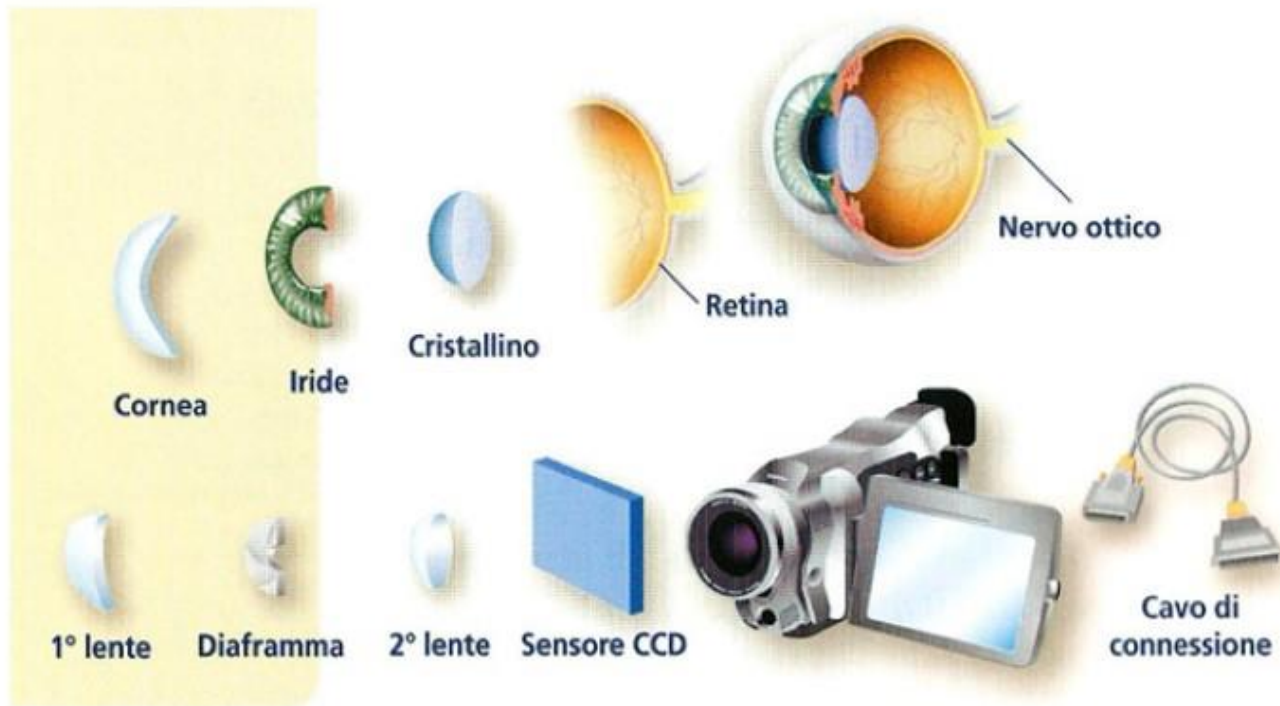


AS-OCT MS-39

Principi ottici ed applicazioni

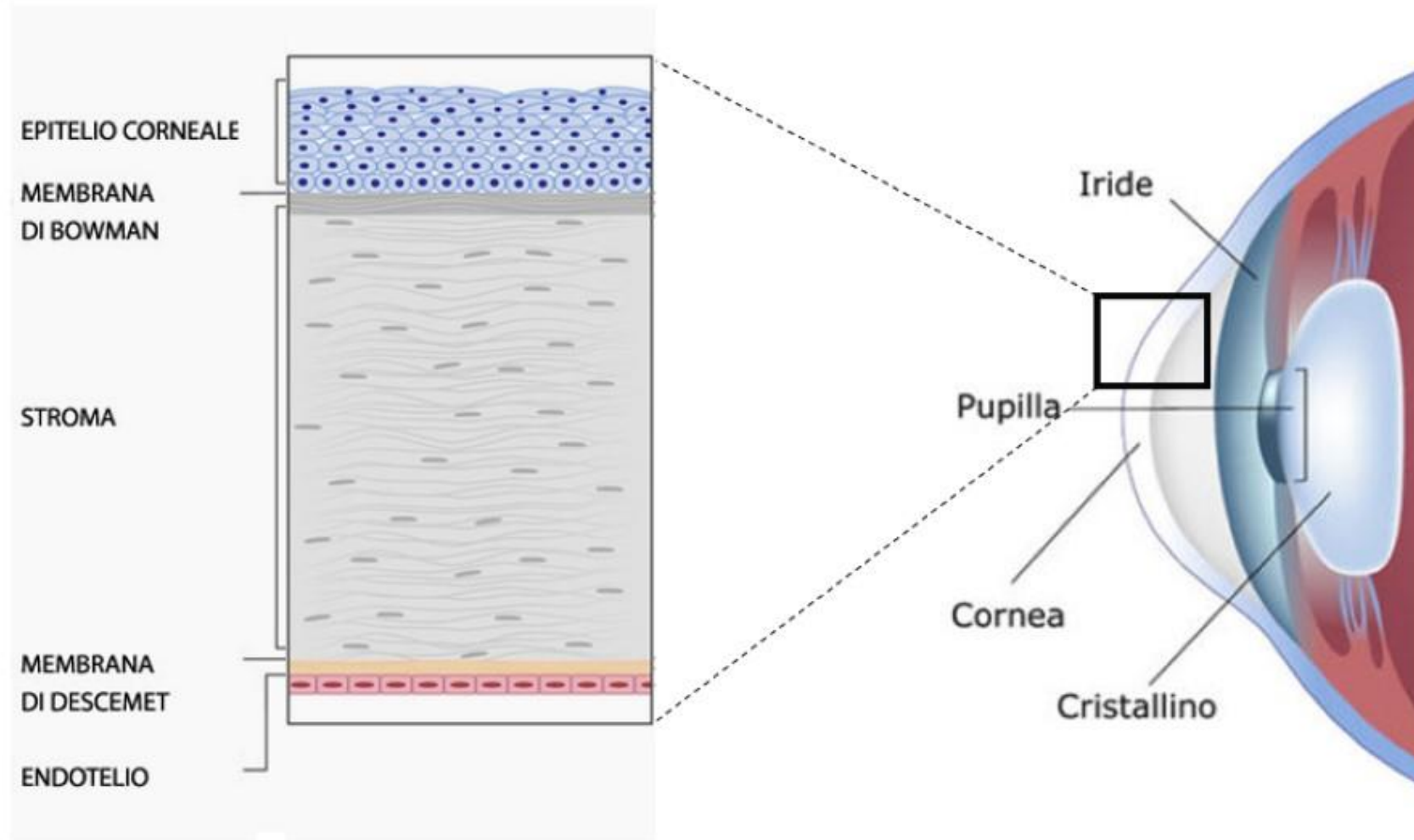
- **Com'è fatto l'occhio?**
- Come funziona un OCT?
- Principali applicazioni



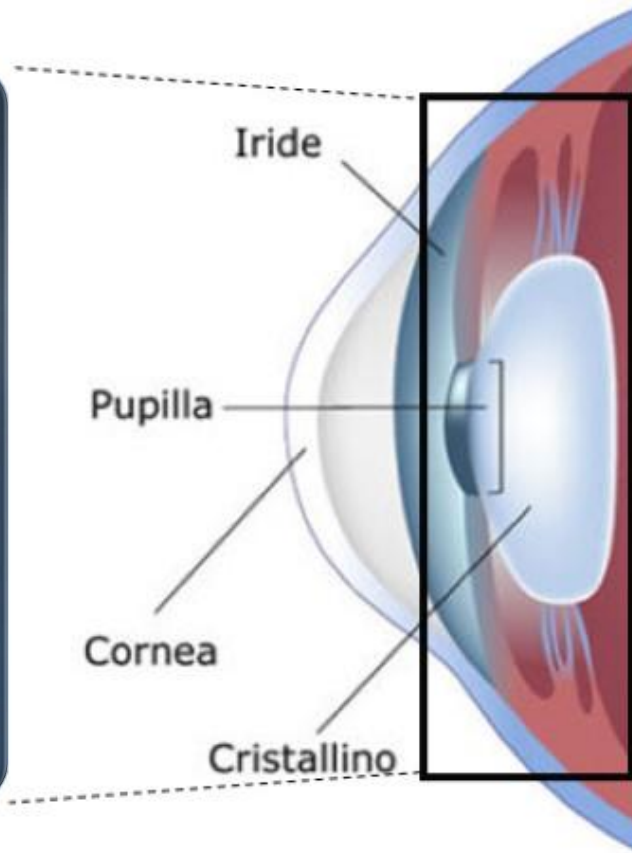
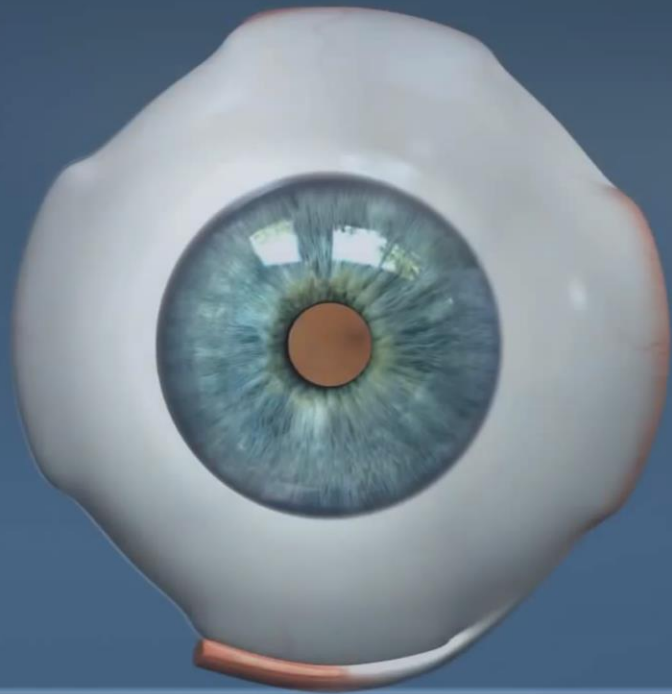


wisegeek

<https://www.wise-geek.com/what-is-the-anatomy-of-the-eye.htm>



wisegeek



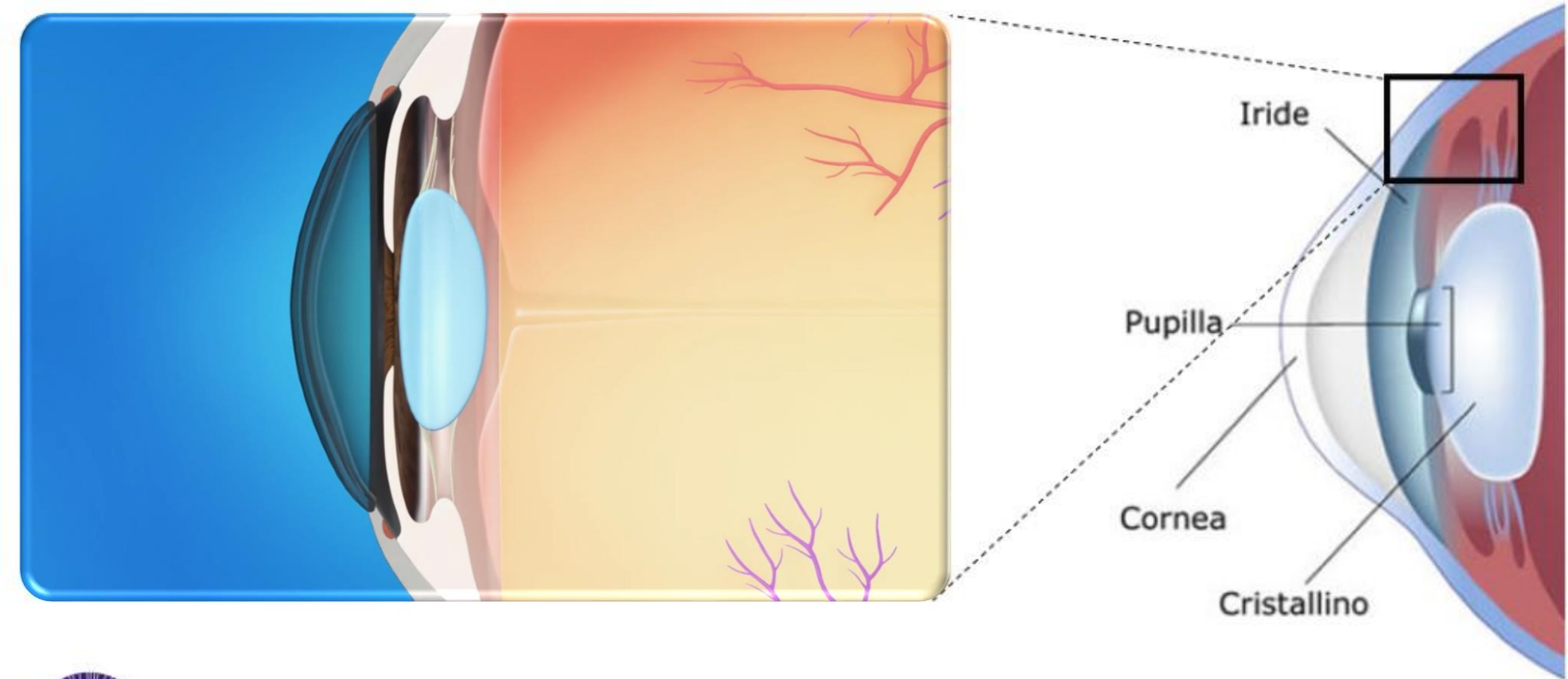
AMERICAN ACADEMY
OF OPHTHALMOLOGY®

ONE® Network
The Ophthalmic News and Education Network®

<https://www.aao.org/clinical-video/computer-model-of-accommodation>

wisegeek

<https://www.wise-geek.com/what-is-the-anatomy-of-the-eye.htm>



<https://www.aao.org/eye-health/diseases/what-is-glaucoma>

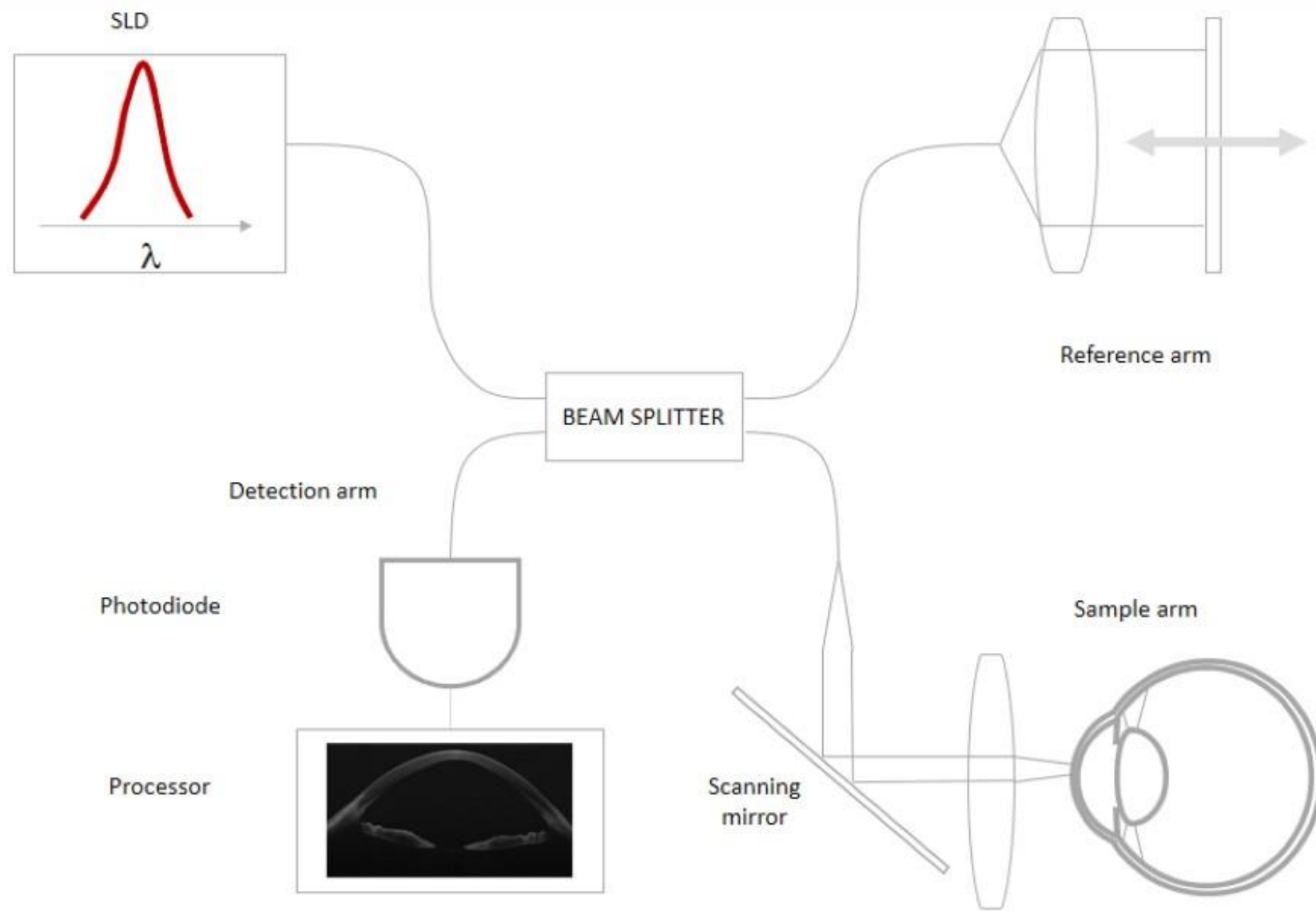
wisegeek

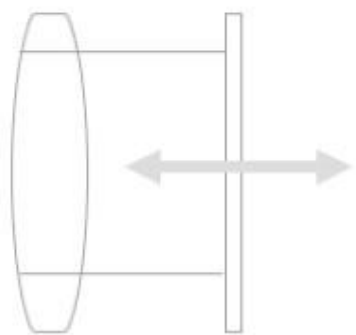
<https://www.wise-geek.com/what-is-the-anatomy-of-the-eye.htm>

- Com'è fatto l'occhio?
- **Come funziona un OCT?**
- Principali applicazioni

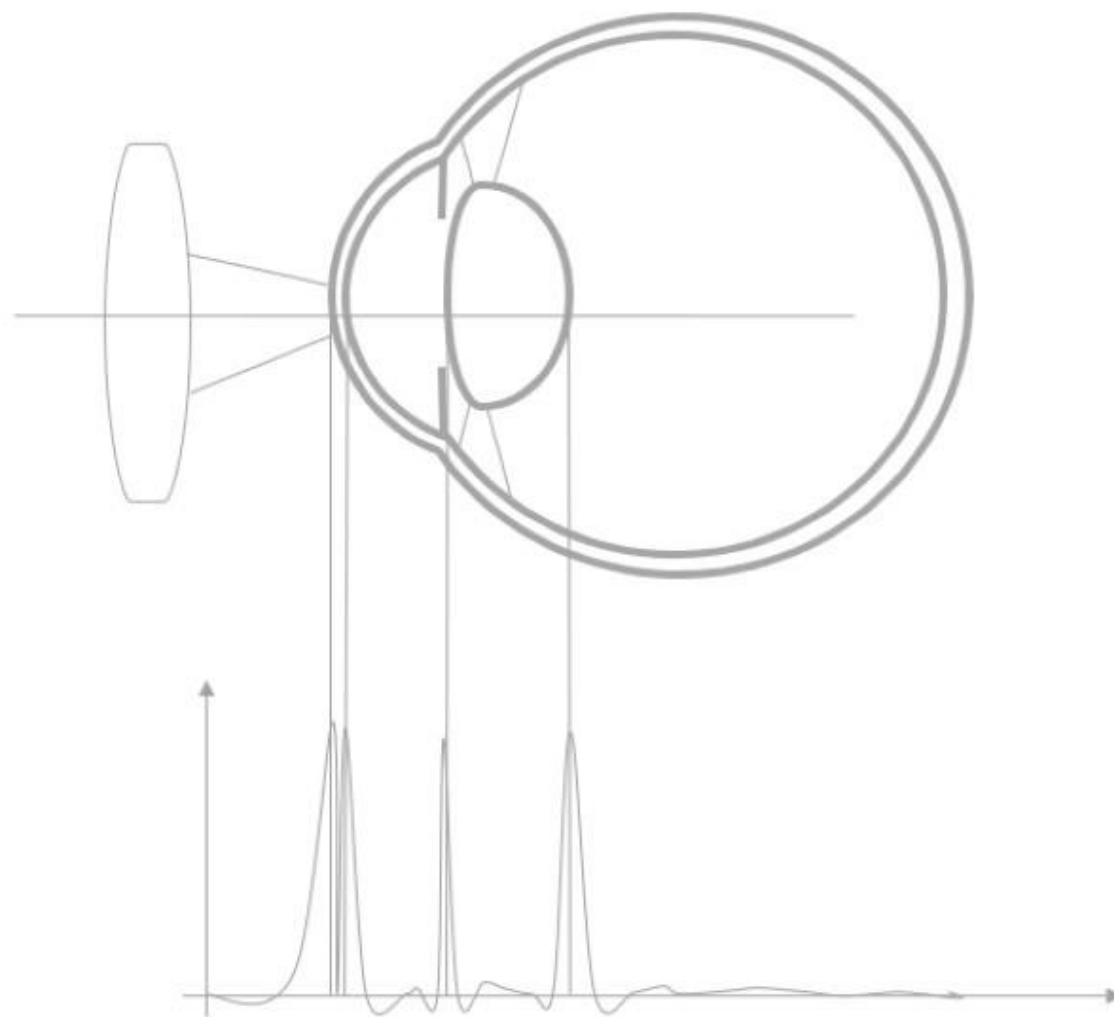


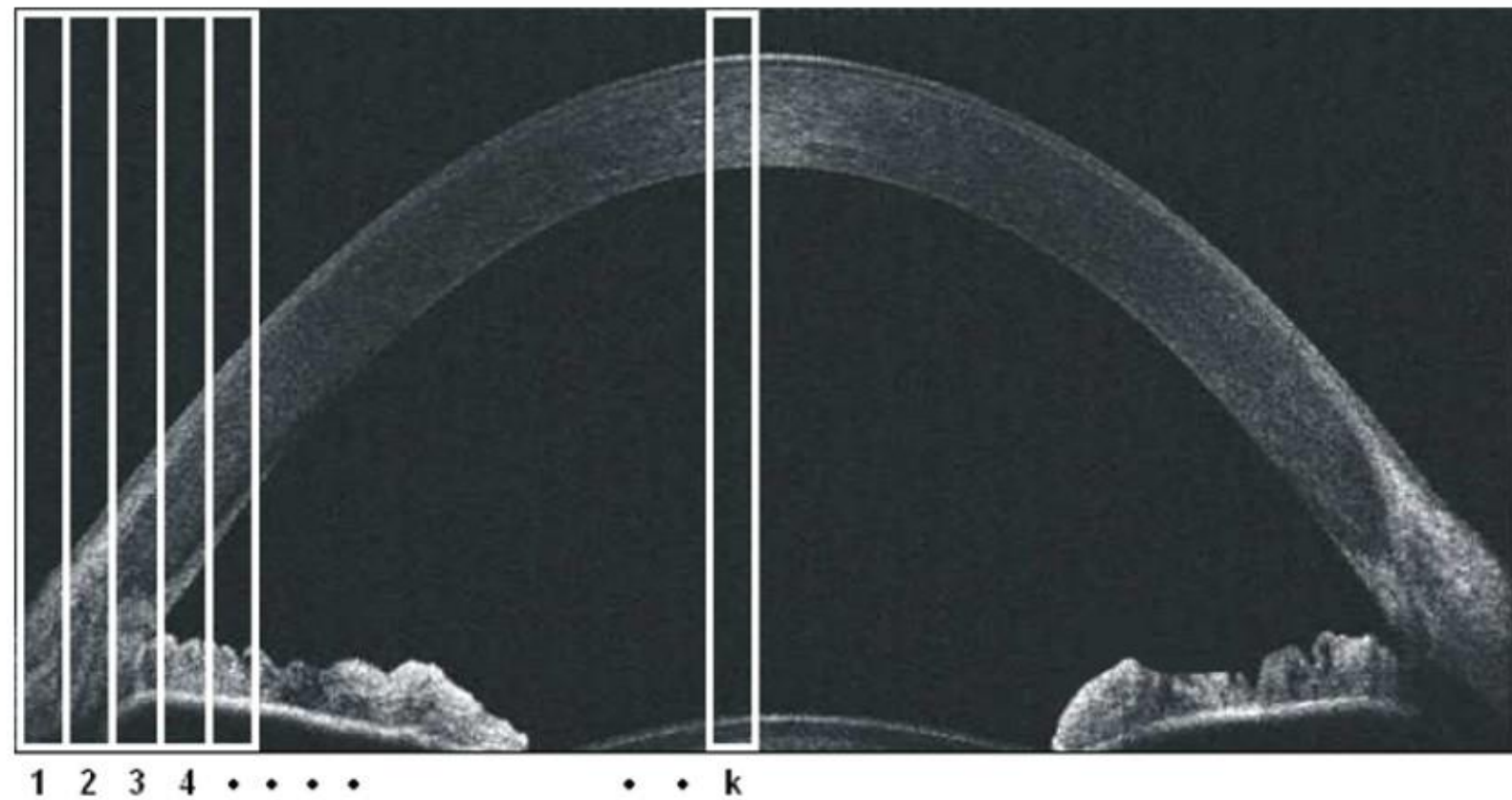
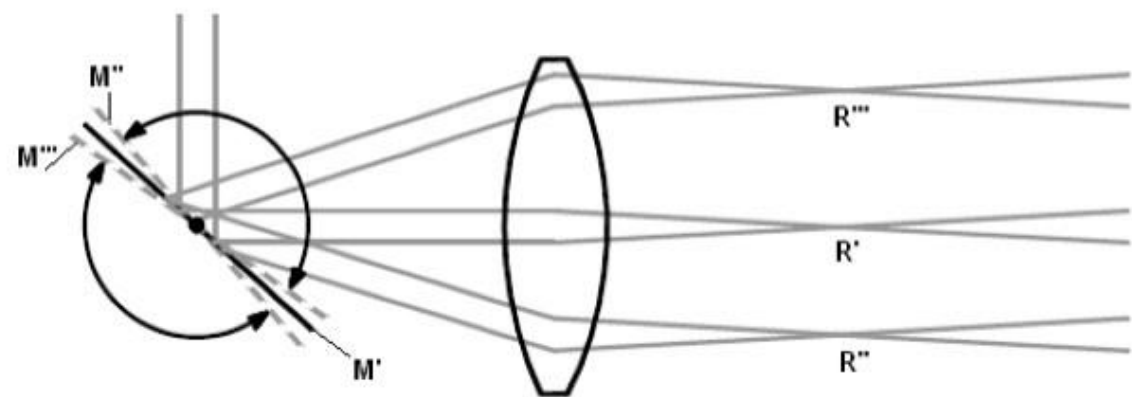
Time domain OCT

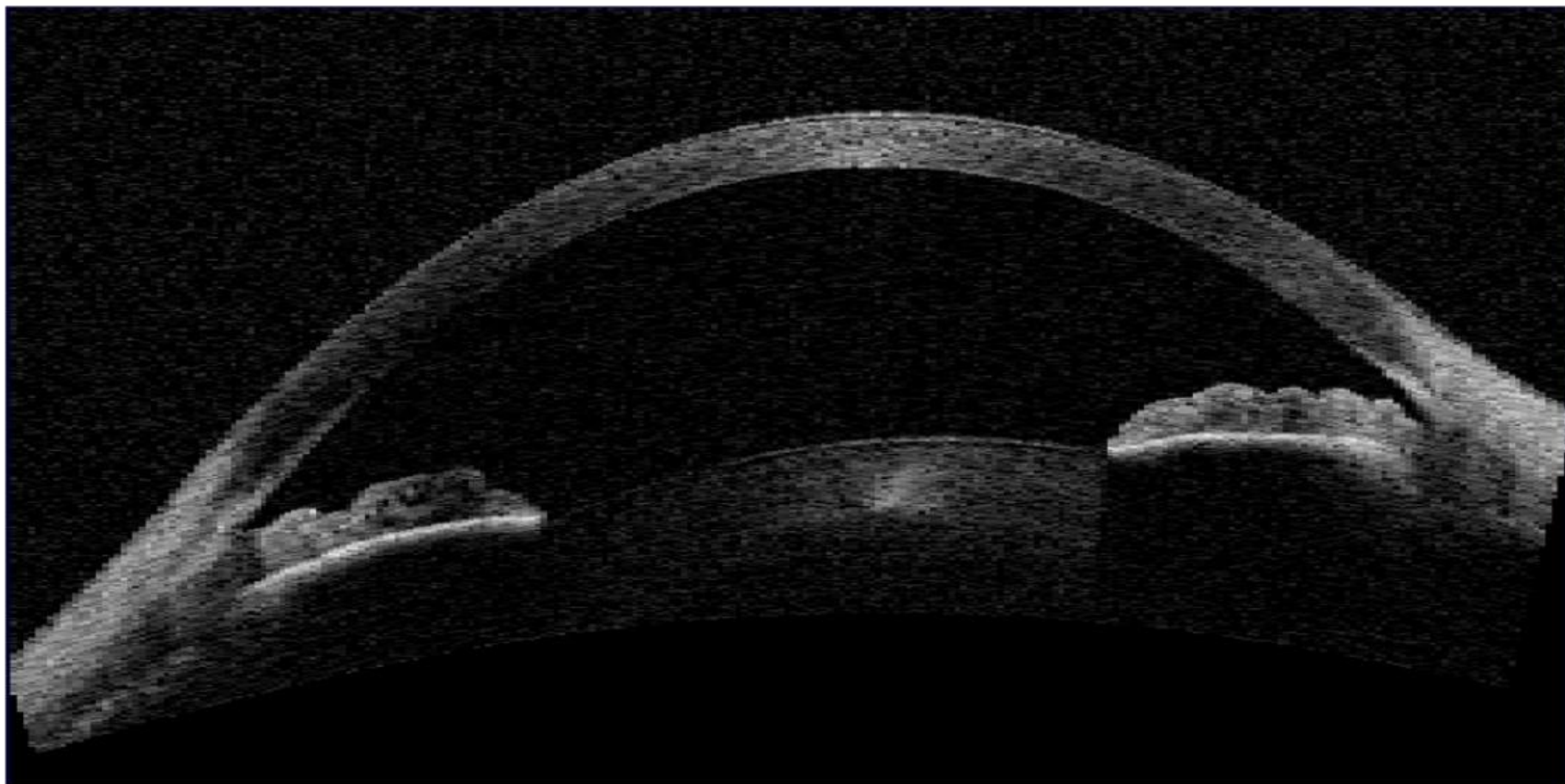




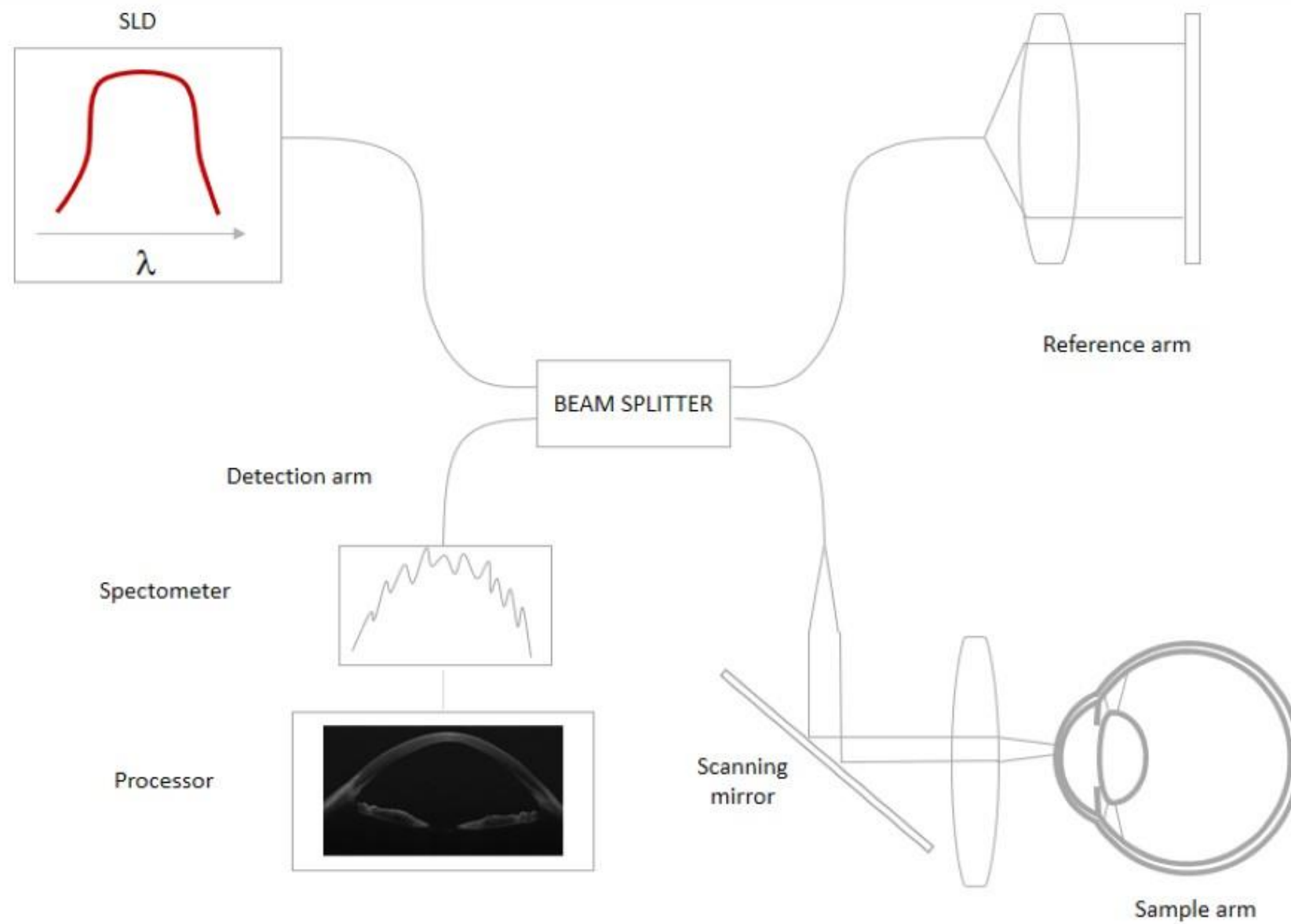
OCT A-Scan



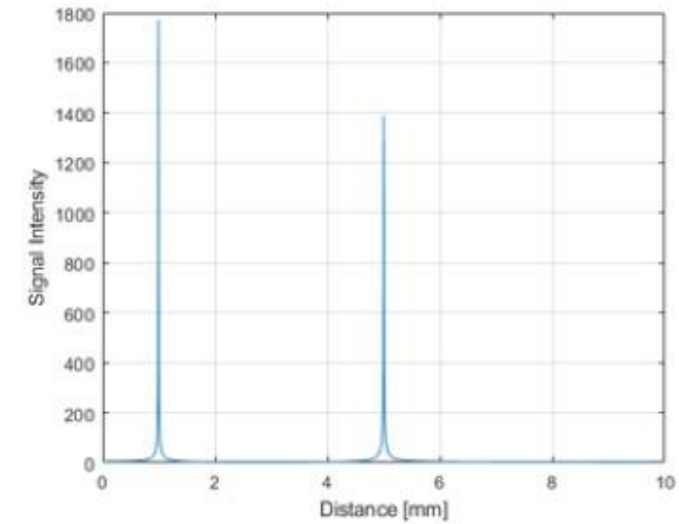
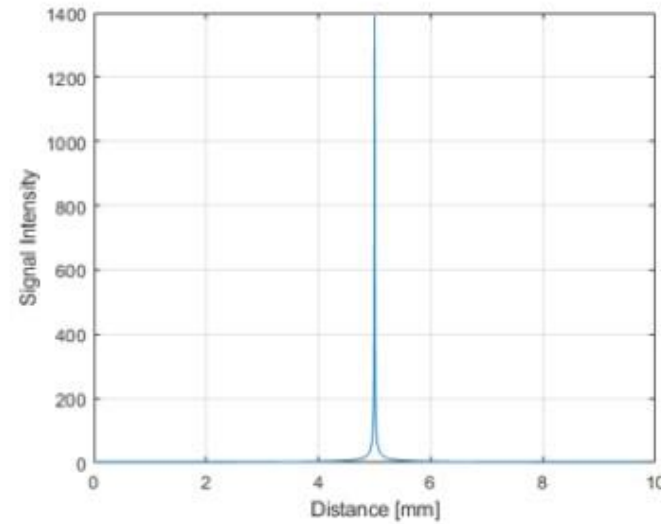
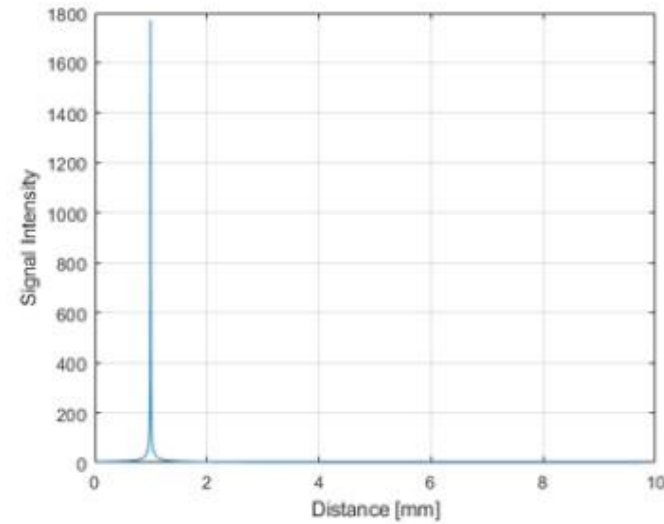
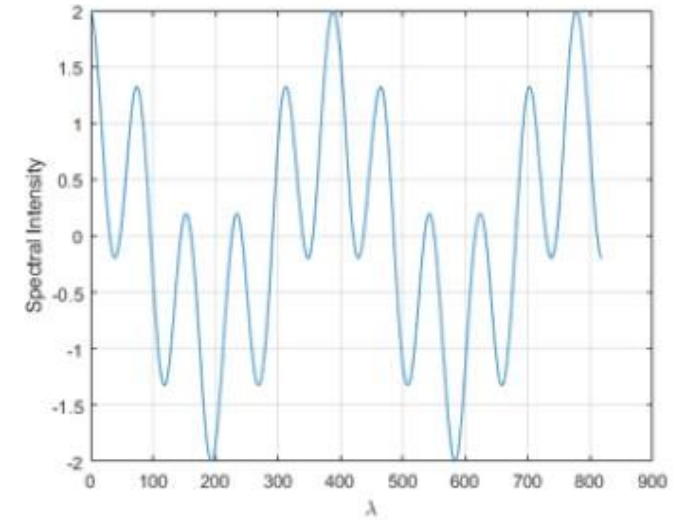
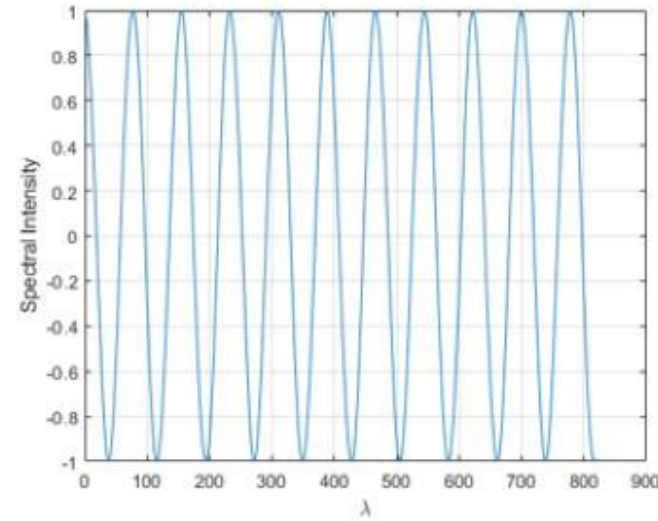
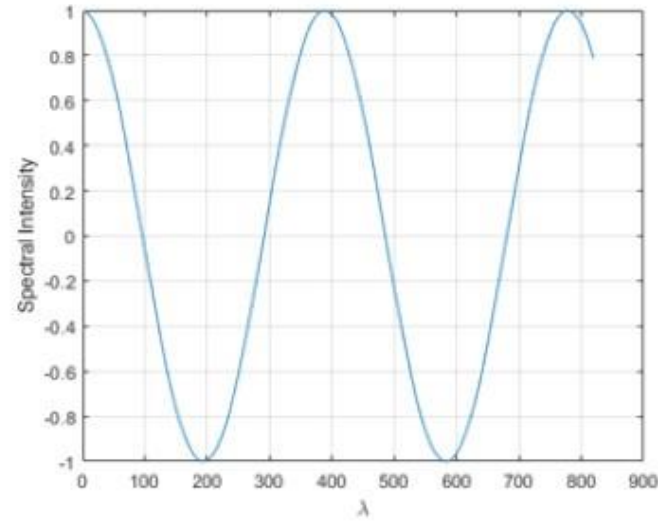


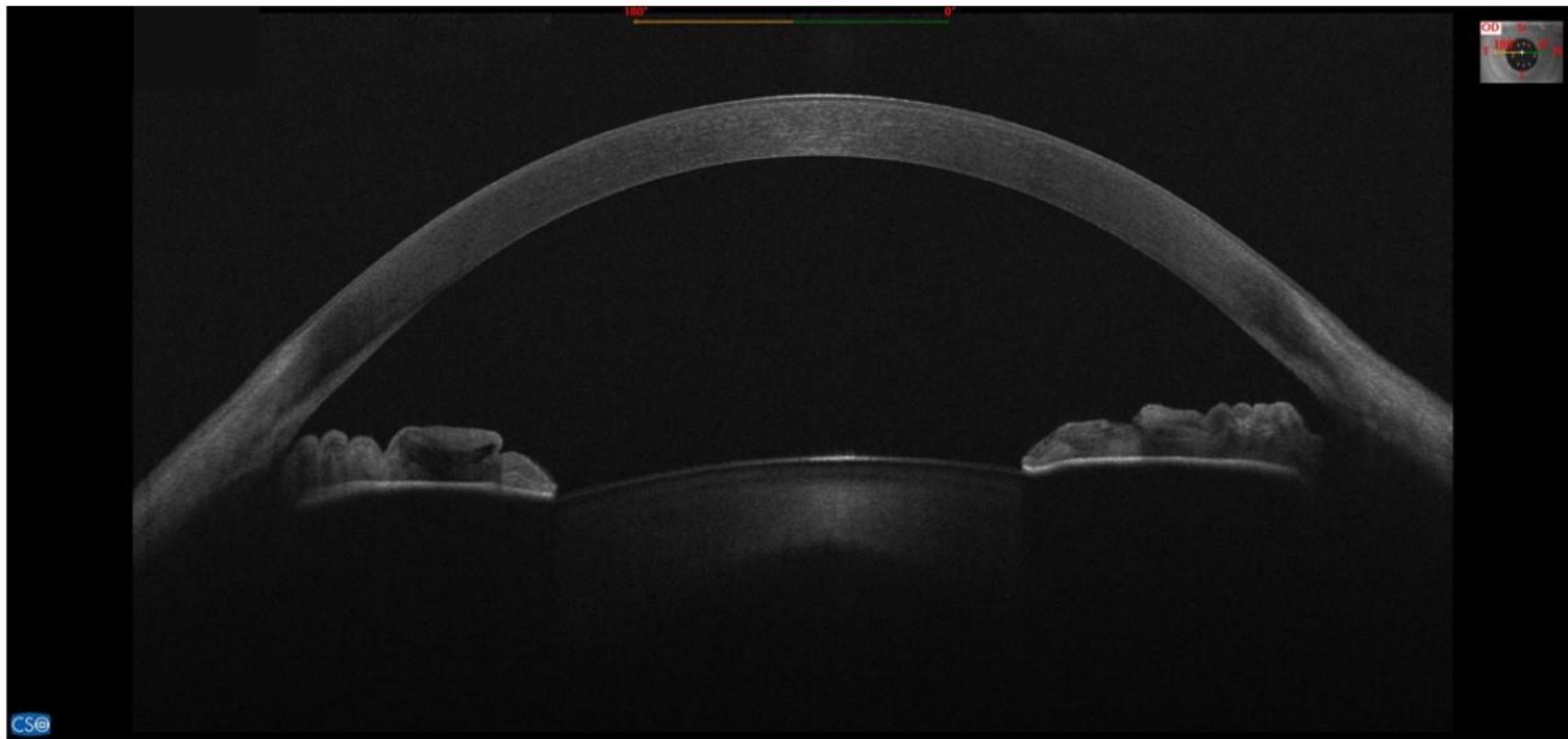


Spectral domain OCT



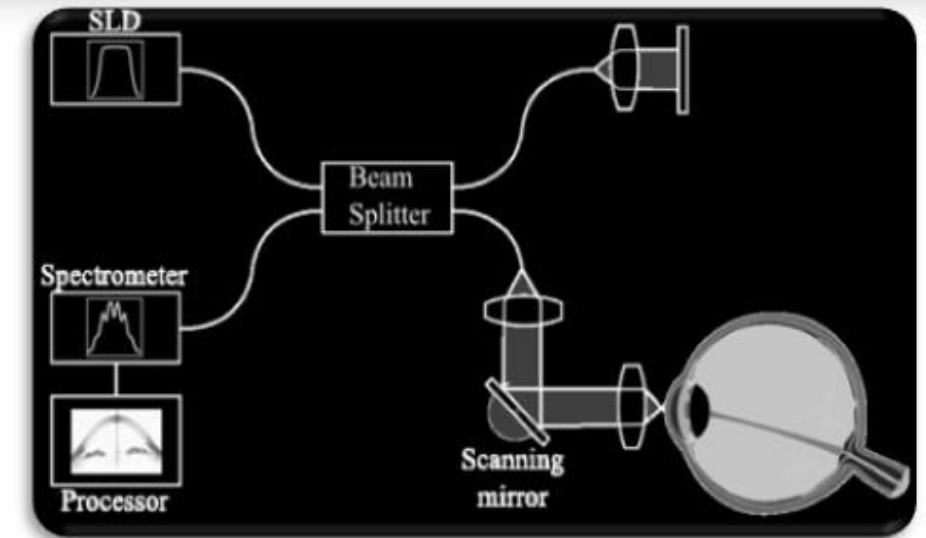
FD-OCT Processing: Fourier transform





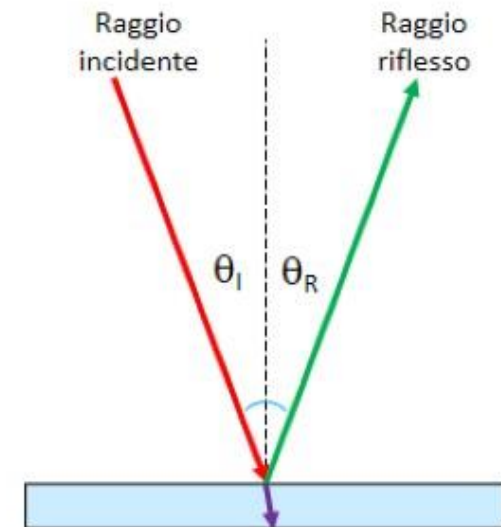


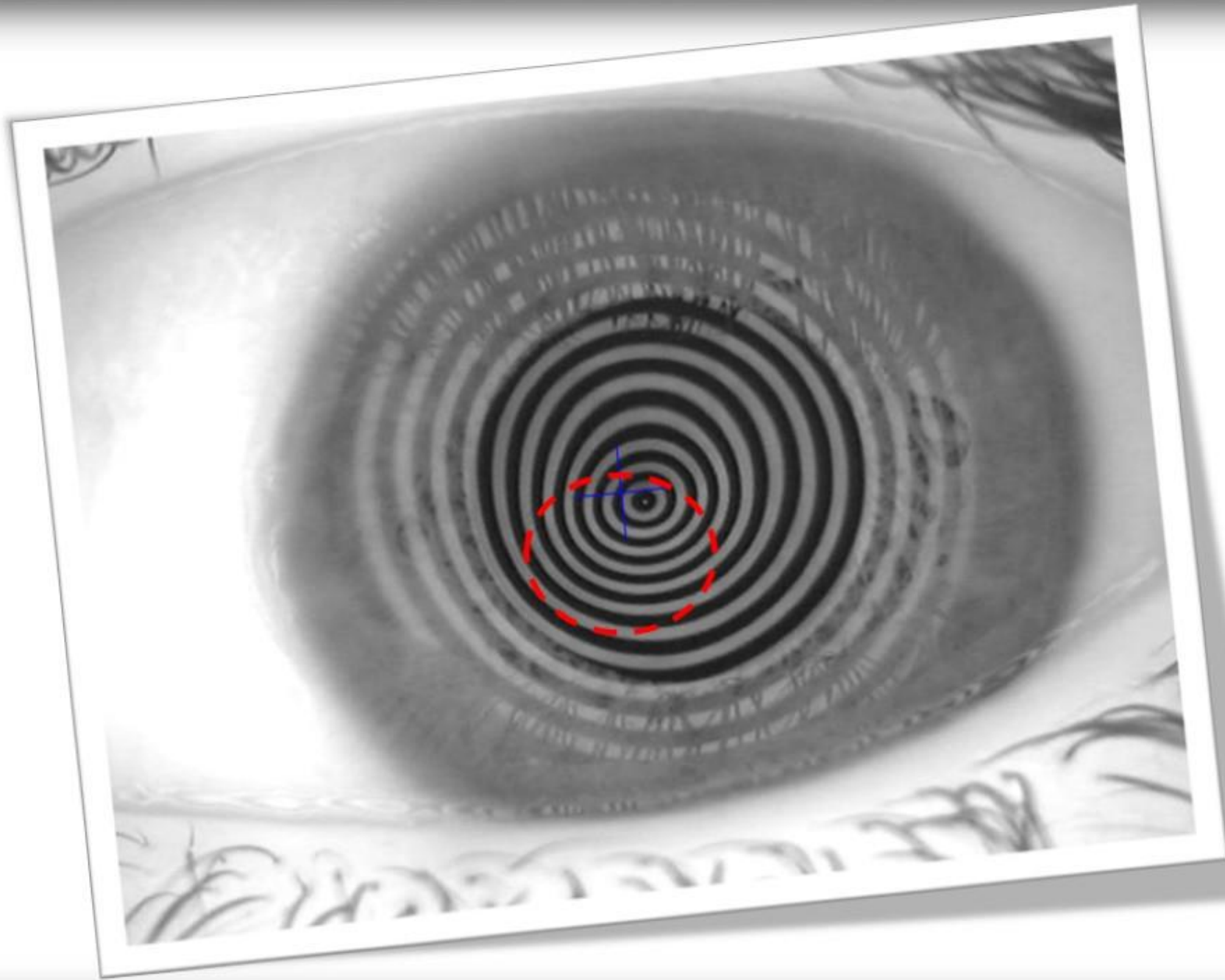
La tecnologia AS-OCT fornisce dati di elevazione e spessore ad alta risoluzione dell'intero segmento anteriore



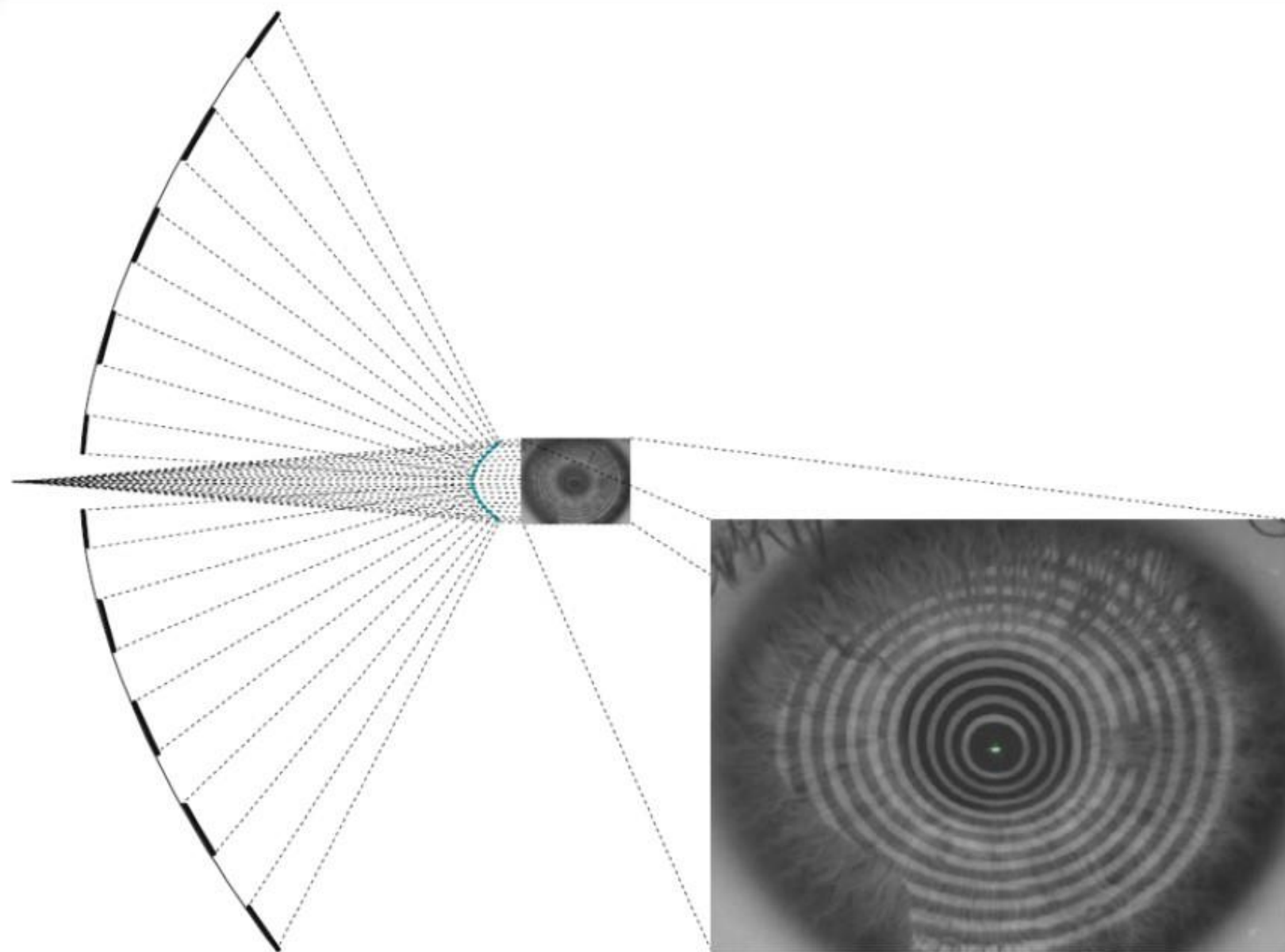
Anterior Segment - Spectral Domain - OCT

La ricostruzione ARC-STEP fornisce una misurazione diretta della curvatura e dei poteri di rifrazione

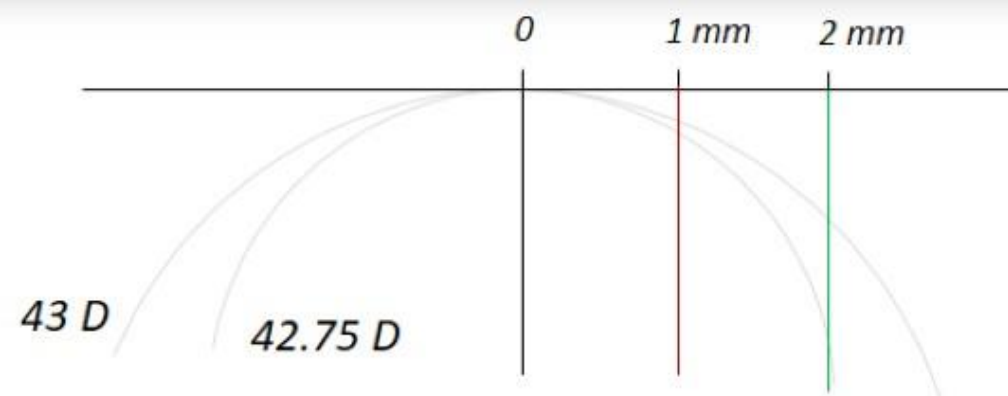




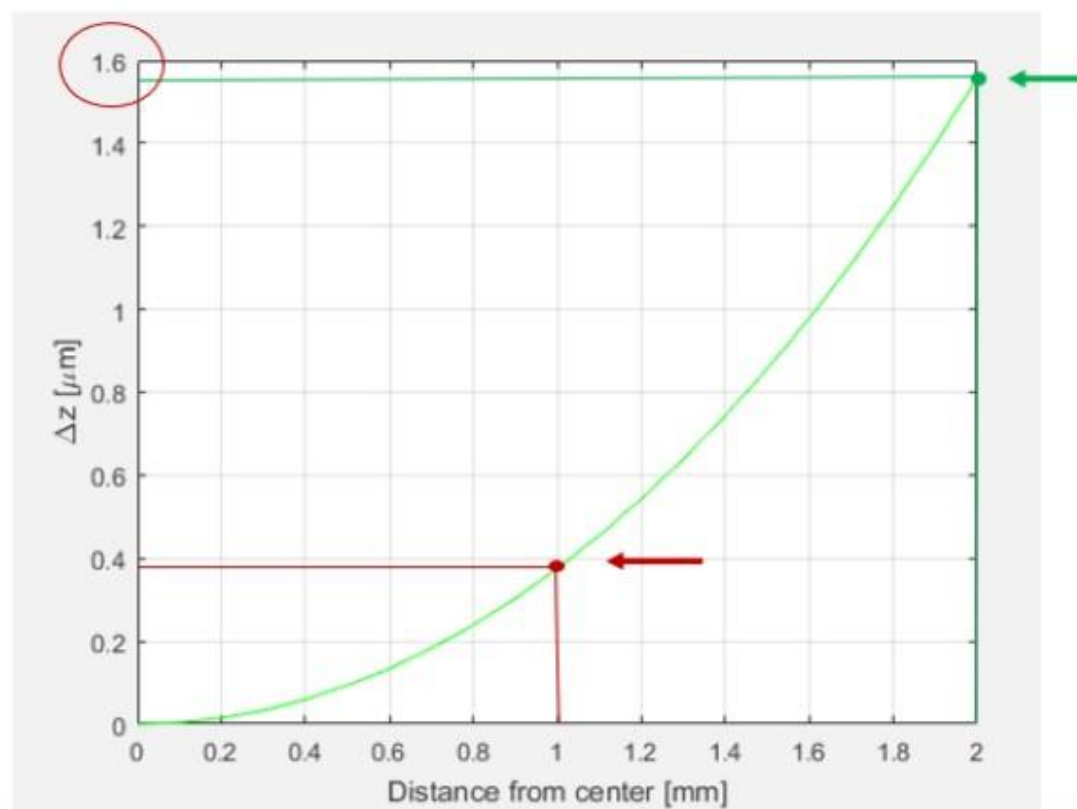
- Valutazione qualitativa
- Valutazione quantitativa



- Algoritmo iterativo
- Ray-tracing inverso

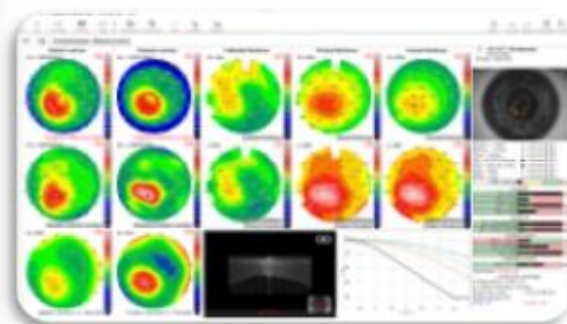


Differenza di profilo in termini di altezza fra due sfere con curvatura di 42,75 D e 43 D (7,89 e 7,85 mm)



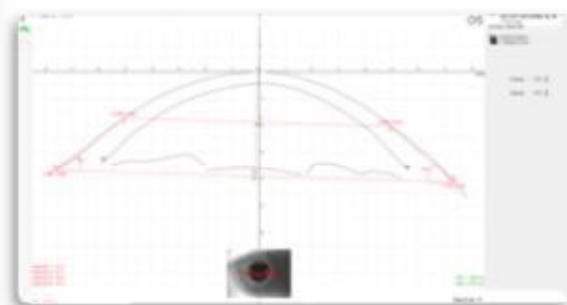
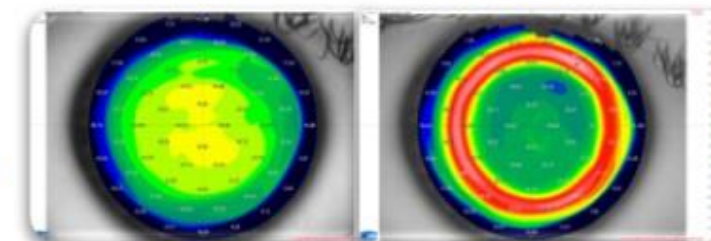
- Com'è fatto l'occhio?
- Come funziona un OCT?
- **Principali applicazioni**

Studio morfologico del segmento anteriore oculare

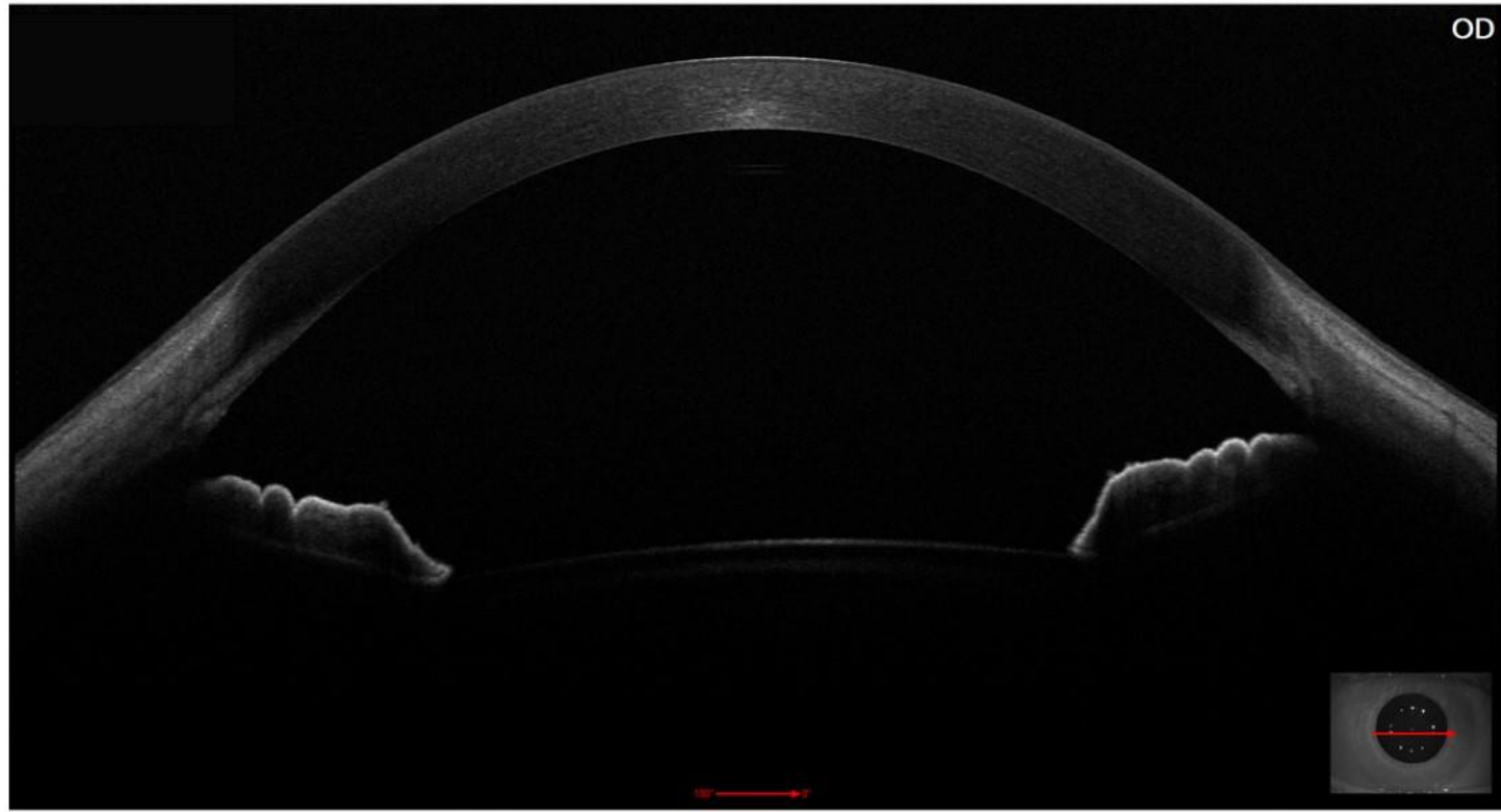
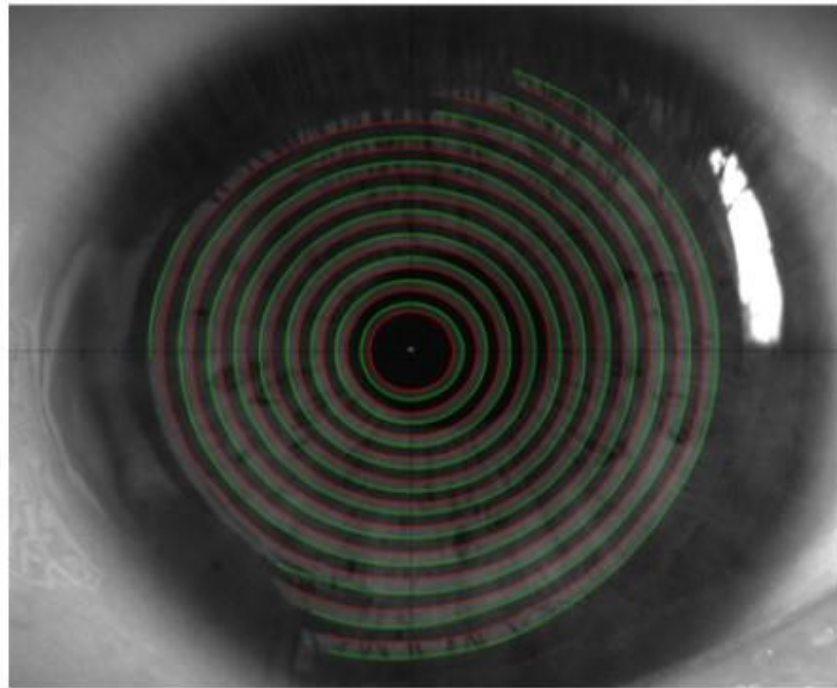


Sommari e screening dedicati

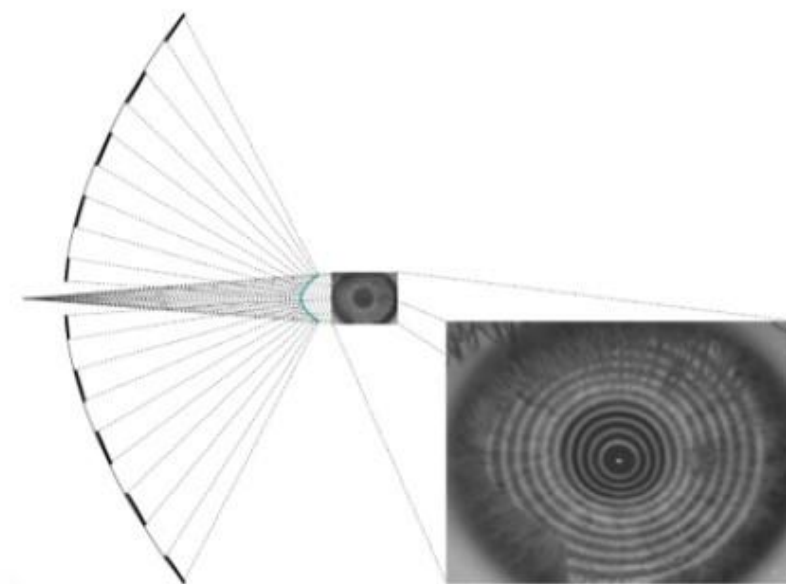
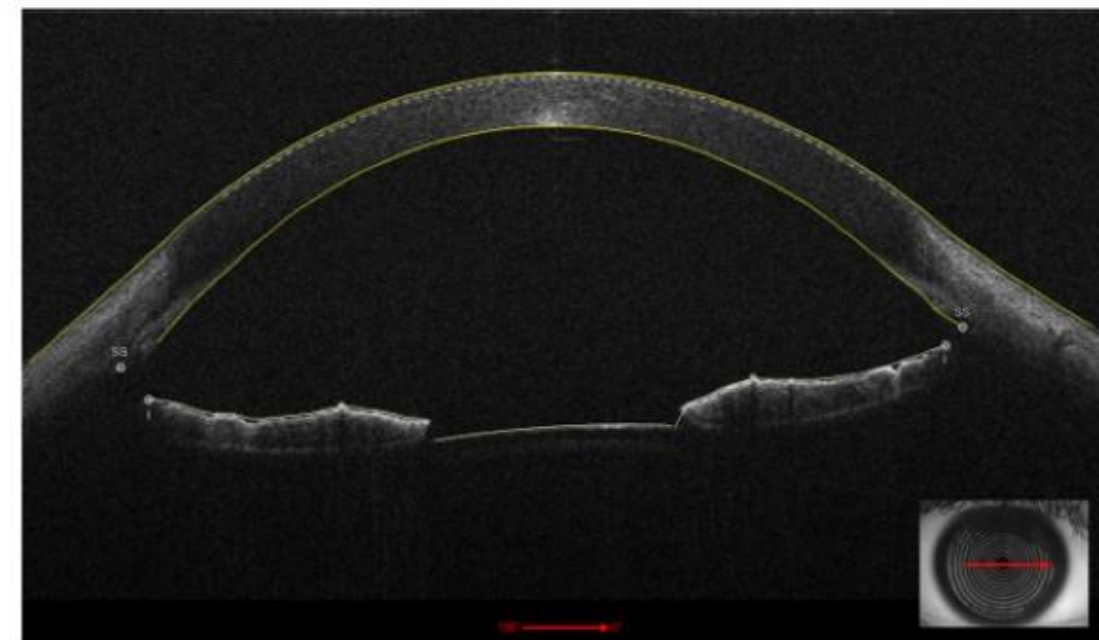
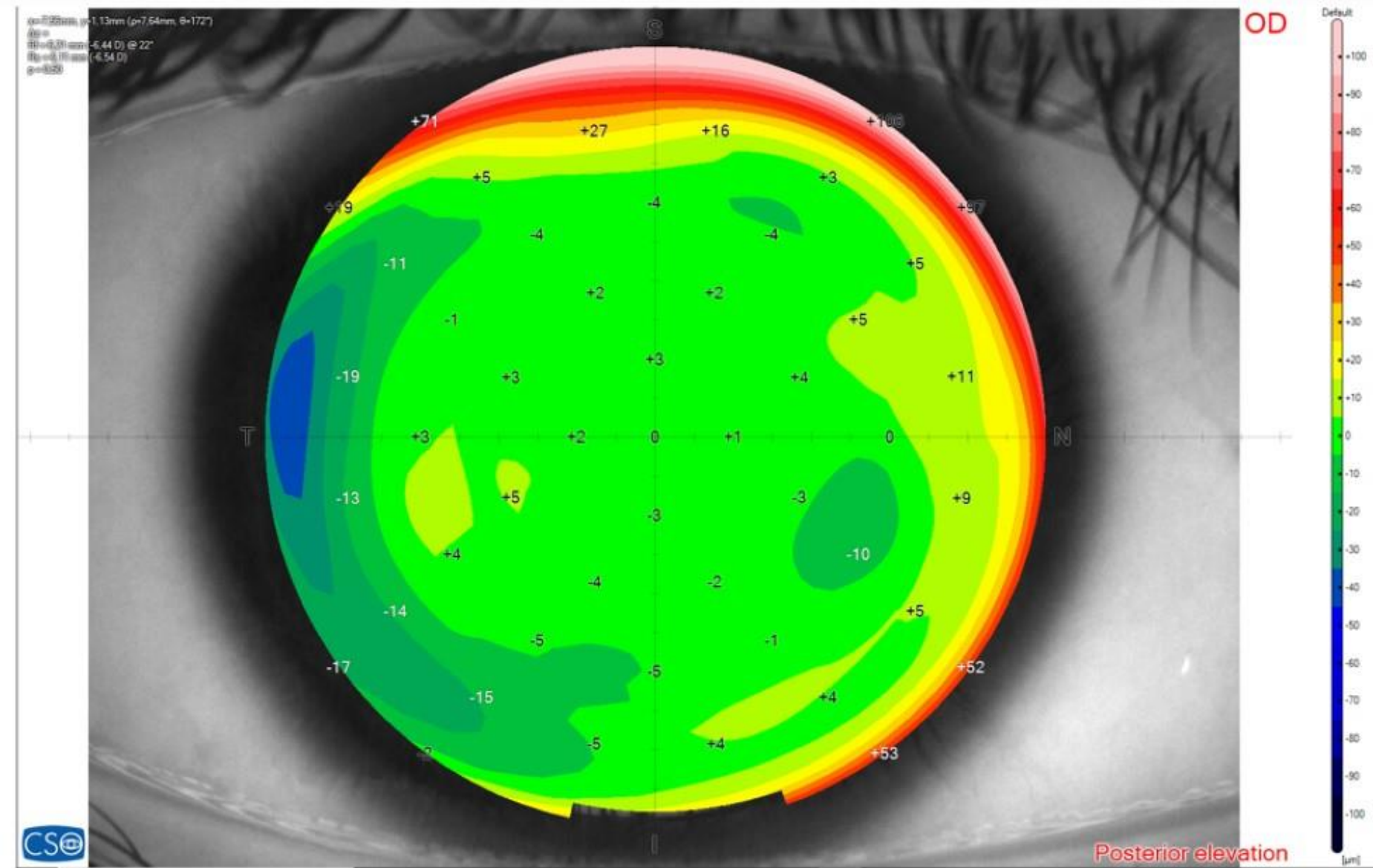
Diagnostica pre-op / post-op



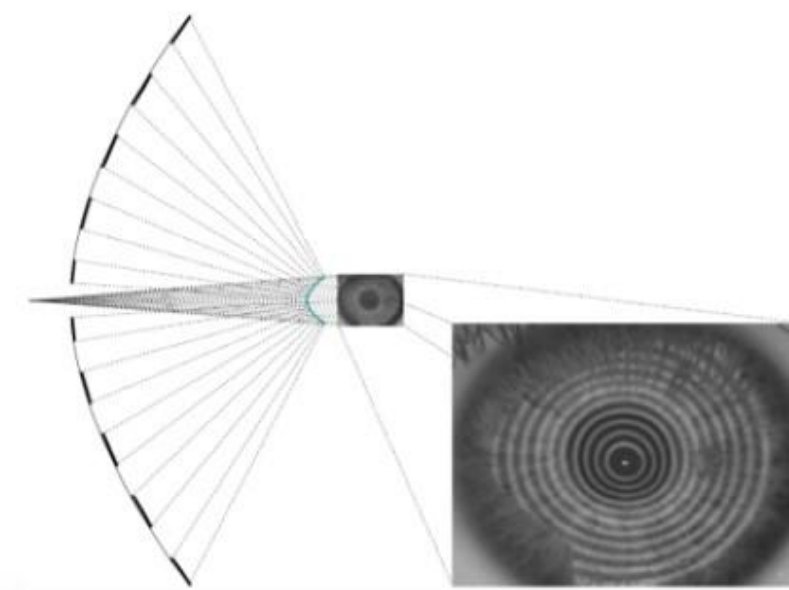
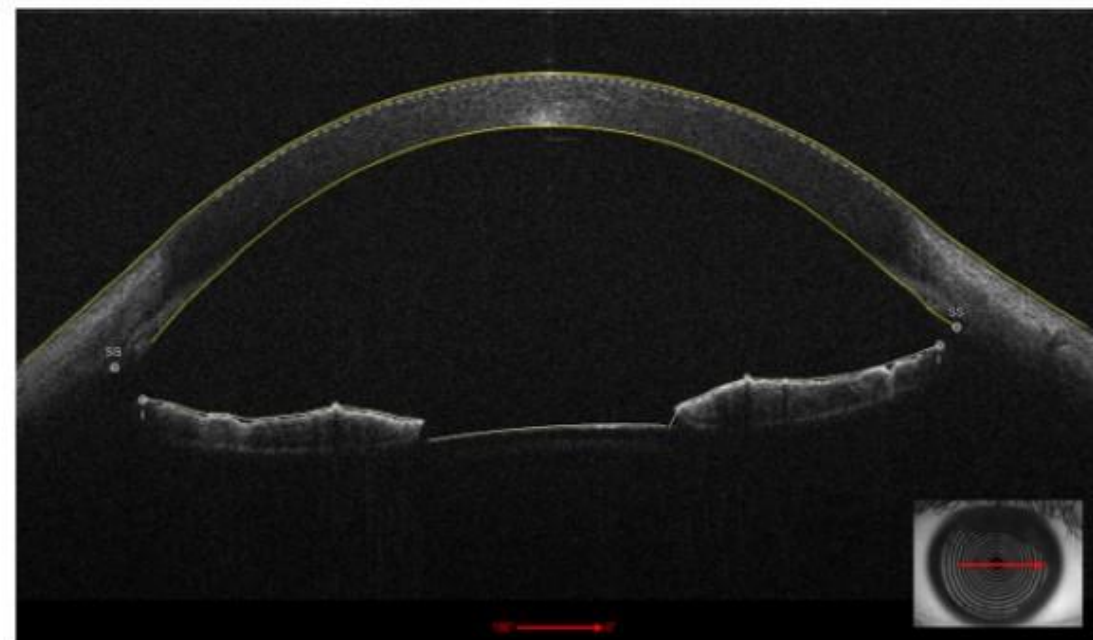
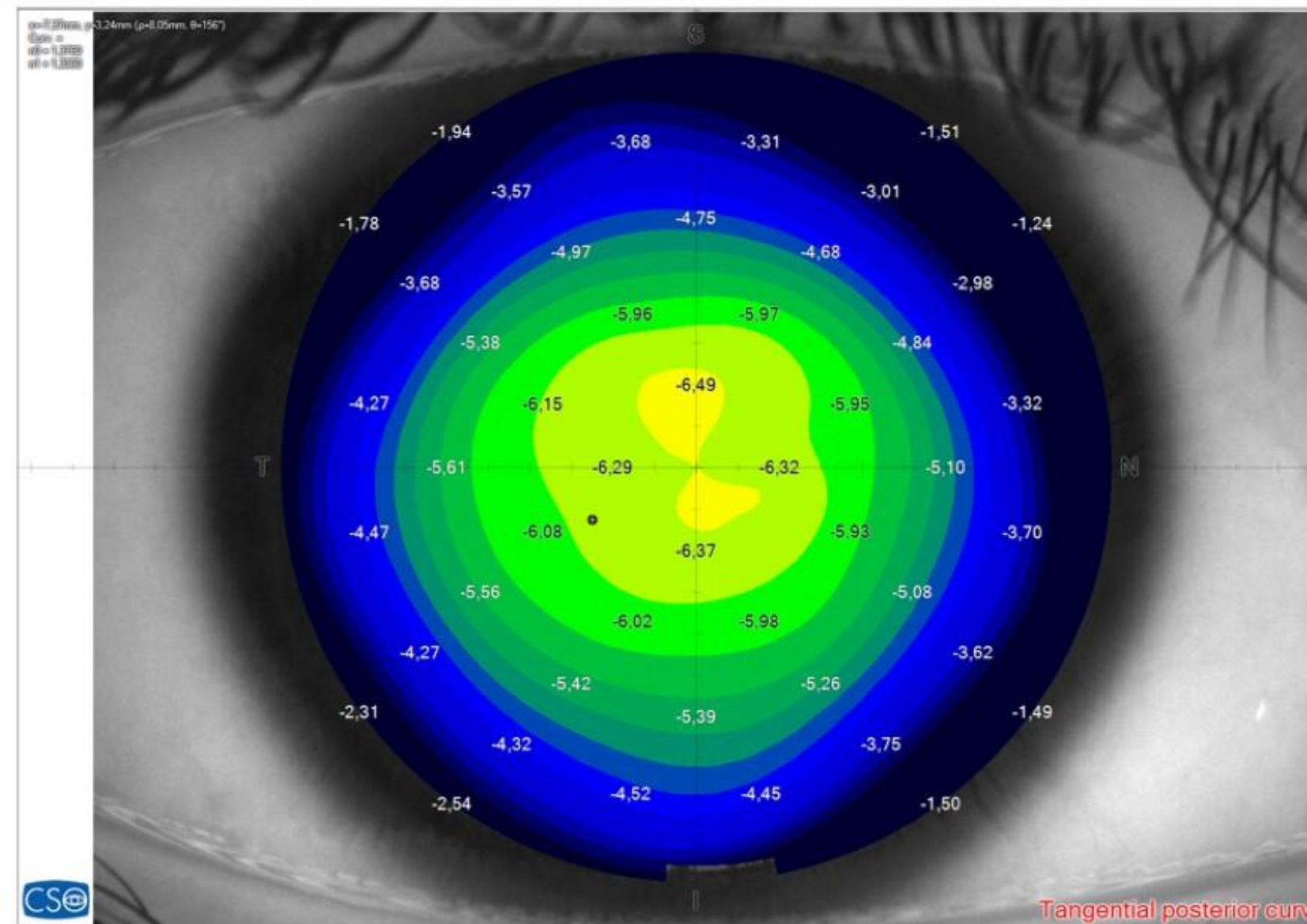
Applicazione lenti a contatto



Mappe altimetriche o di elevazione

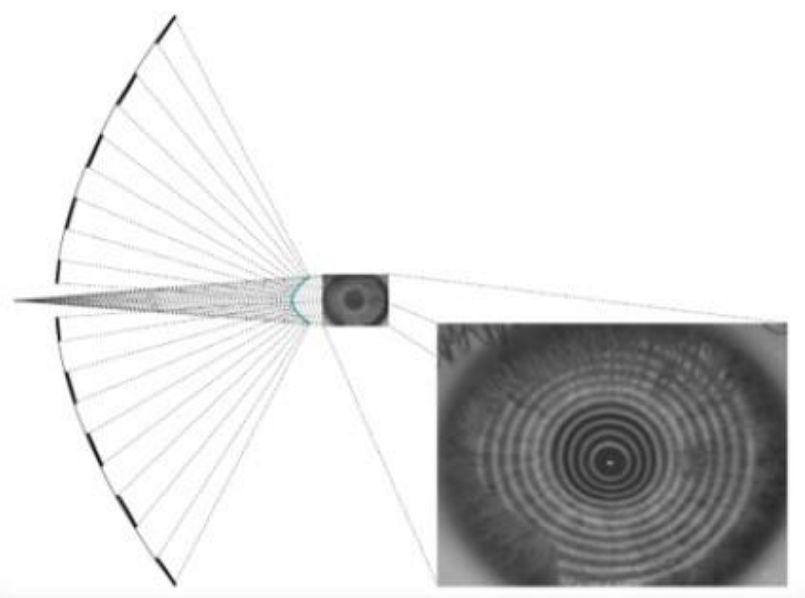
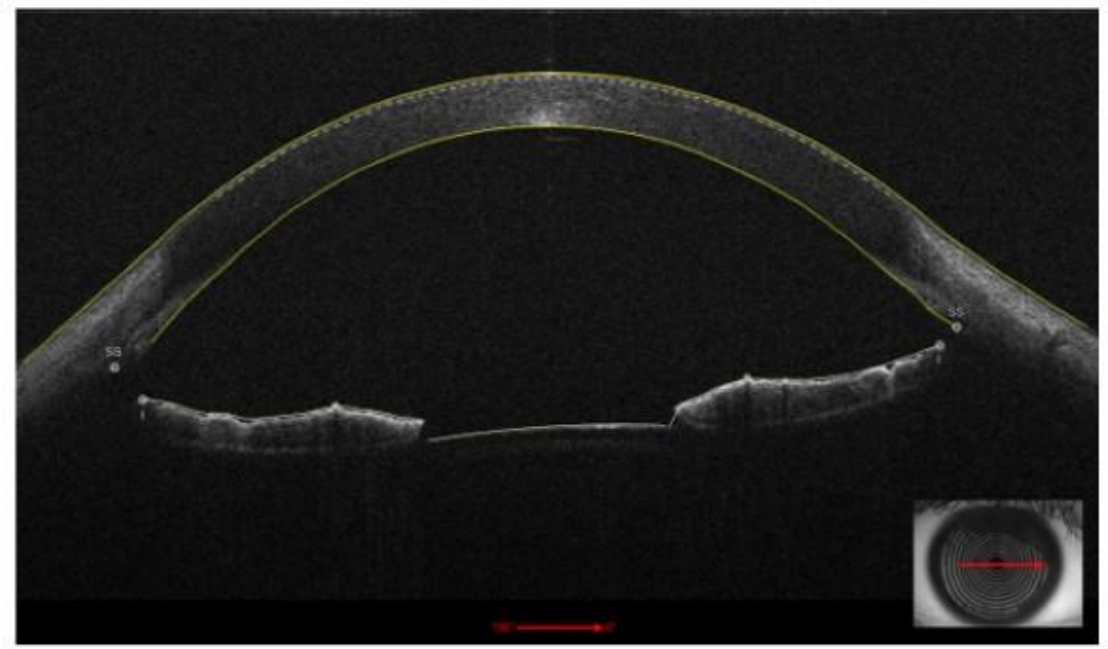
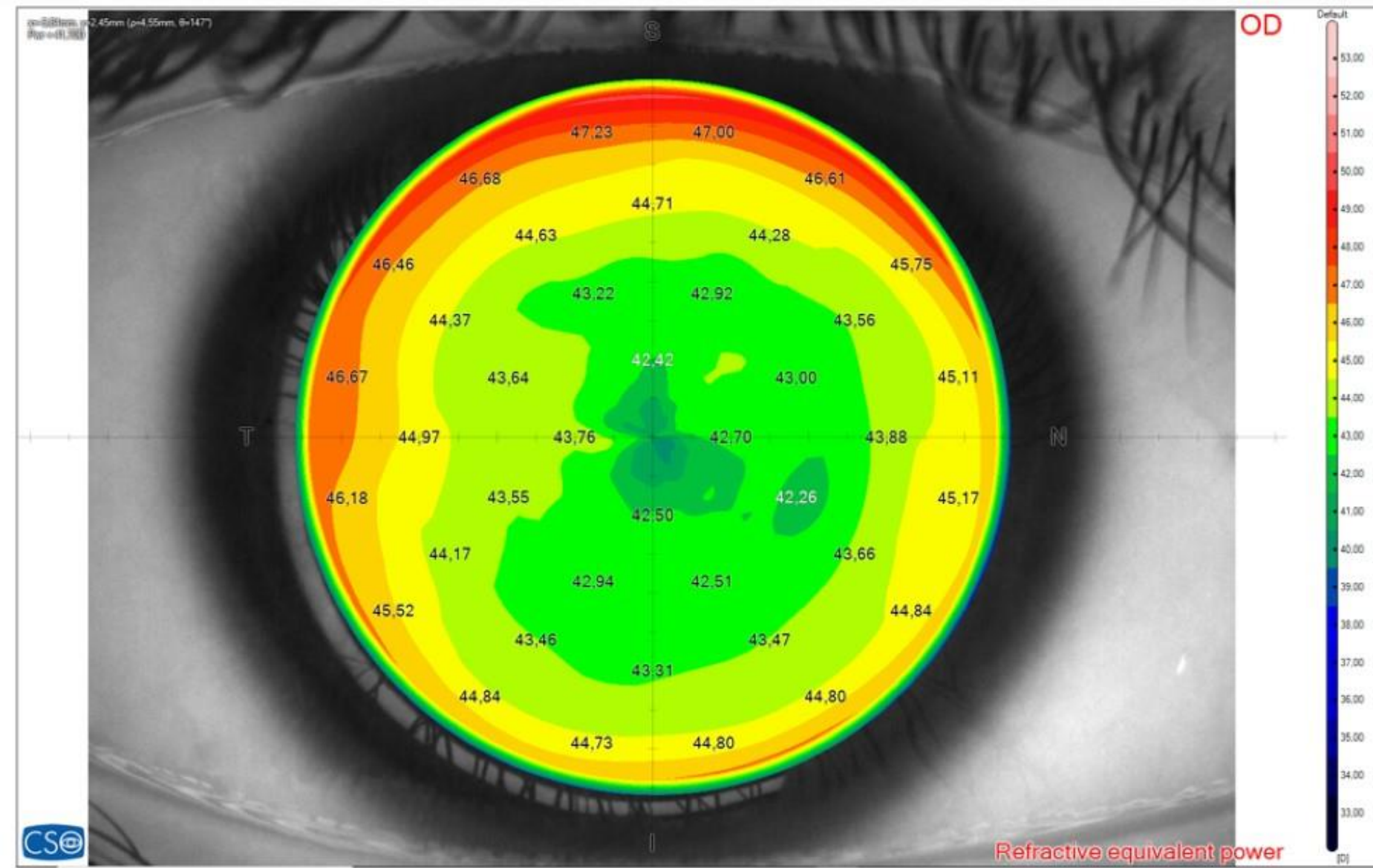


Mappe di curvatura

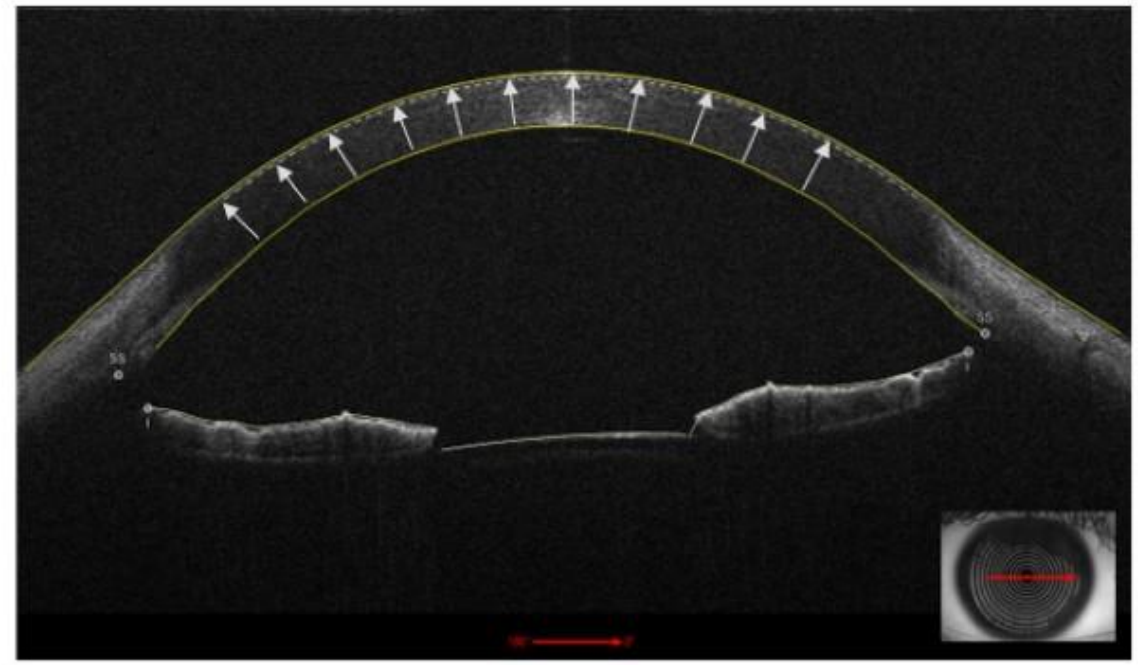
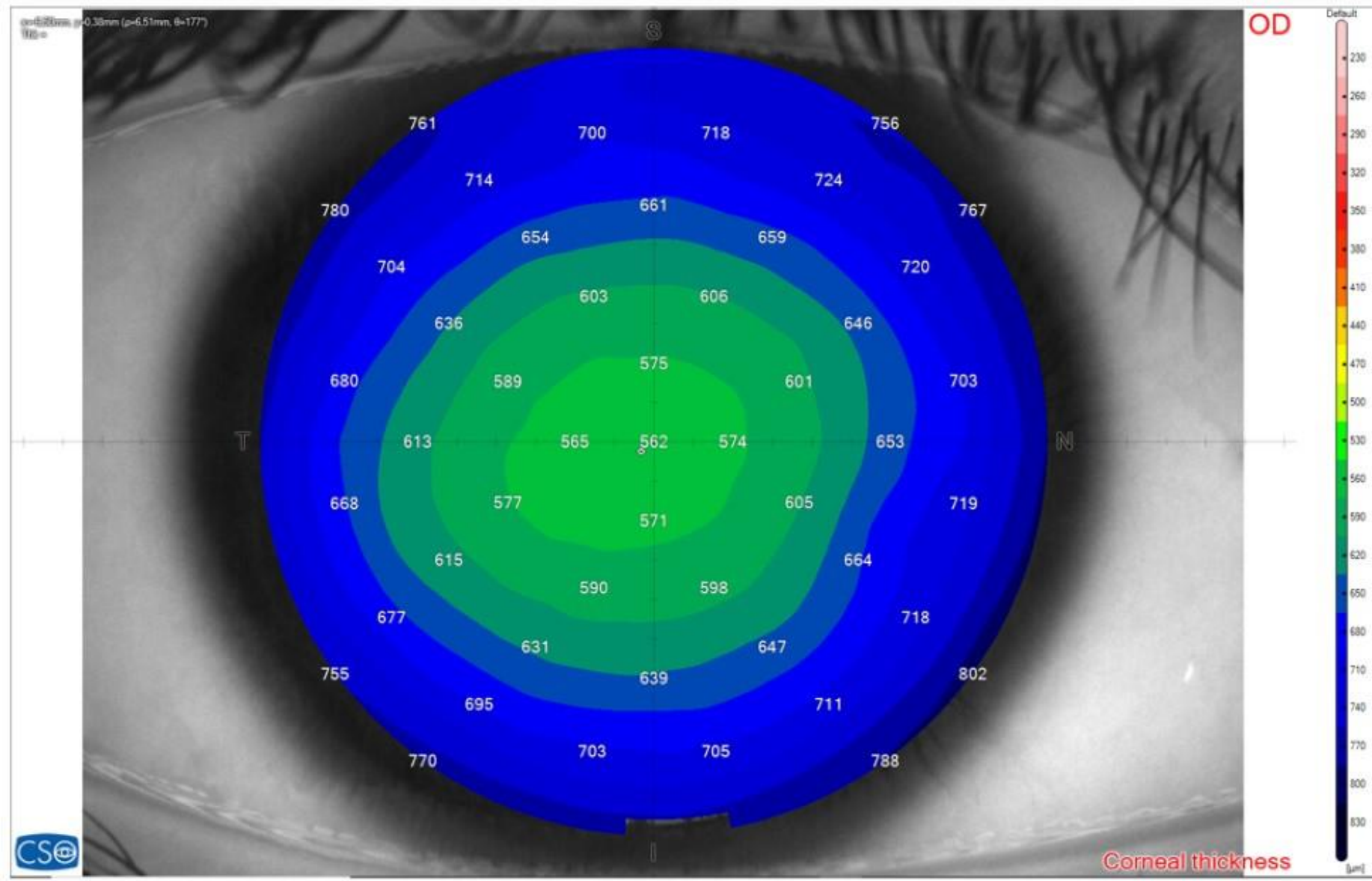


Tangential posterior curvature [mm] [D]

Mappe di potere refrattivo

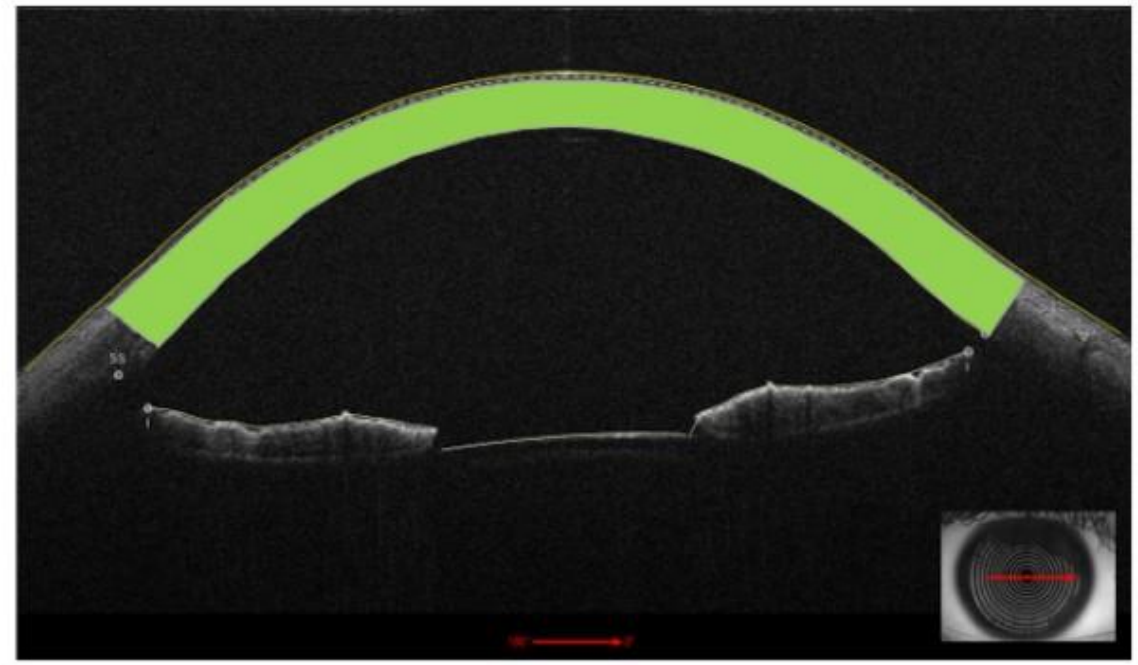
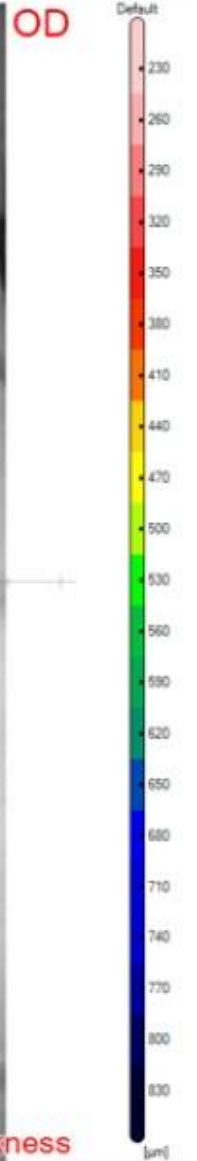
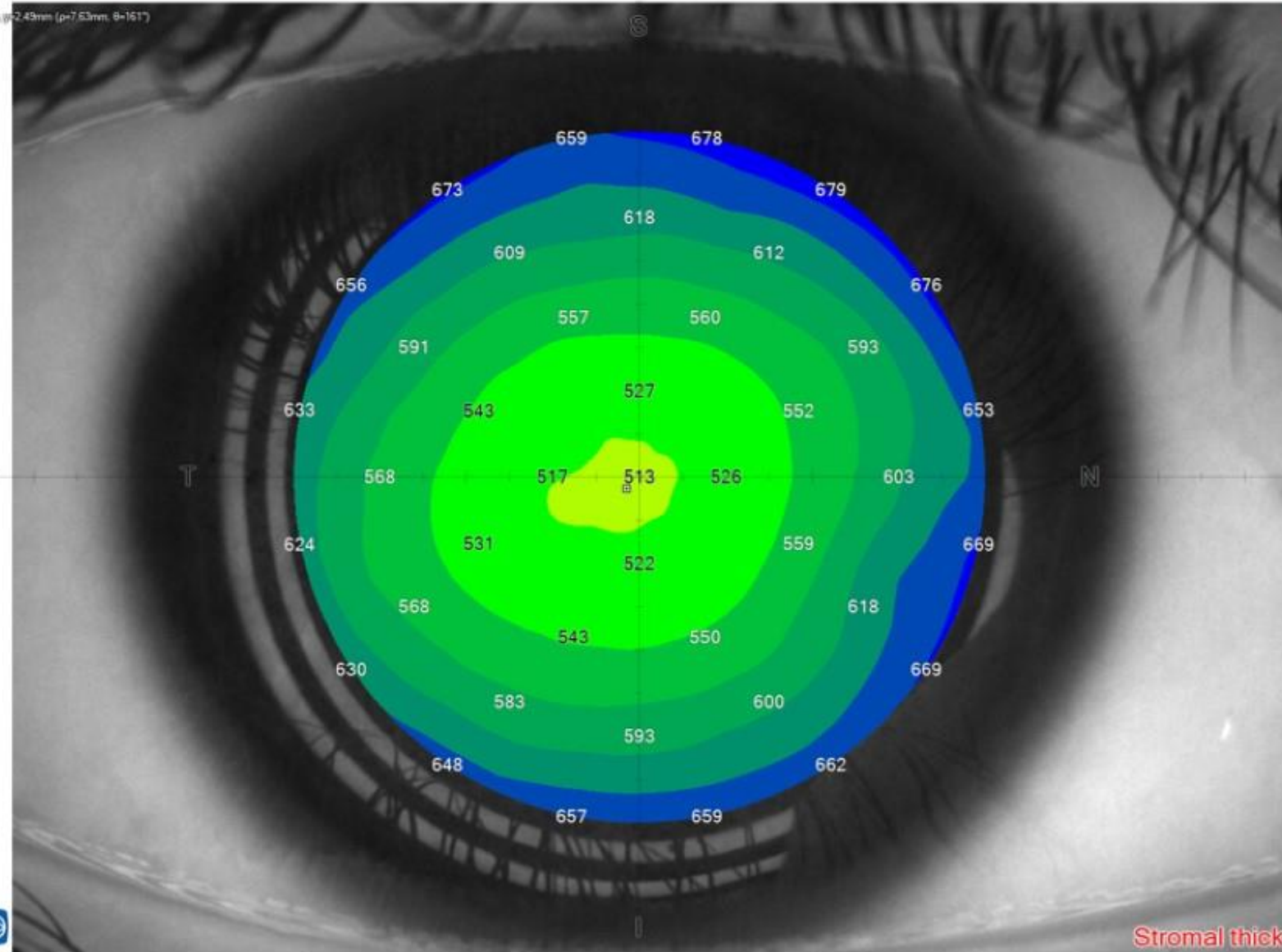


Mappe di spessore corneale

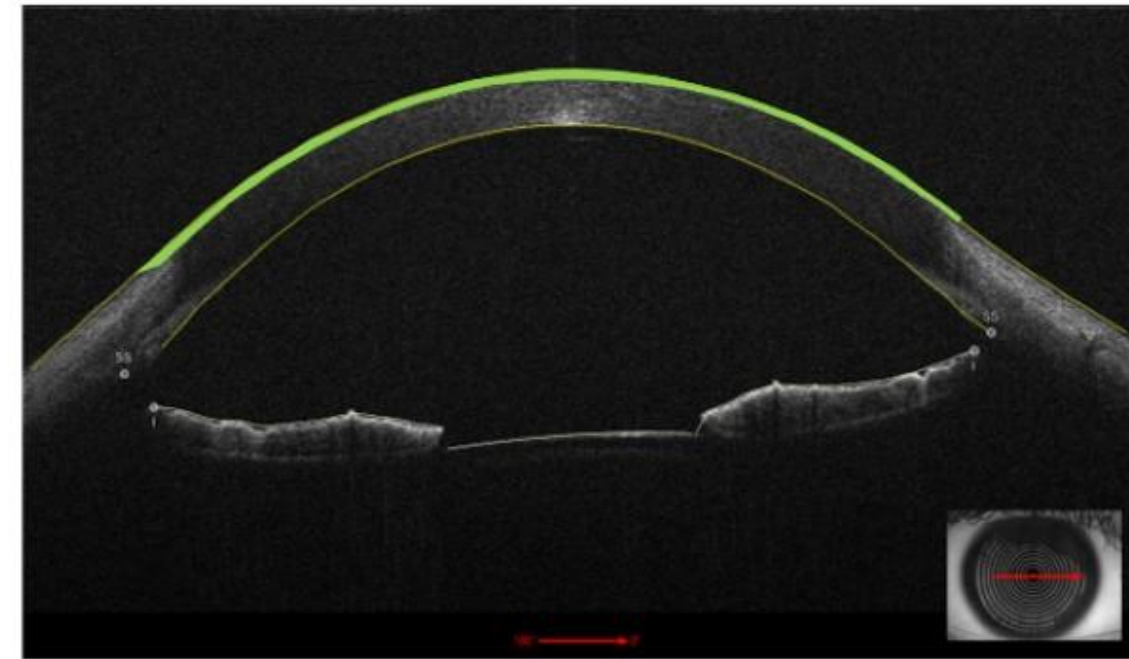
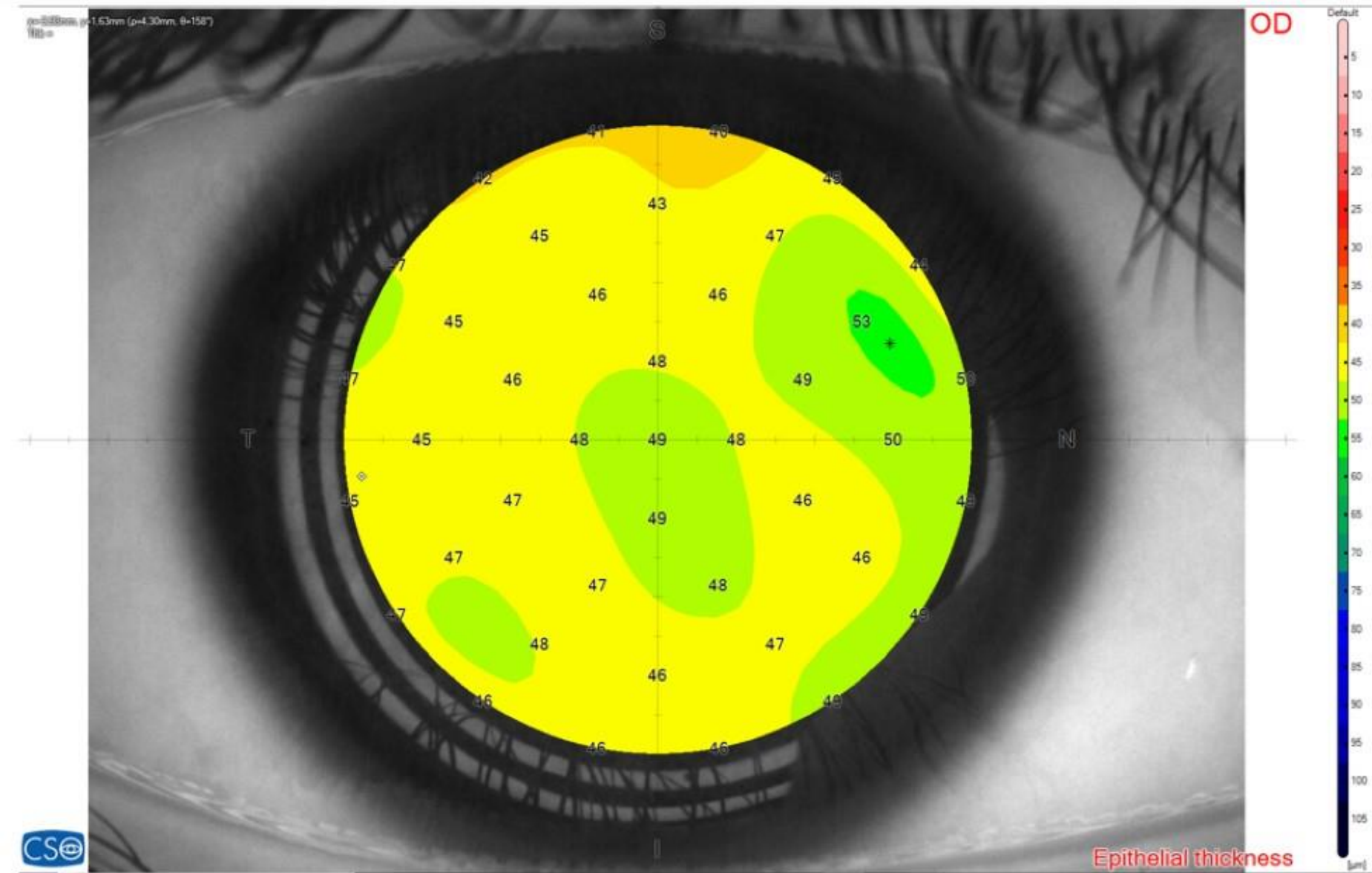


Mappe di spessore stromale

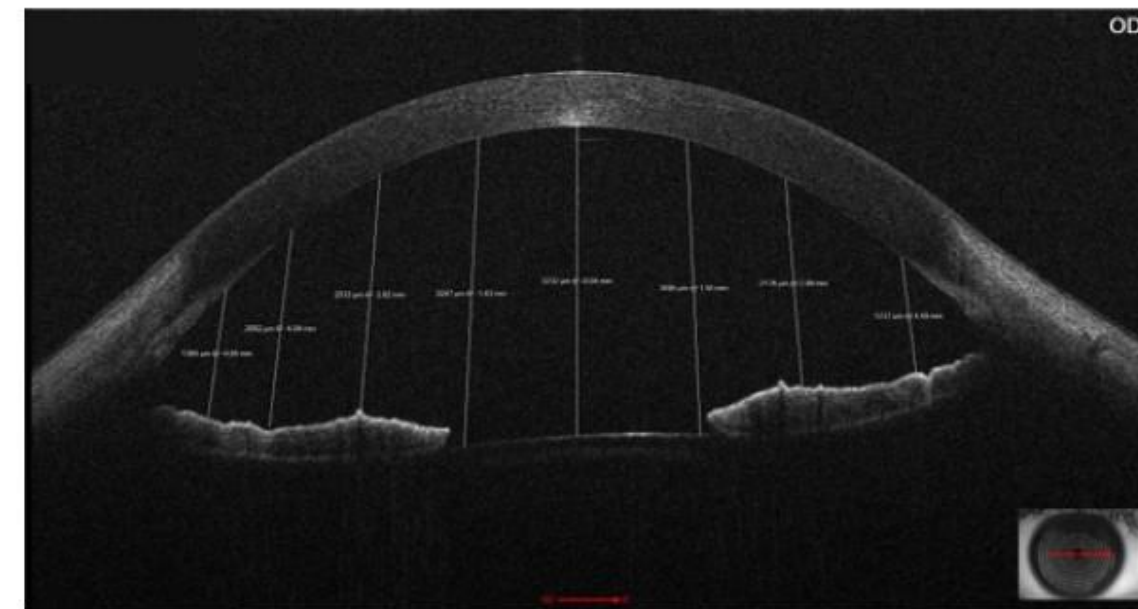
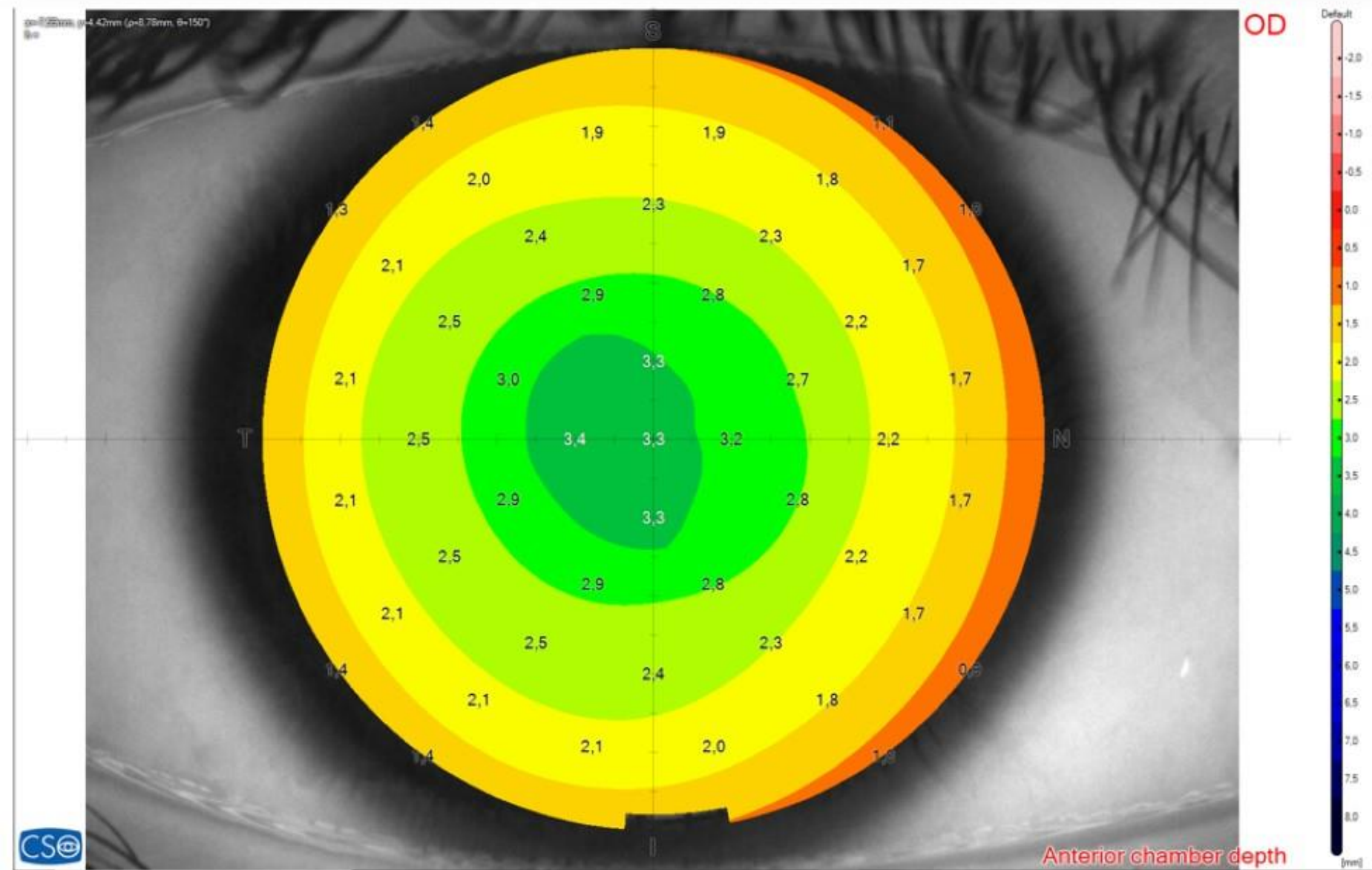
0.021mm, 0.249mm (p=7.53mm, 8=1617)



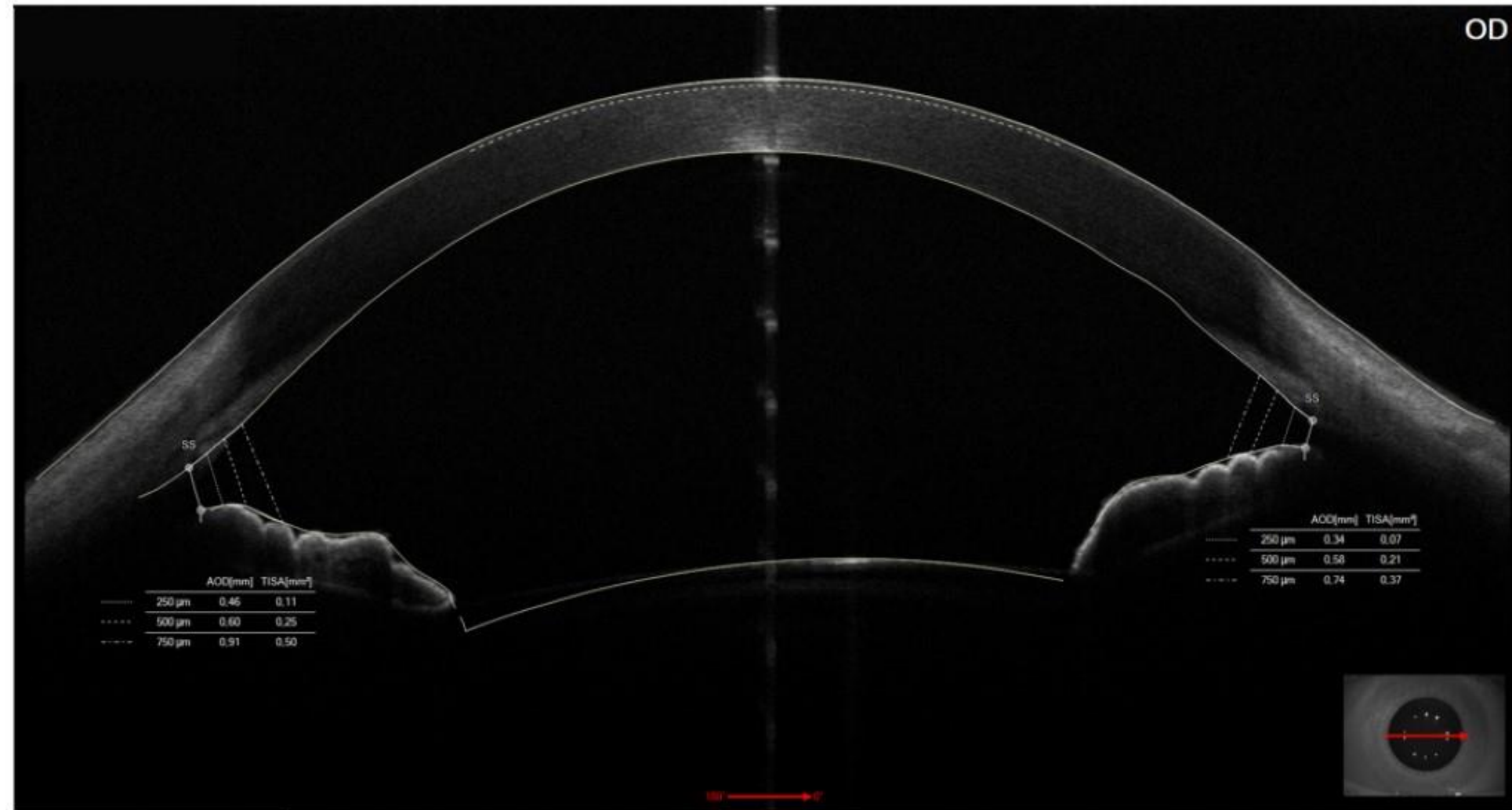
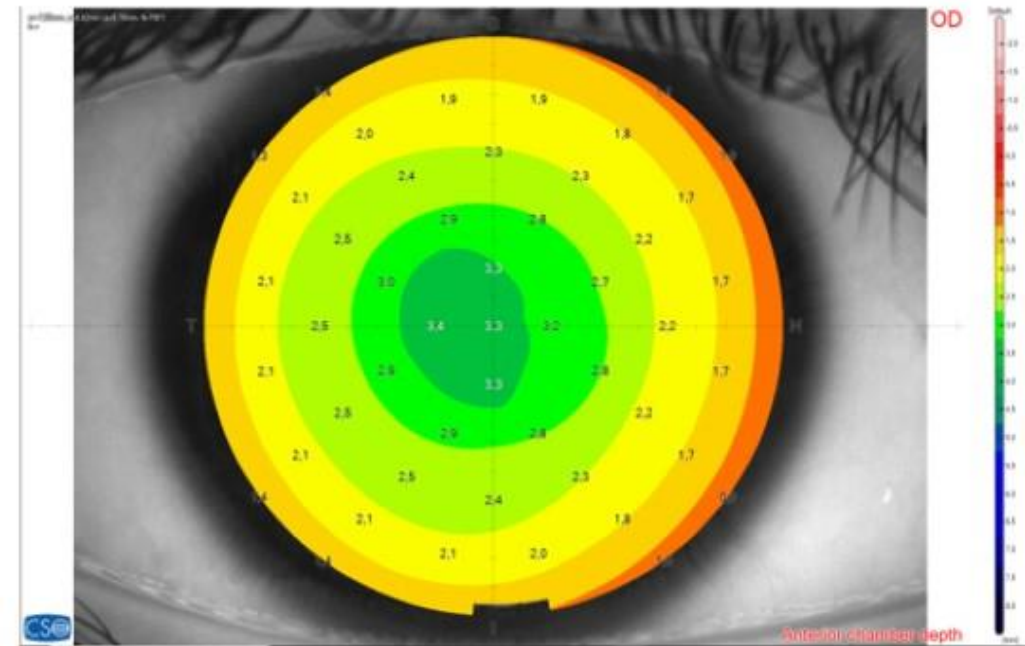
Mappe di spessore epiteliale

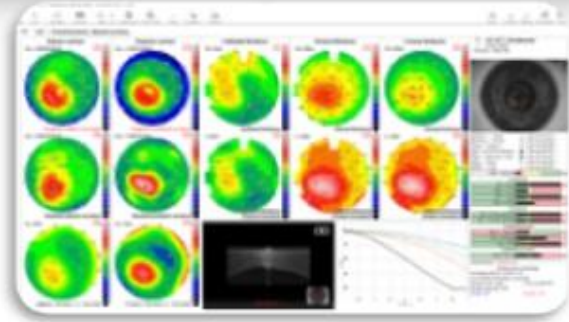


Mappe di profondità della camera anteriore

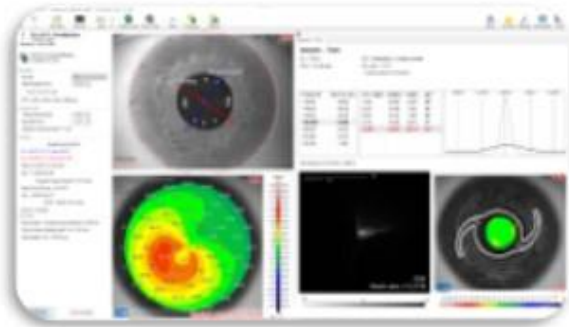


Misurazione angolo irido-corneale



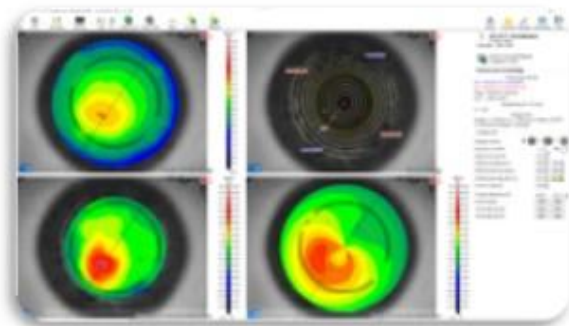


Sommario cheratocono



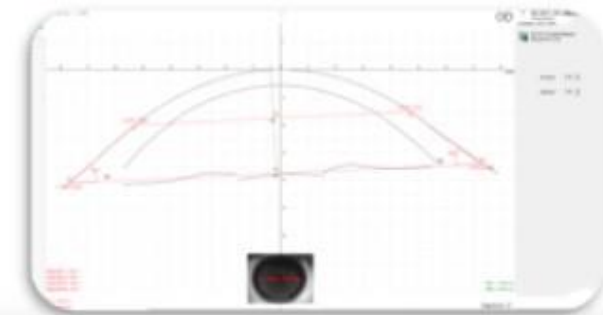
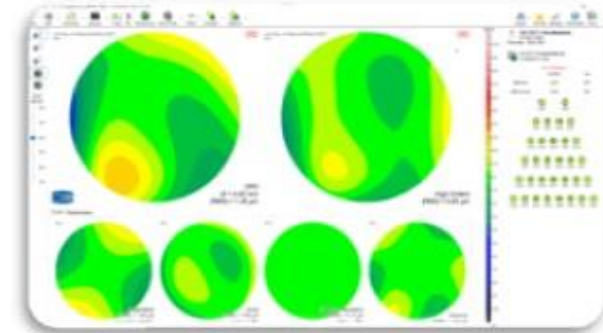
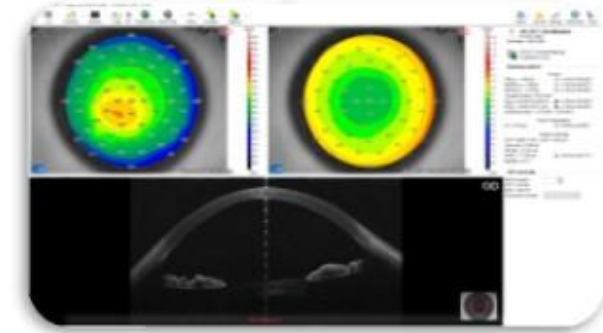
Sommario glaucoma

Sommario cataratta

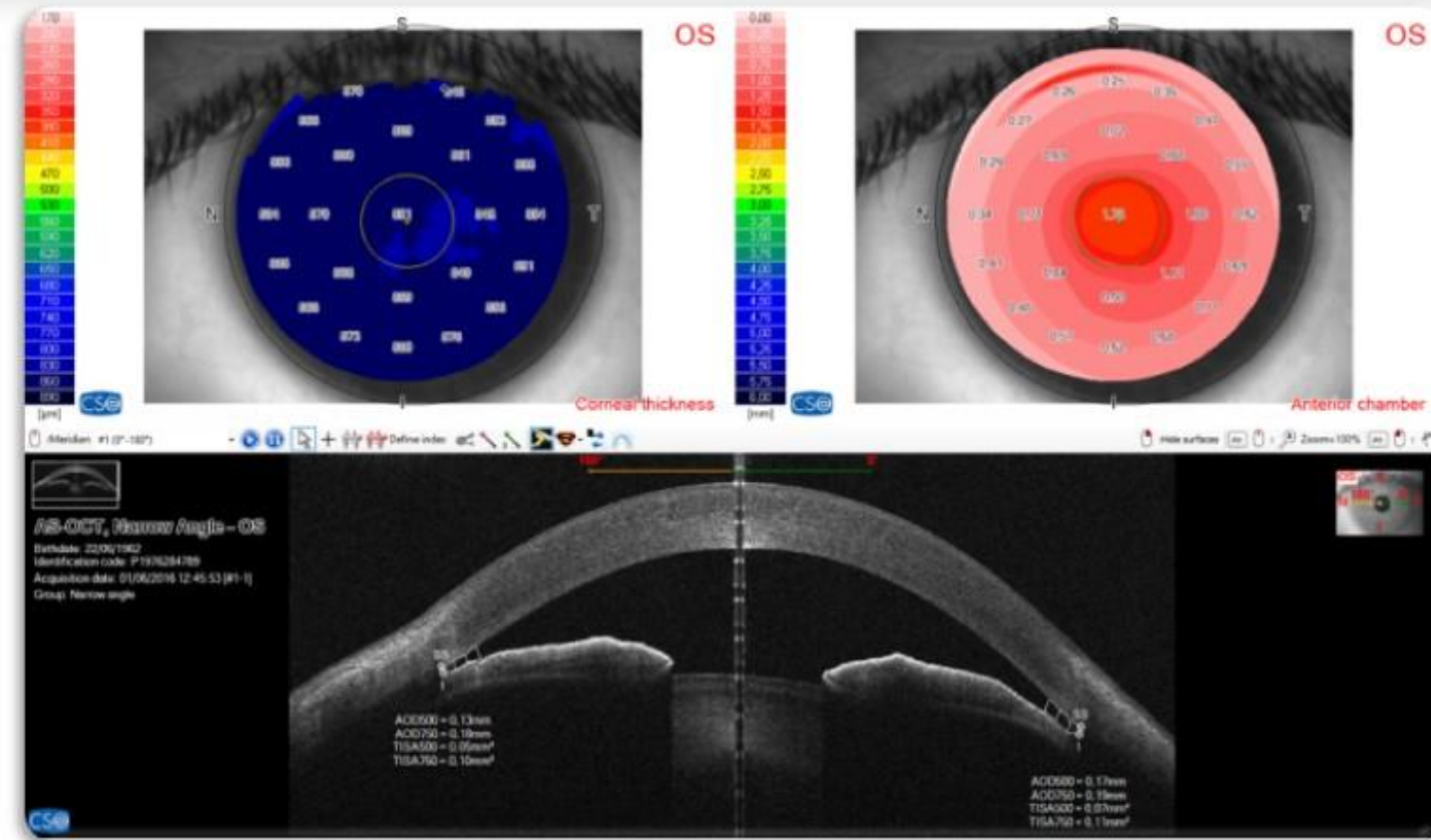
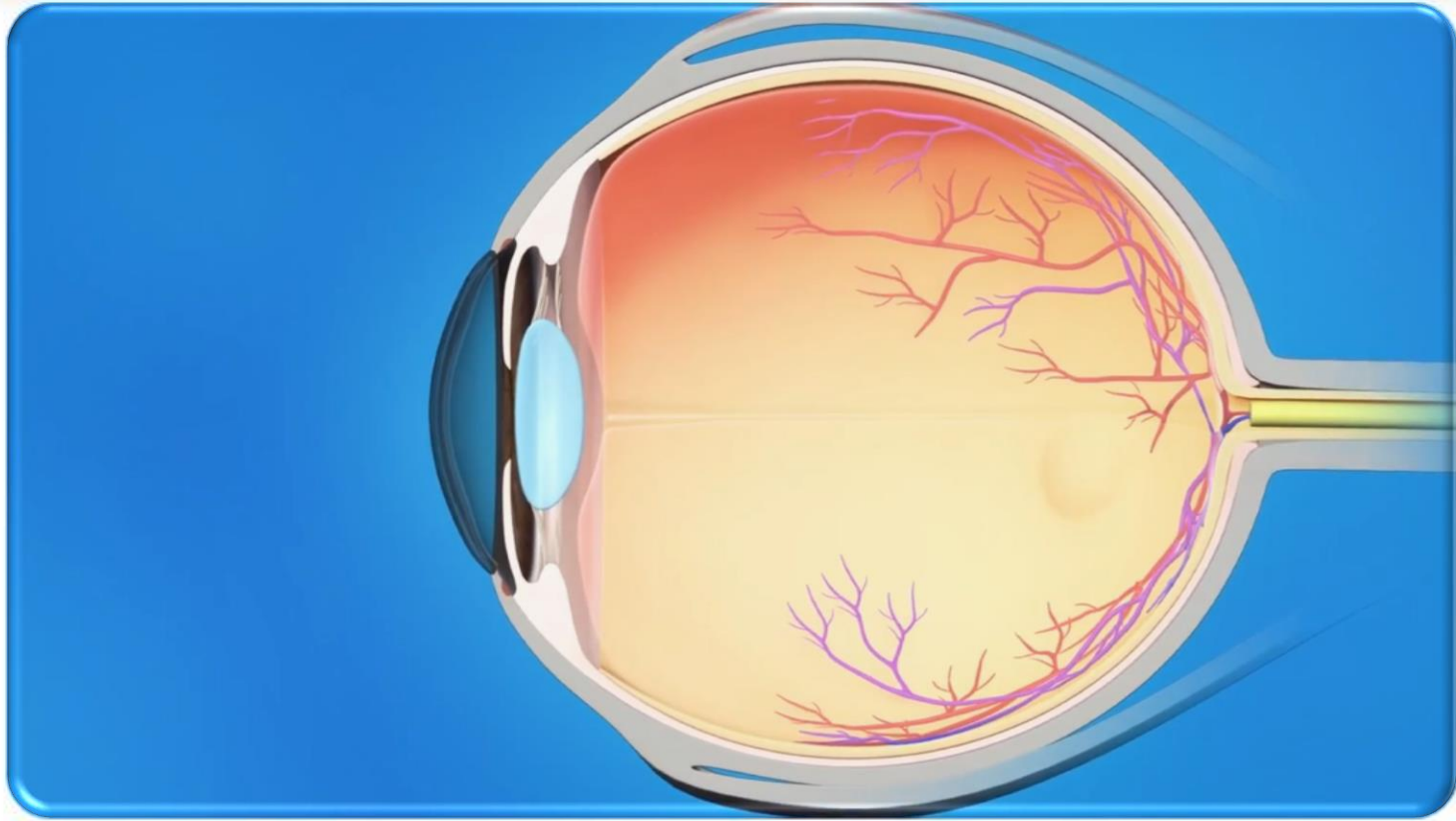


Sommario anelli Intra stromali

Progettazione e controllo lenti sclerali

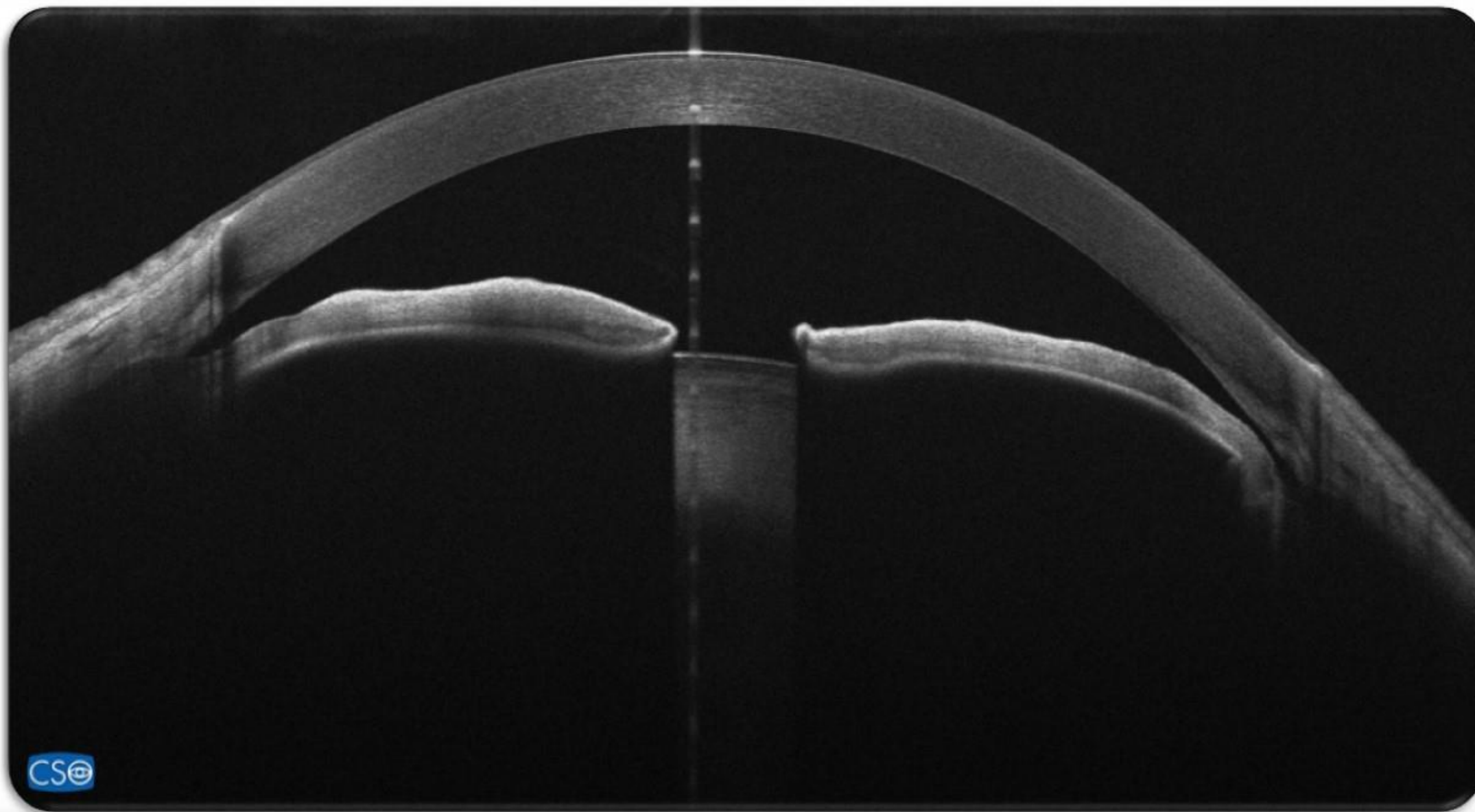


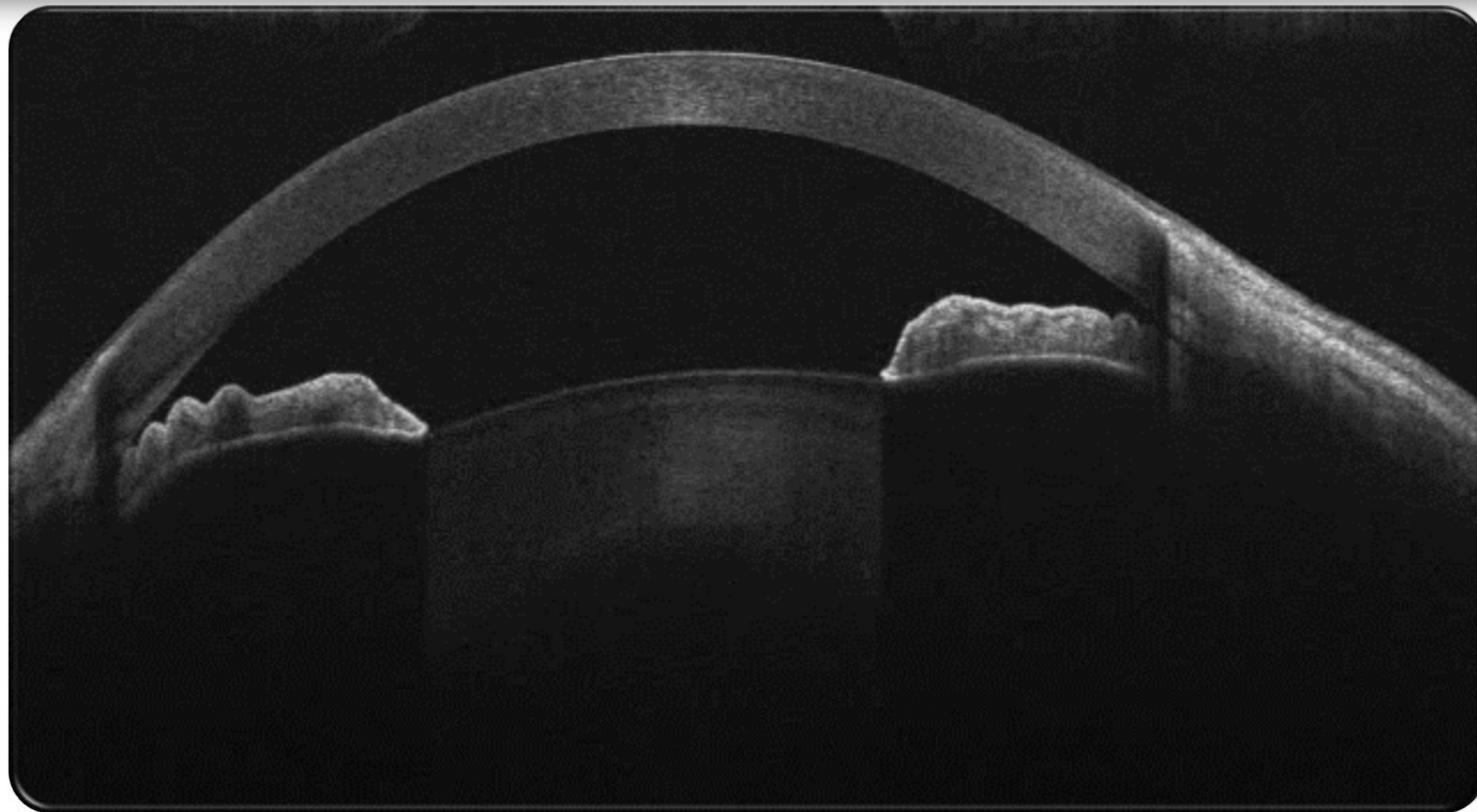
Sommario glaucoma

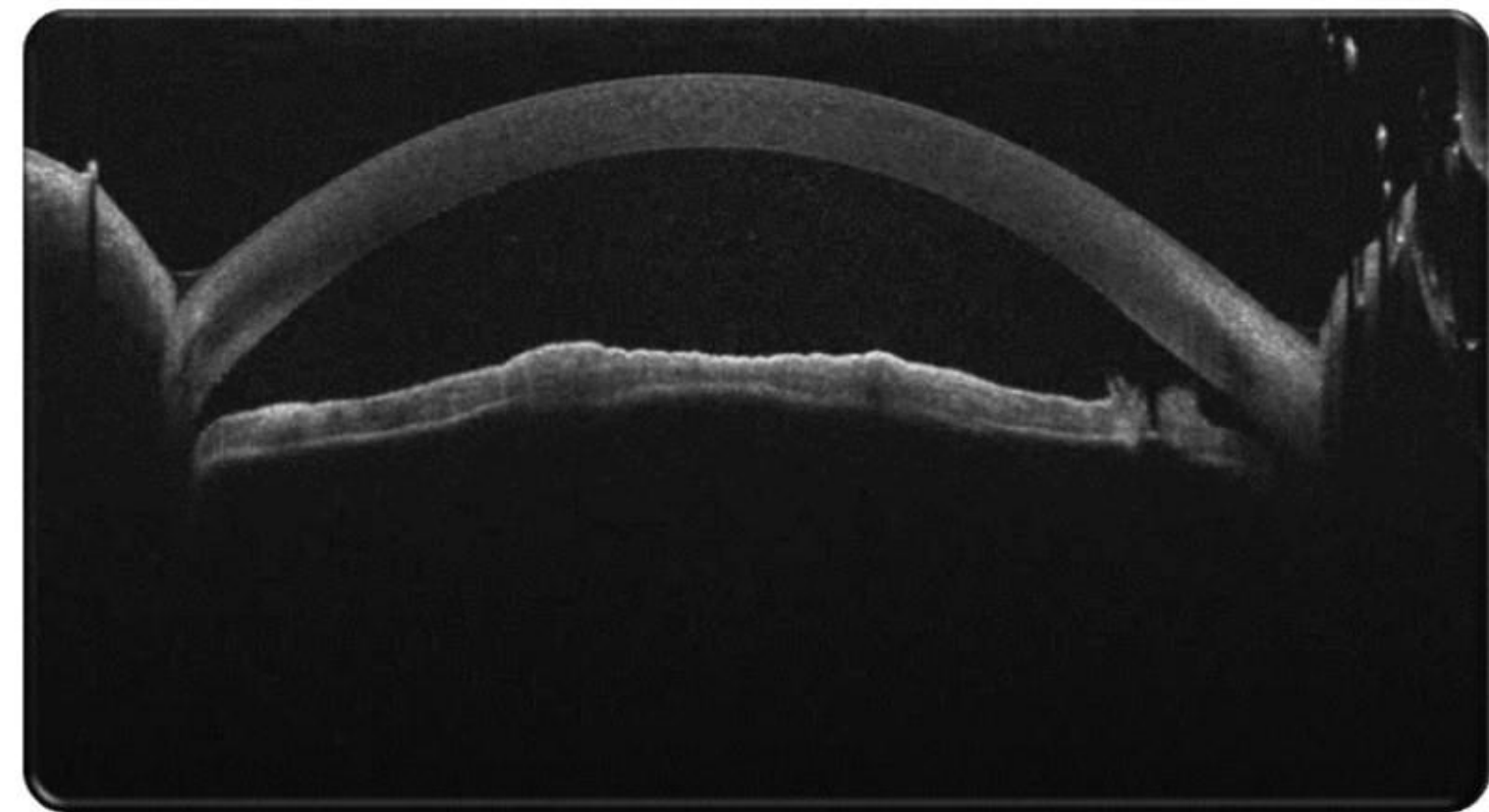


<https://www.aao.org/eye-health/diseases/what-is-glaucoma>

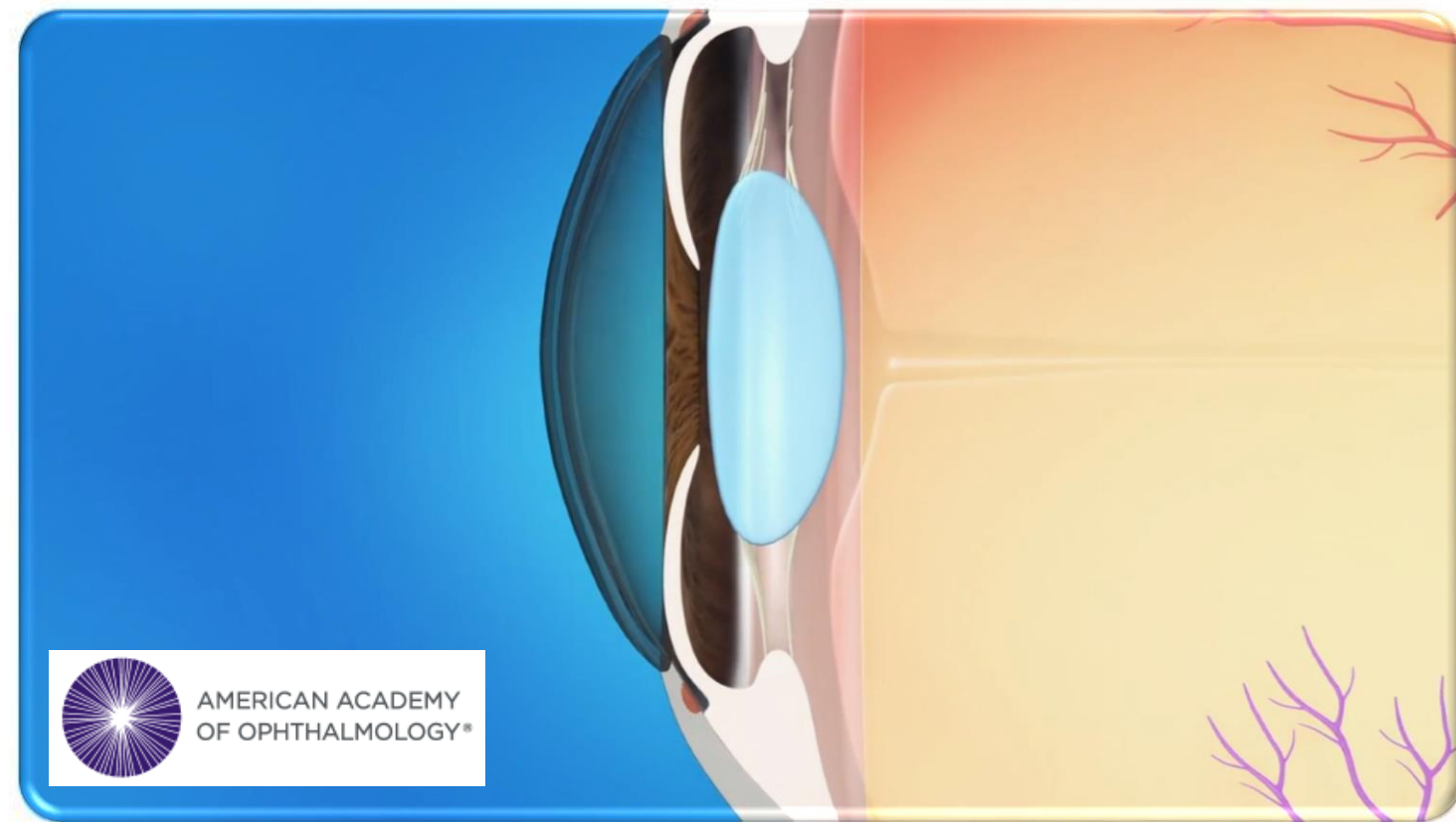
“Glaucoma is an optic neuropathy defined by characteristic optic disc damage and visual field loss for which IOP is a major modifiable risk factor. It is a significant global health problem and the second leading cause of blindness both in the United States and worldwide [...] Glaucoma is often divided into 2 major subtypes, open angle and angle closure, both of which result in characteristic optic nerve degeneration.” H A Quigley, Number of people with glaucoma worldwide.



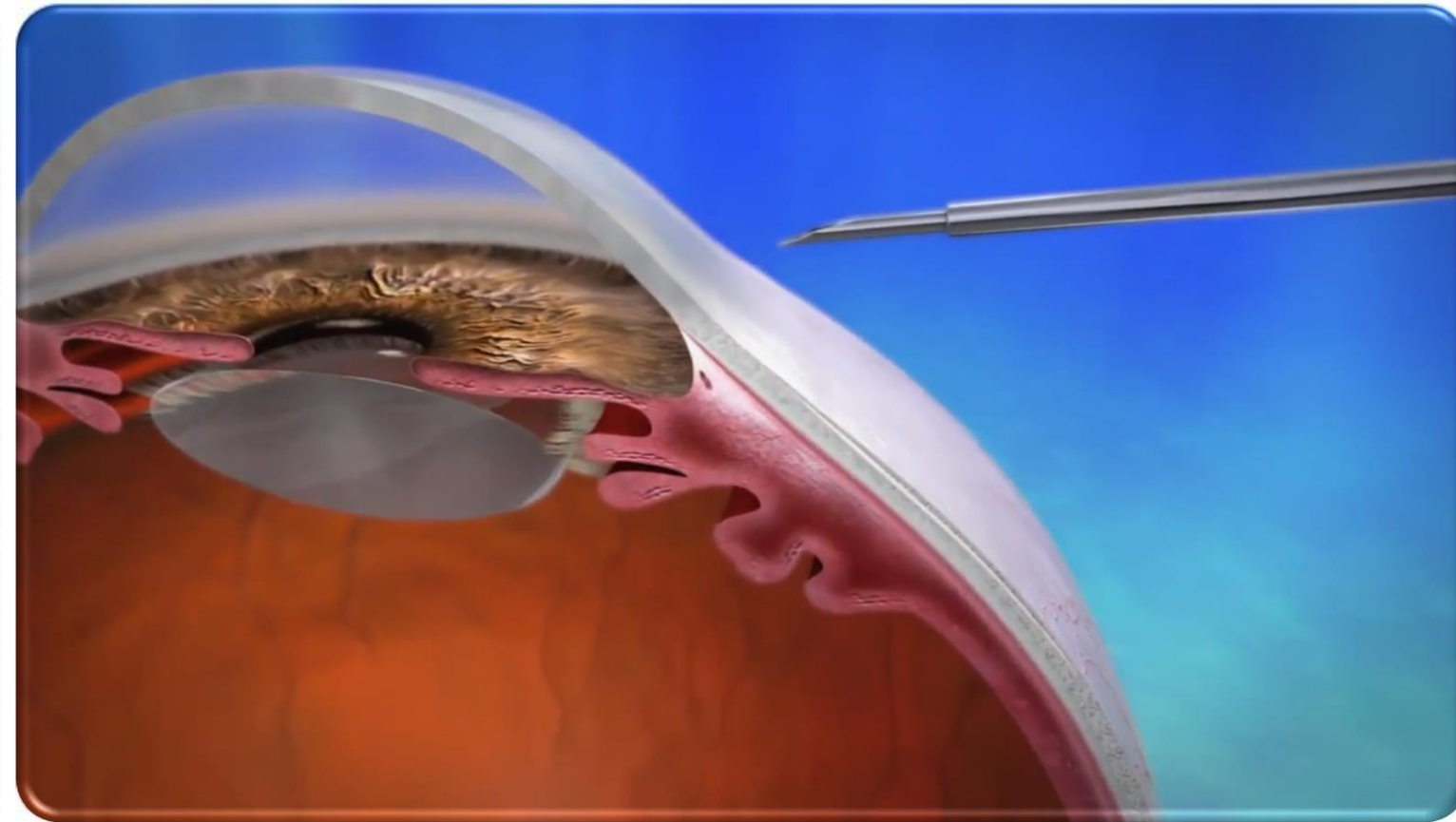




Courtesy of Andrea Romani



<https://www.aao.org/eye-health/diseases/what-is-glaucoma>

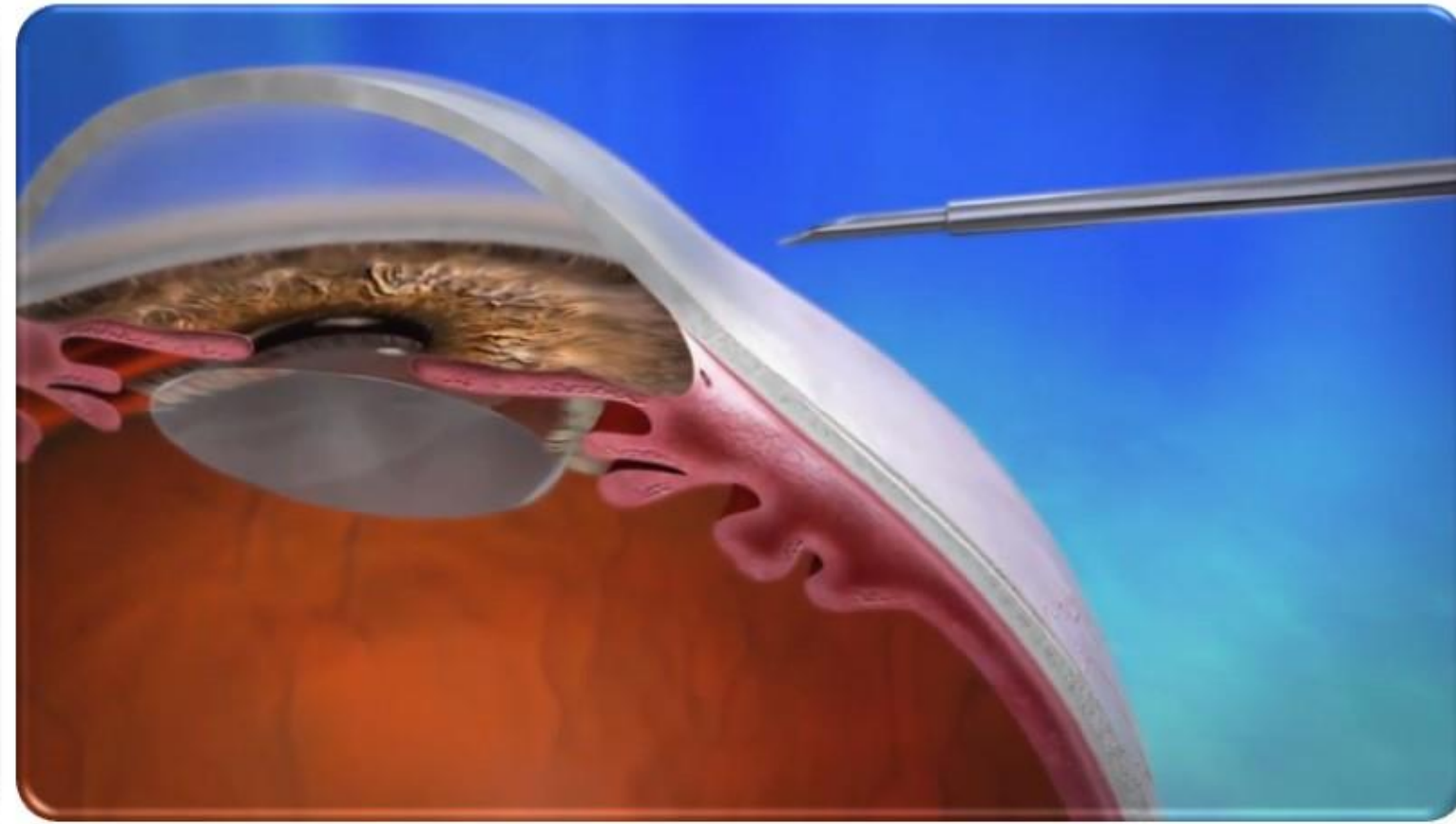


Courtesy of Fabrizio Franco



EYE PHYSICIANS
OF VIRGINIA

<https://www.eyephysiciansofvirginia.com/xen-gel-stent/>

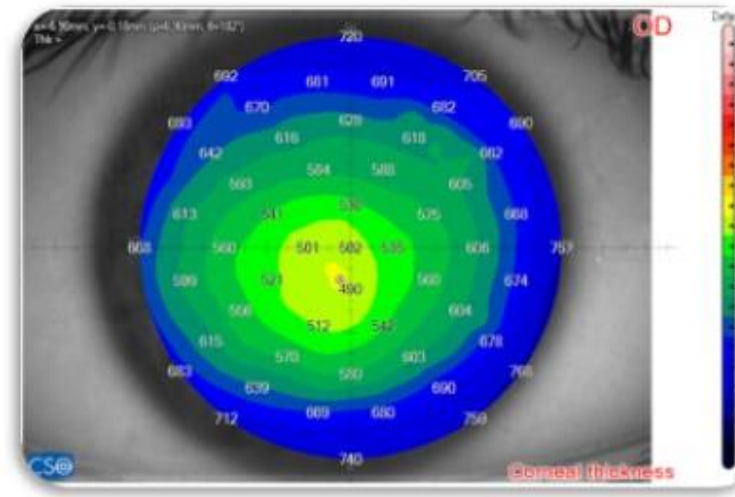
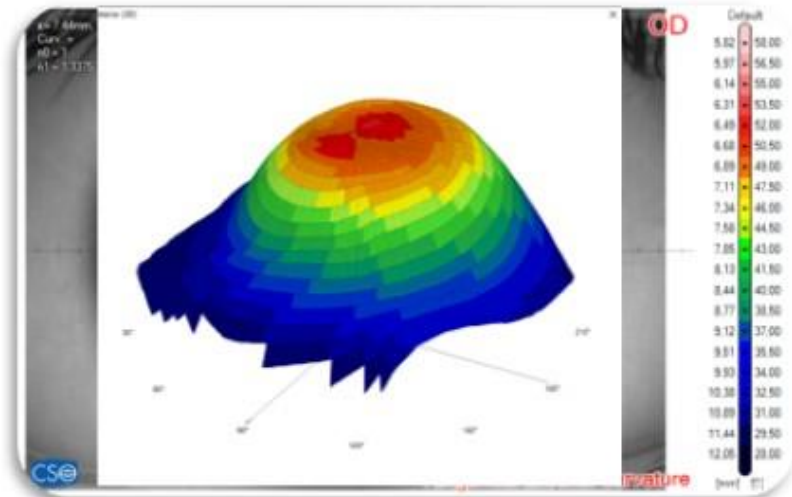
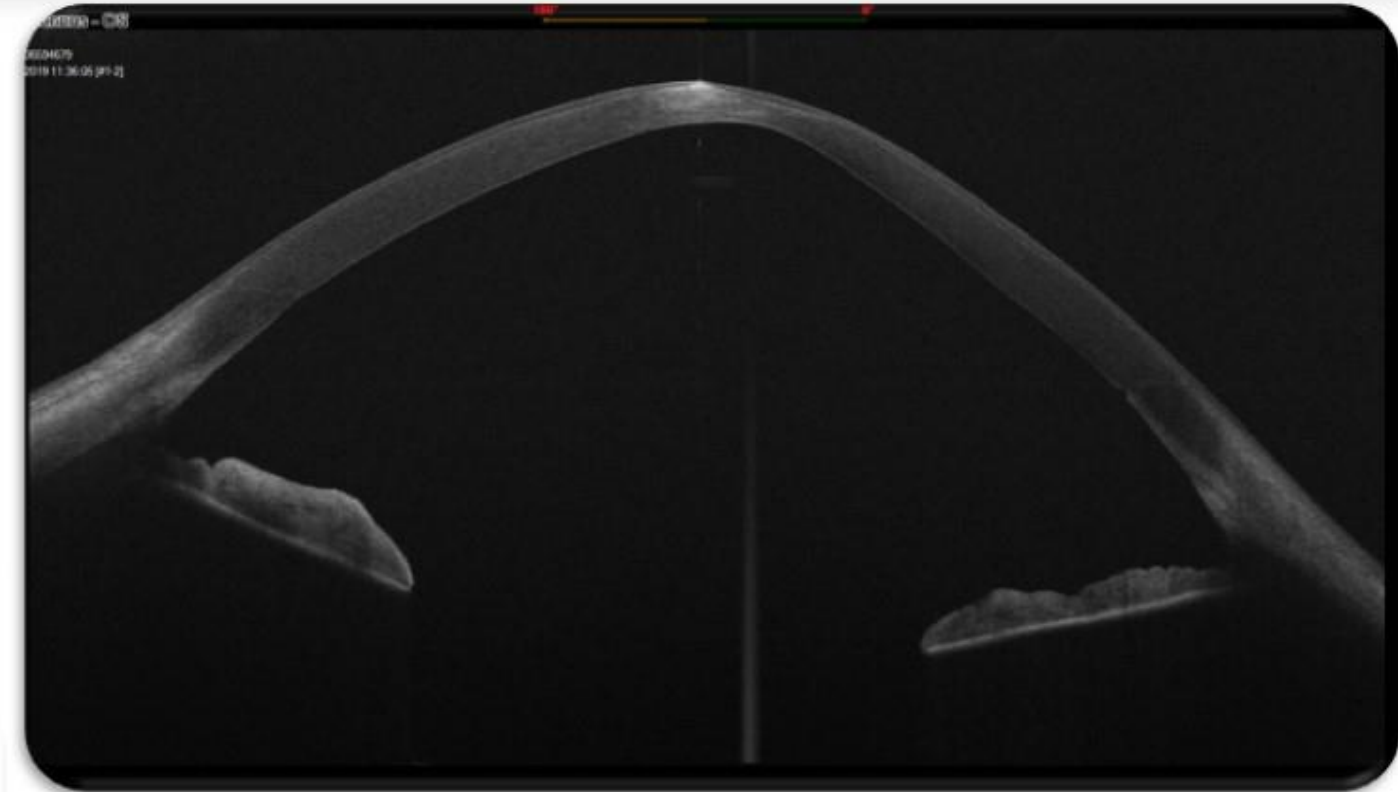
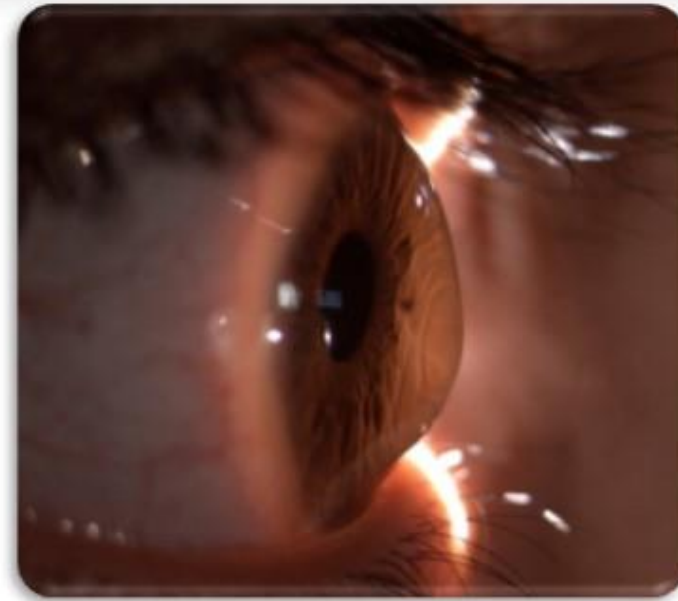
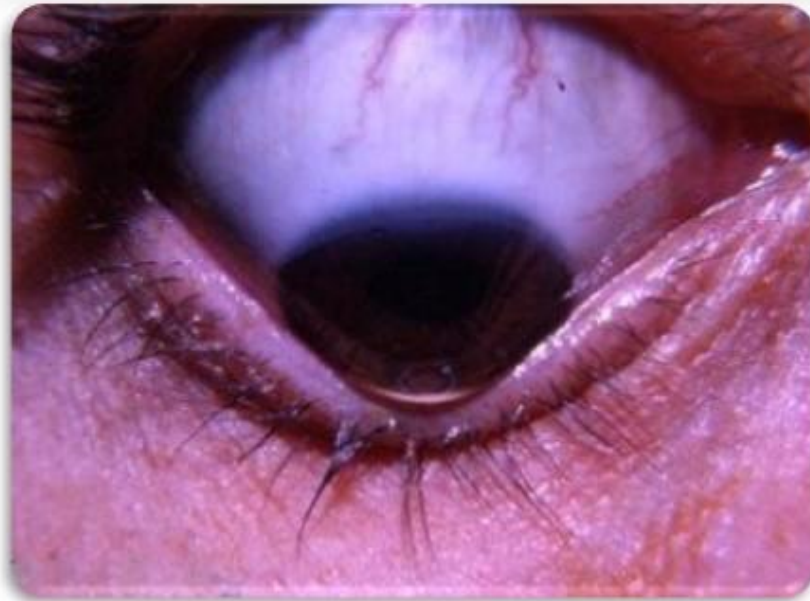


Courtesy of Fabrizio Franco



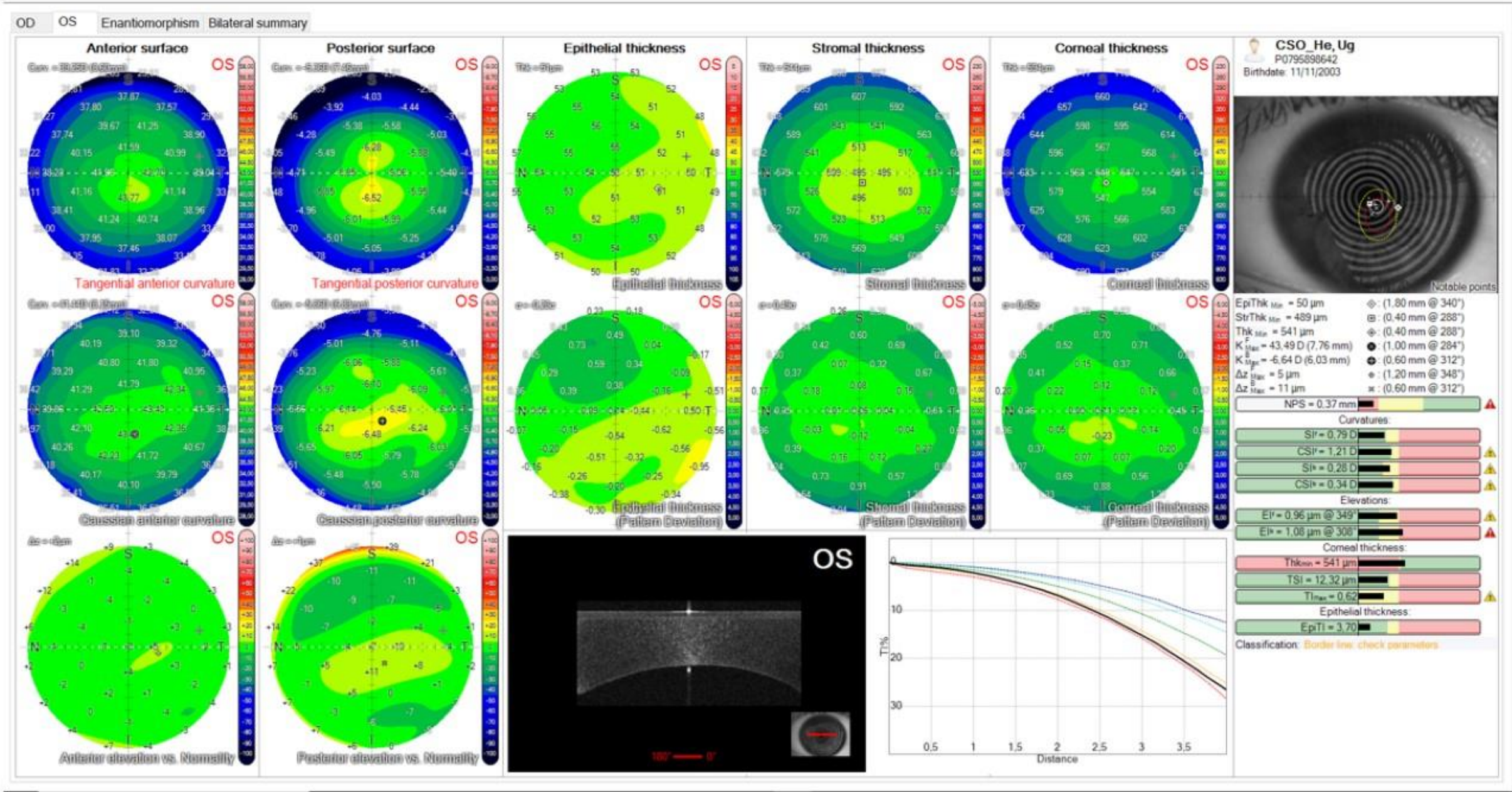
EYE PHYSICIANS
OF VIRGINIA

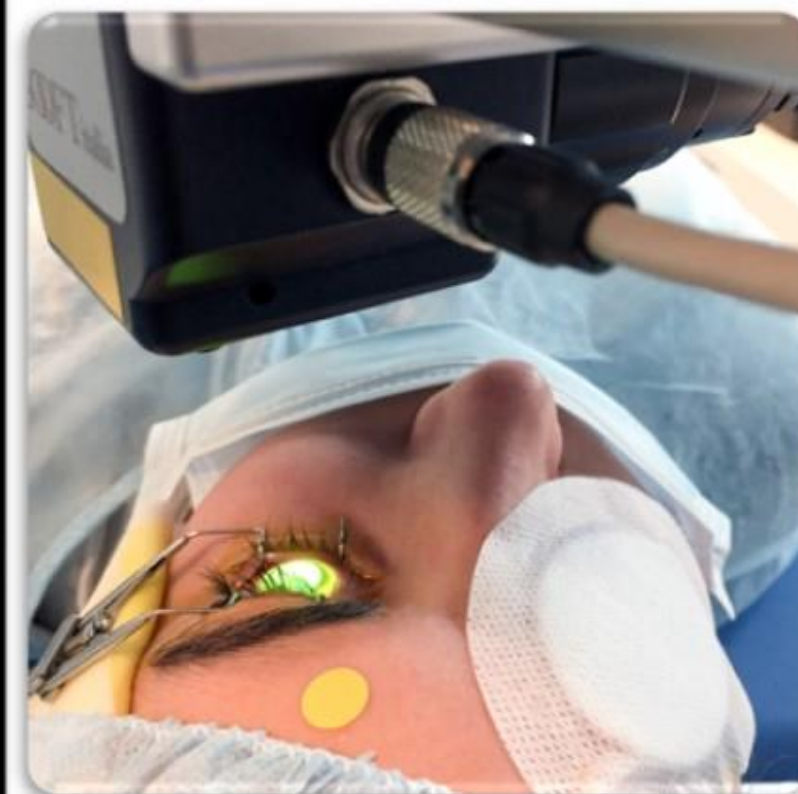
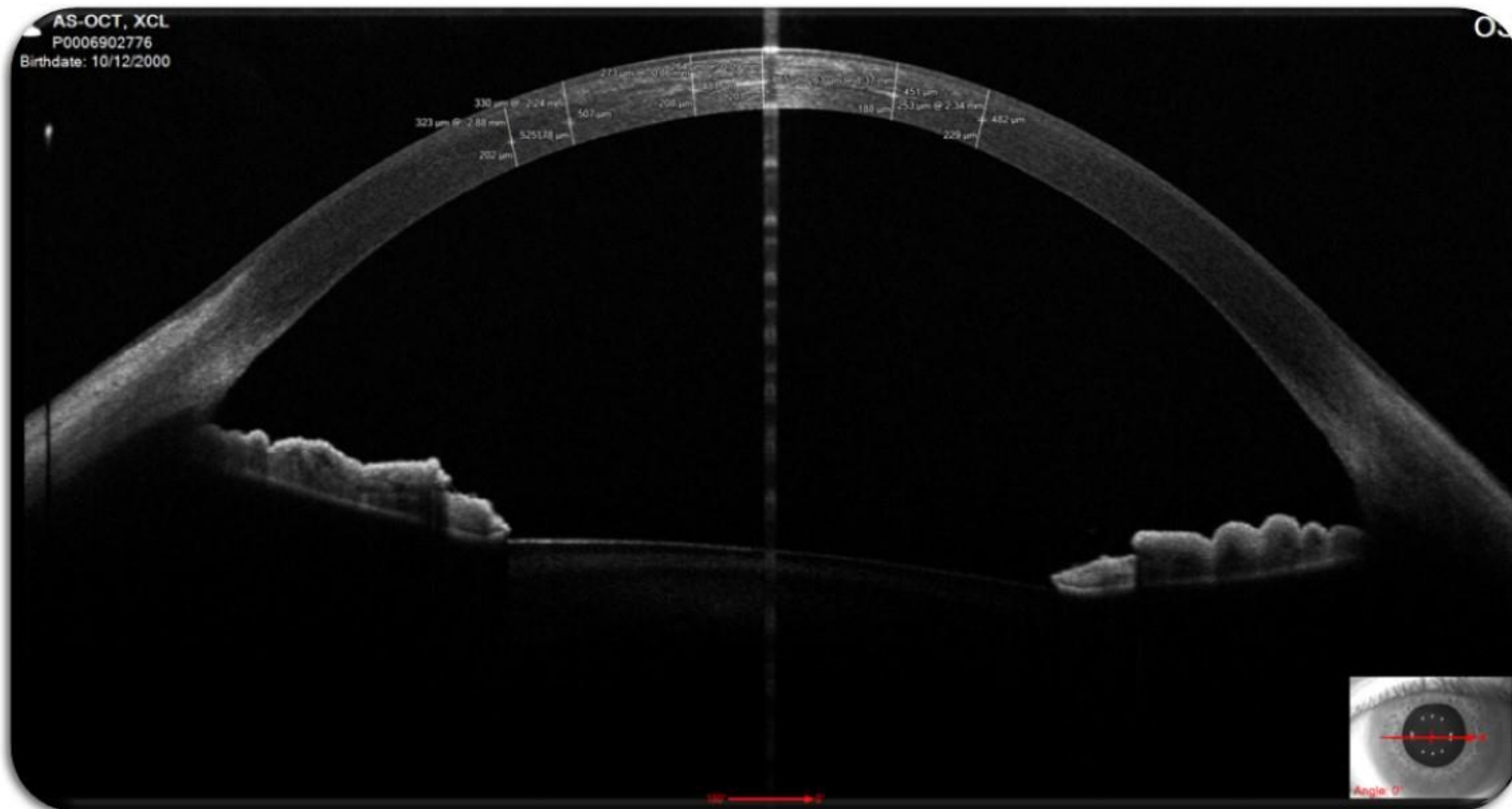
<https://www.eyephysiciansofvirginia.com/xen-gel-stent/>



“Keratoconus is a common corneal disorder where the central or paracentral cornea undergoes progressive thinning and steepening causing irregular astigmatism.” Penny A. Asbell M.D. M.B.A., Theodora Petratos, M.D. , Keratoconus

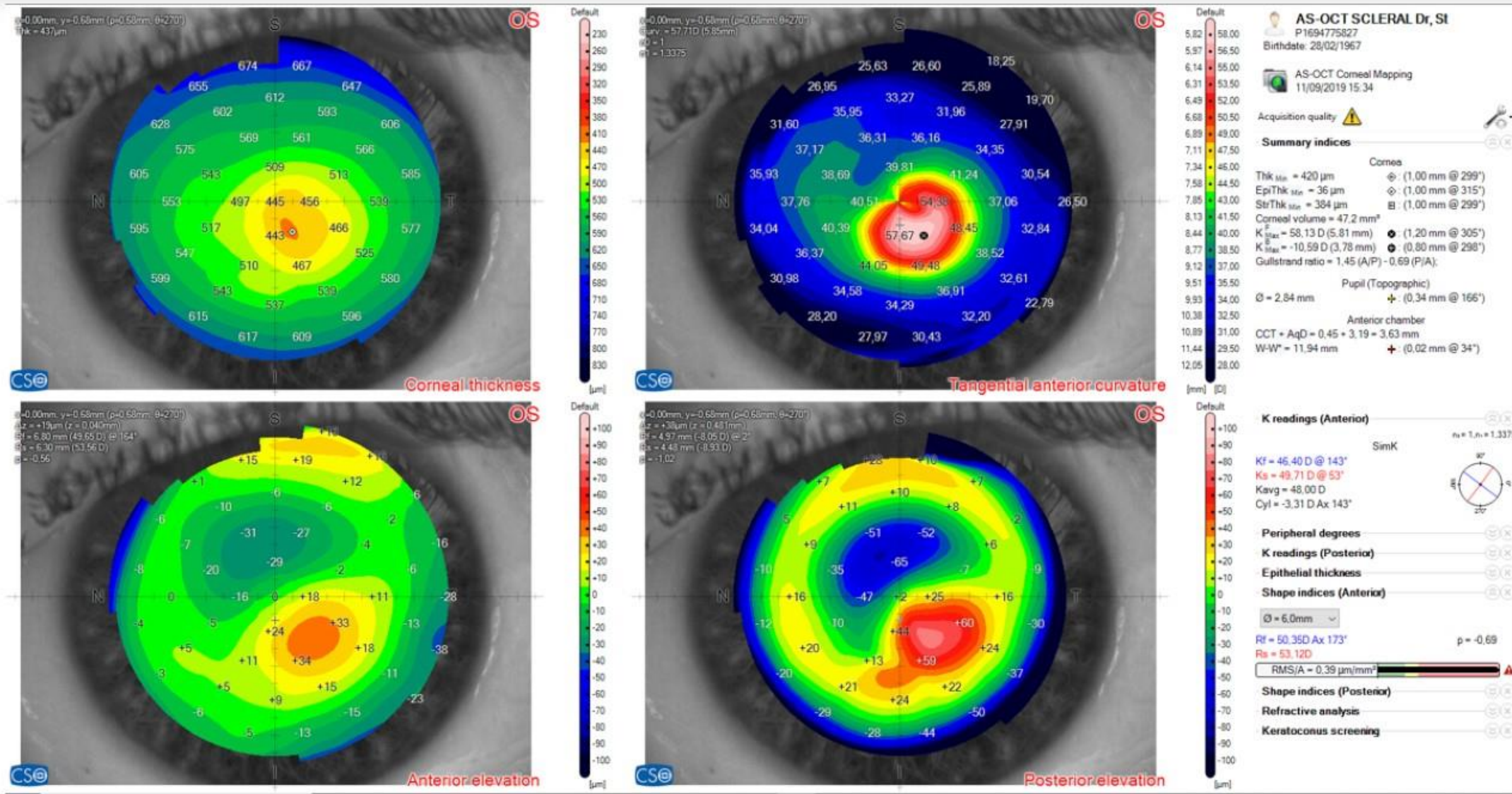
Sommario cheratocono

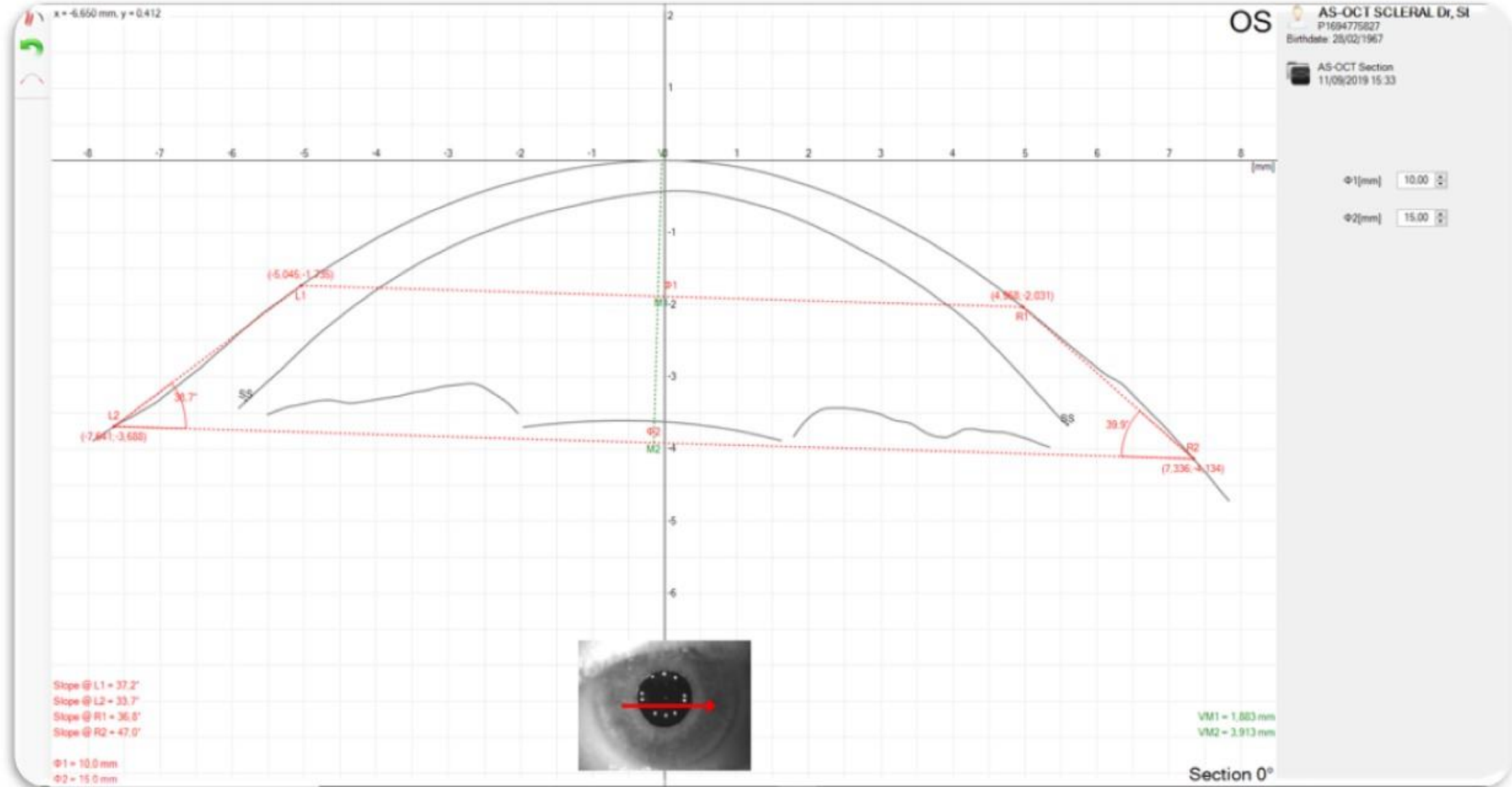


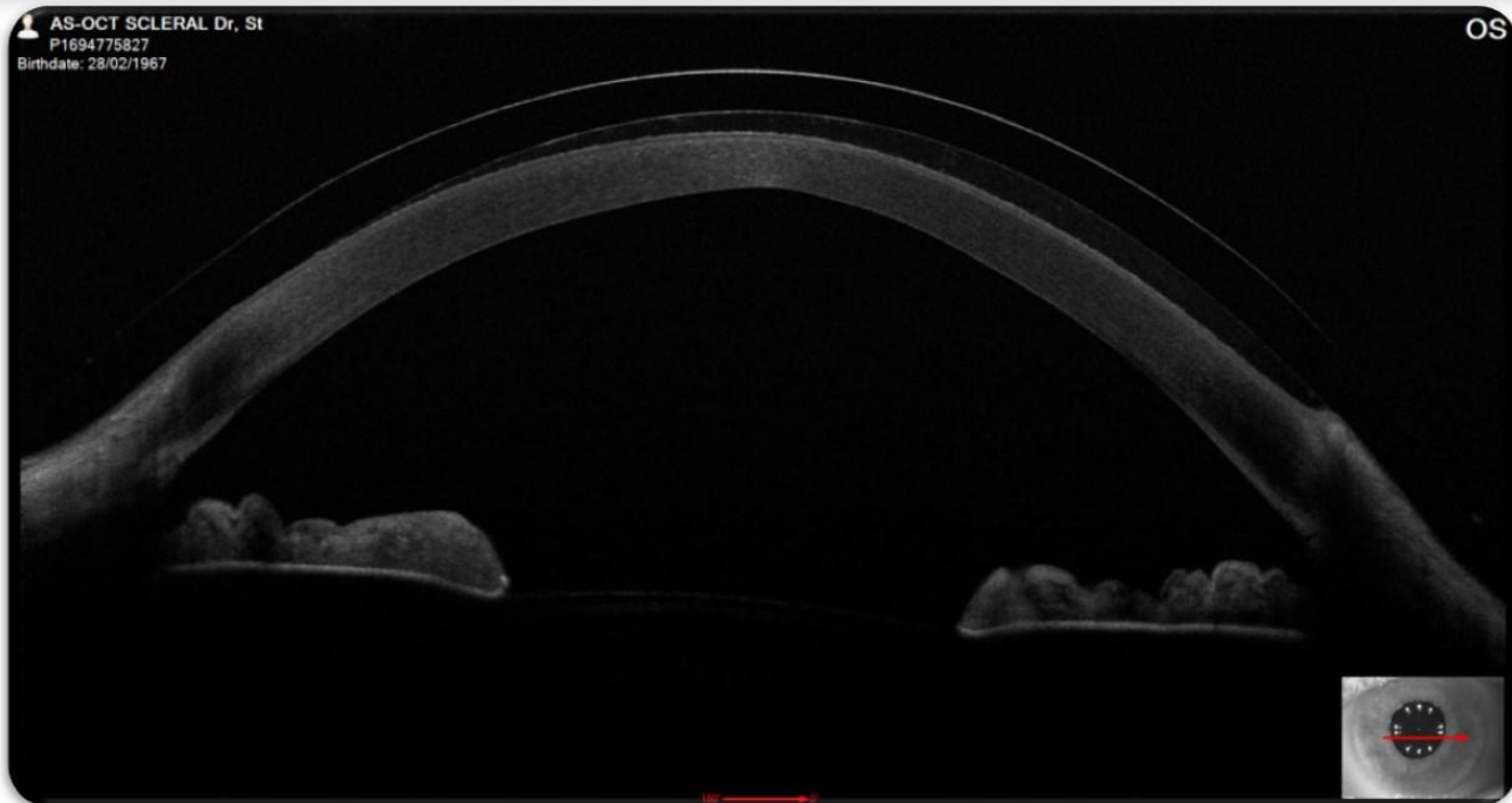


Courtesy of Alaa El-Danasoury

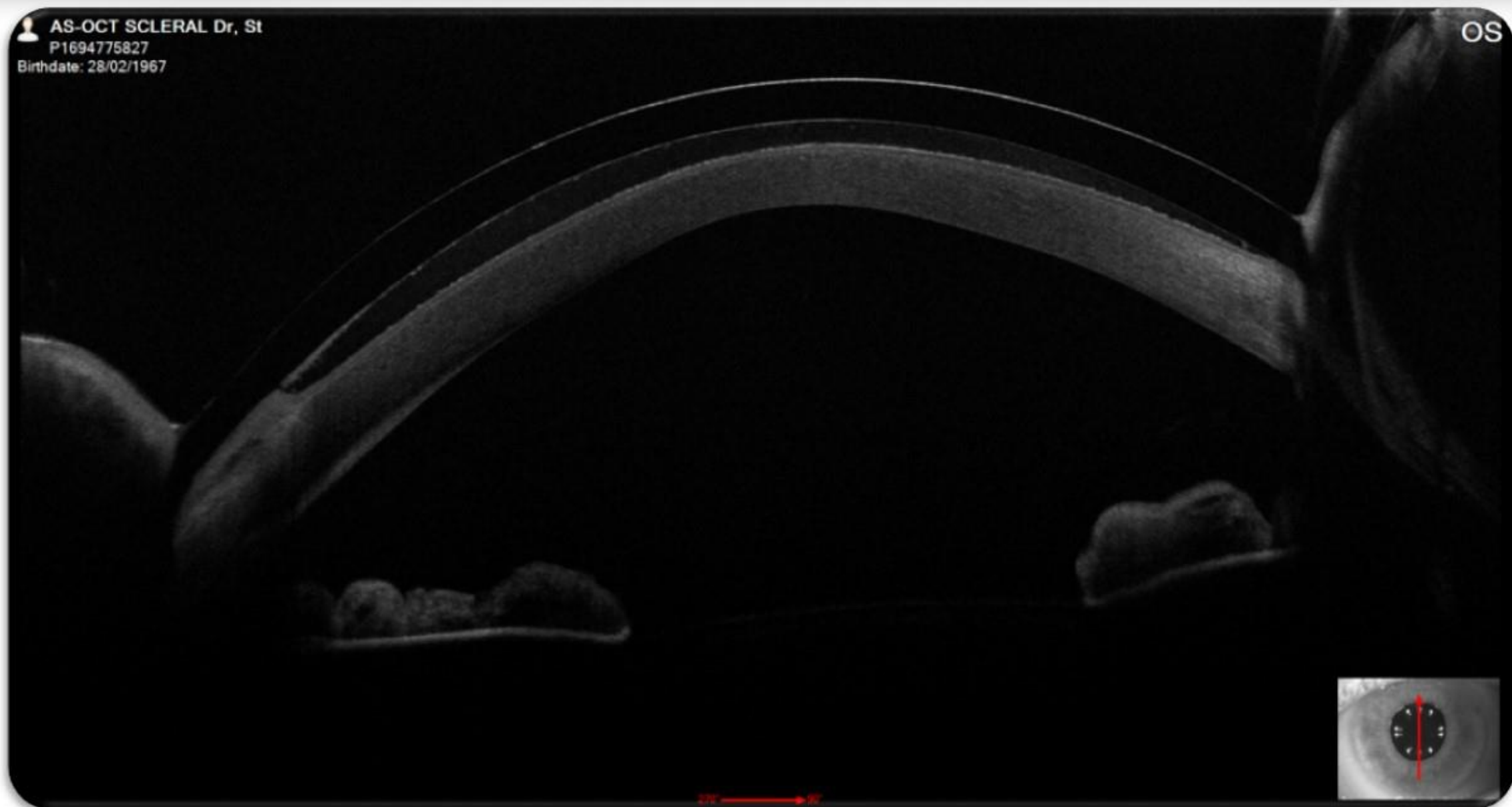
Caso 2



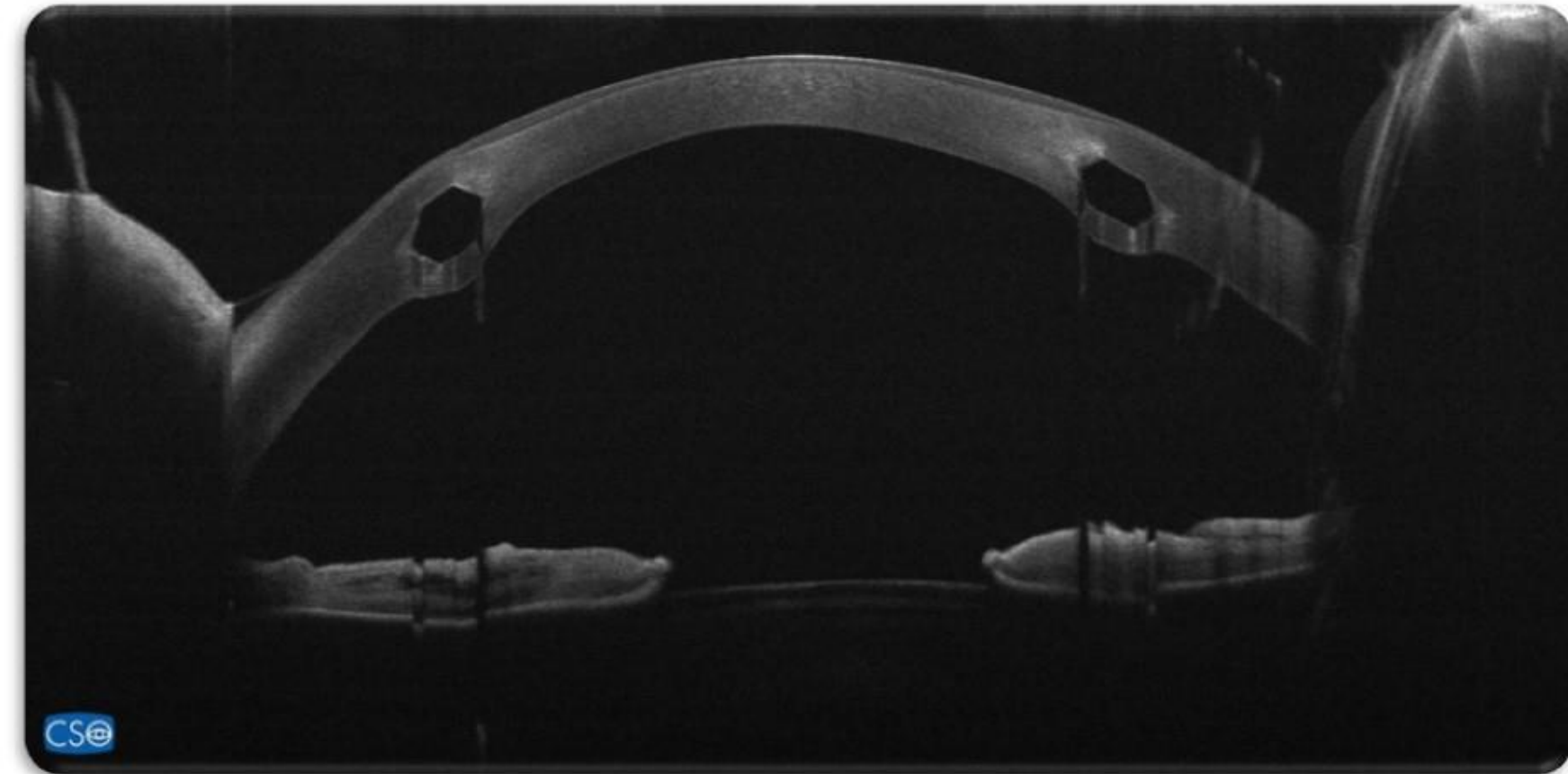




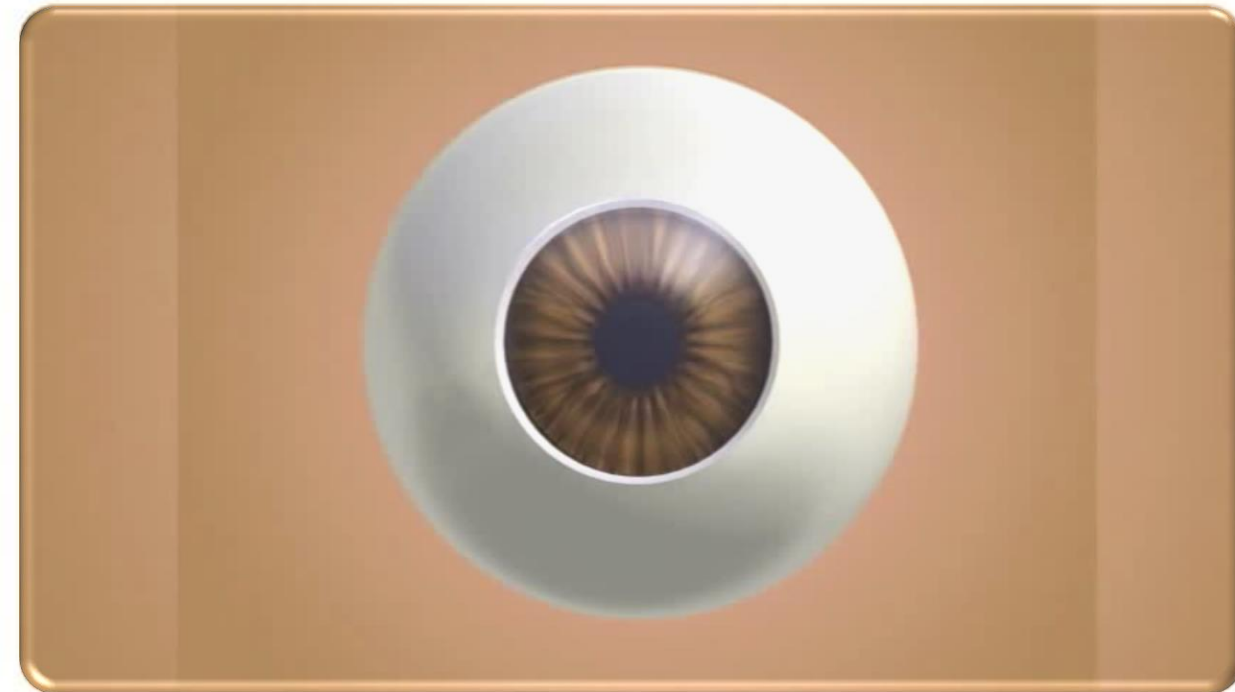
Courtesy of Antonio Calossi



Courtesy of Antonio Calossi



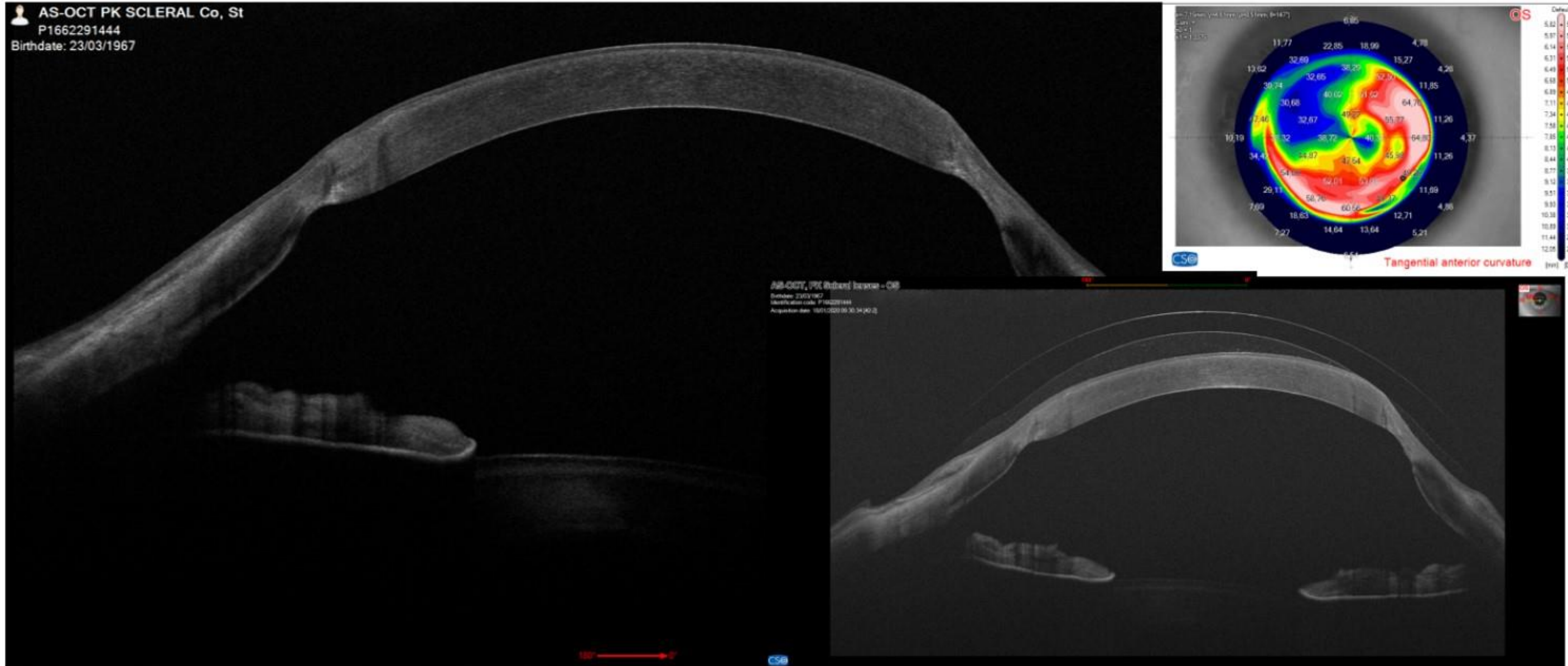
Courtesy of Andrea Romani



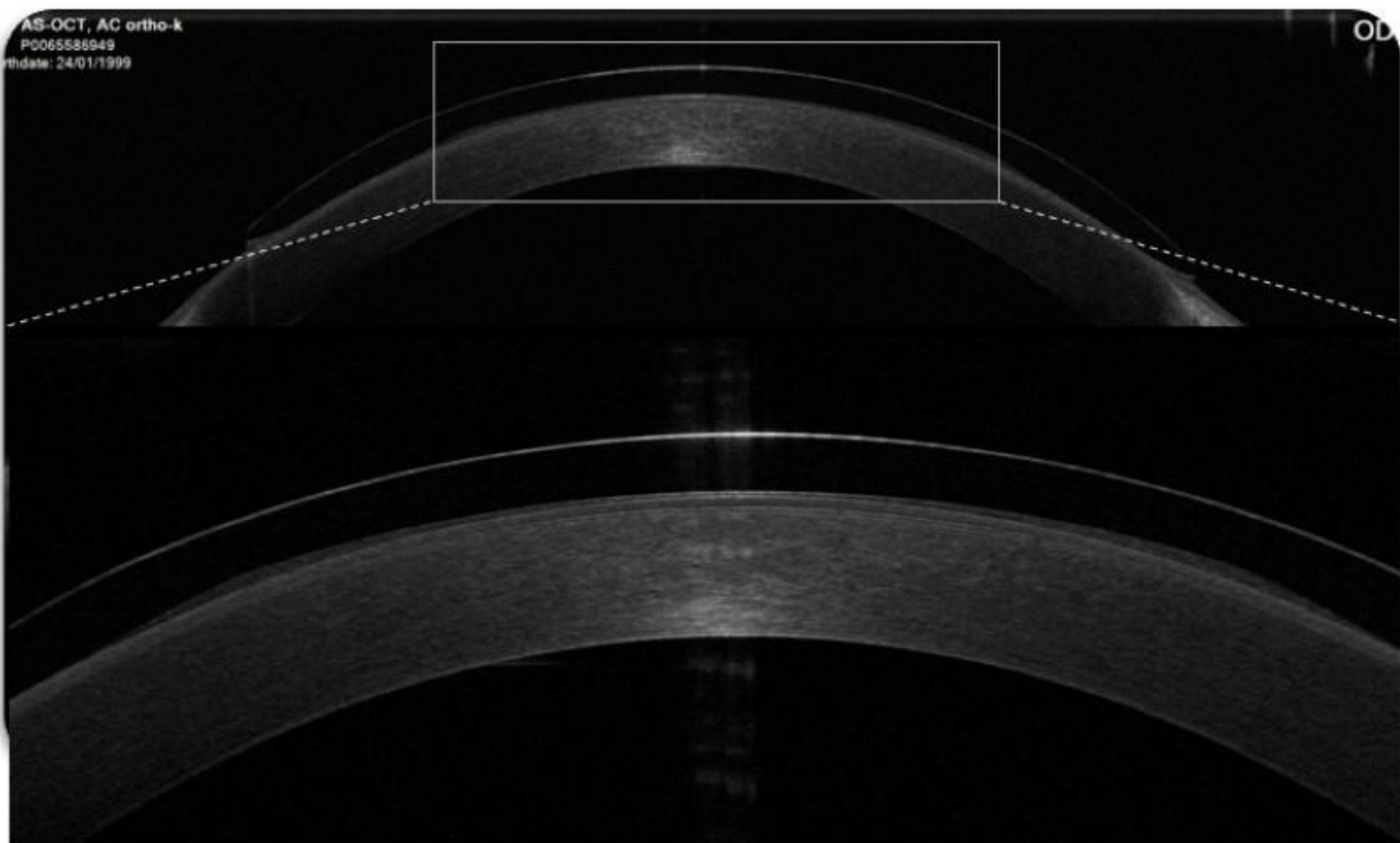
EyeSmart – American Academy of Ophthalmology

<https://www.youtube.com/watch?v=YdMmWbkgBSM>

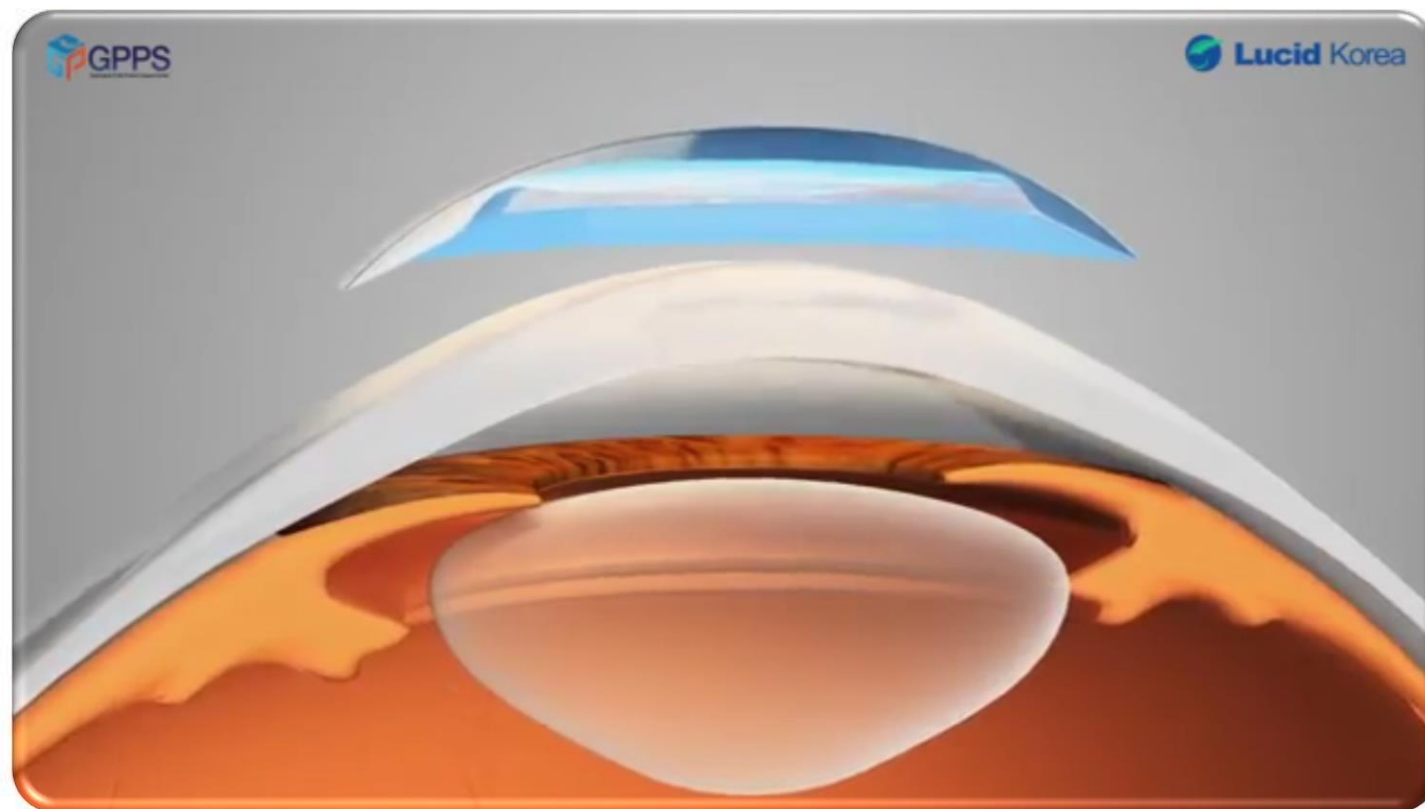
Caso 4



Courtesy of Antonio Calossi

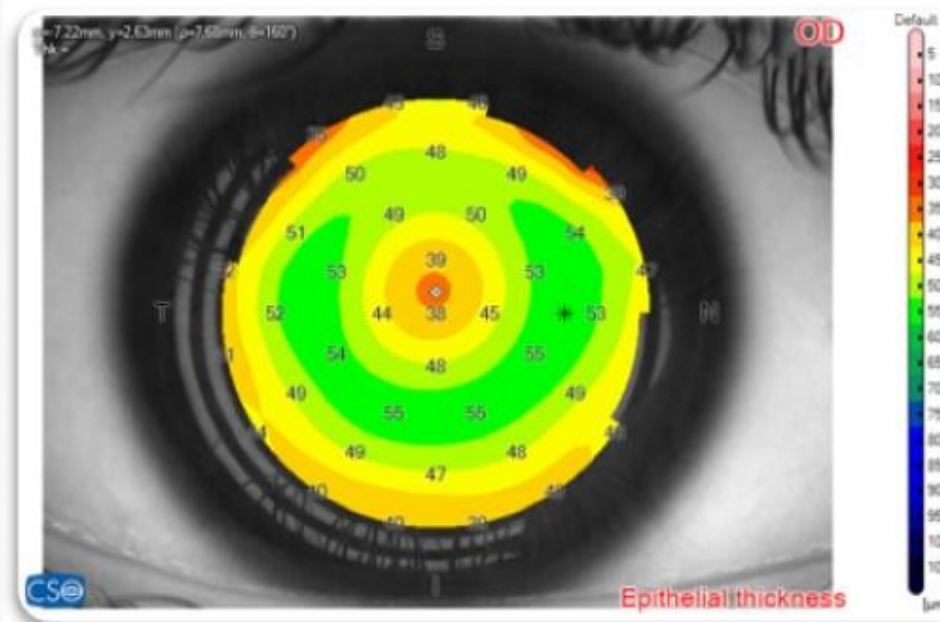
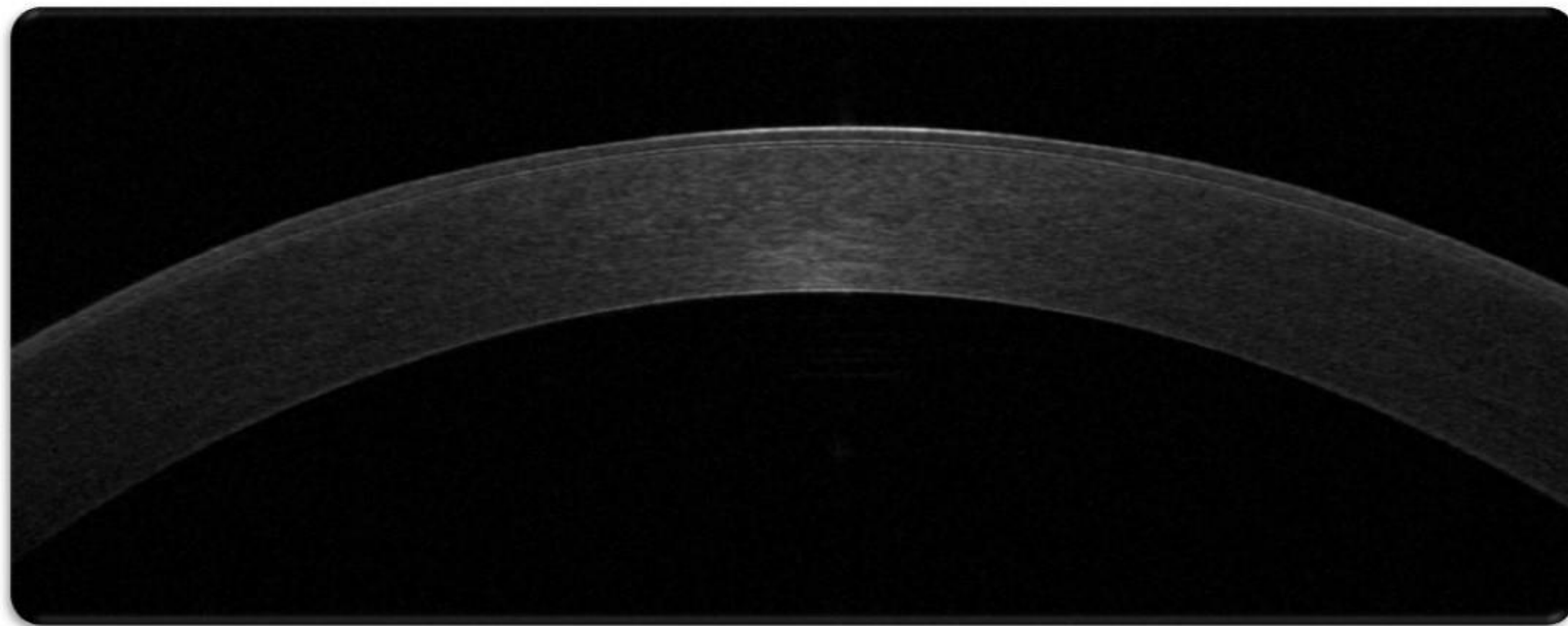


Courtesy of Antonio Calossi



Lucid Korea

<https://www.youtube.com/watch?v=xT45EgoYfbU>



Courtesy of Antonio Calossi



Grazie