



Contact Lens Service
Luton & Dunstable
University Hospital NHS
Foundation Trust

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Outline

- ▶ Background and updates to NHS
- ▶ November 2013; To Develop a modern contact lens service to complement up to date corneal service, blank sheet of paper
- ▶ Types of lenses and applications
- ▶ Collagen cross linking
- ▶ Types of referrals accepted, what would like to see please...

Mr Allon Barsam MBBS FRCS FRCOph

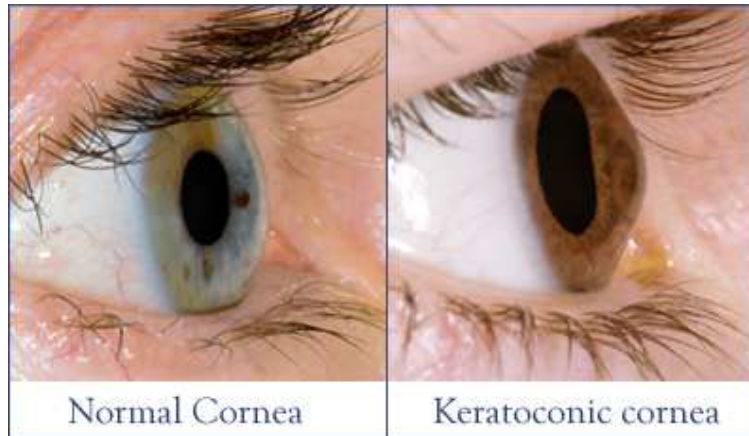
Cornea, Cataract and Refractive surgery

- ▶ Newer transplant techniques; DALK, DSEK, DMEK
- ▶ Collagen Cross Linking (CXL)
- ▶ Intra Corneal Rings (ICR)
- ▶ Astigmatic Keratotomy (Post graft, cataract surgery)
- ▶ Surface laser for corneal dystrophies, scar tissue
- ▶ Anterior segment reconstruction, iris anomalies
- ▶ Corneal tattooing
- ▶ Toric IOL
- ▶ Pterygium surgery
- ▶ Graft complications including redo

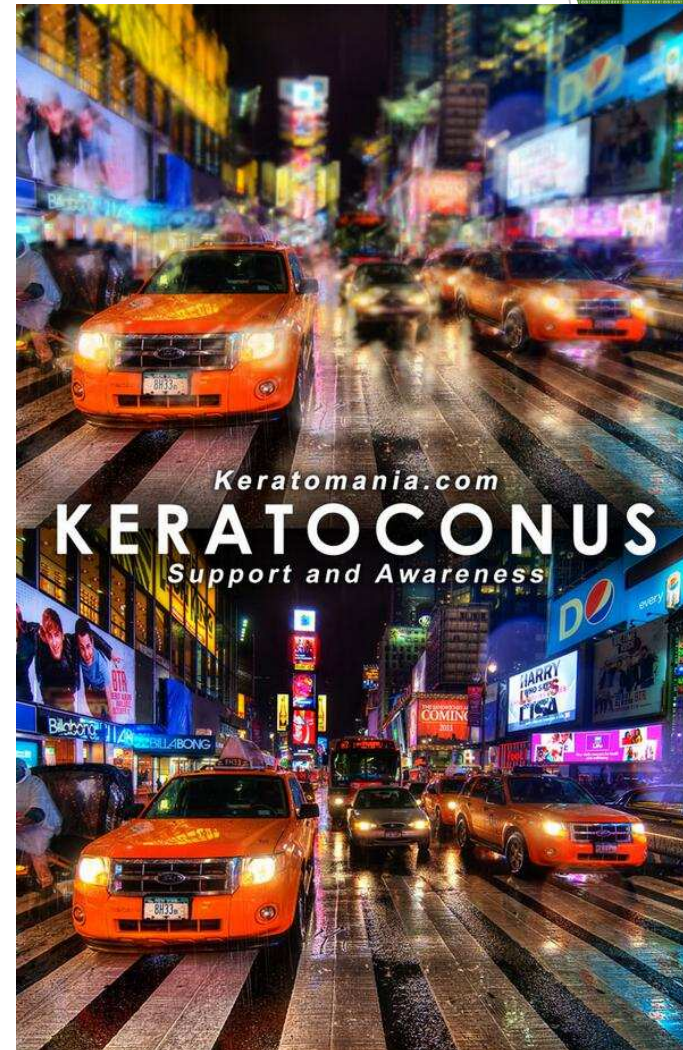
Contact Lens Service from scratch

- ▶ From experience at Wycombe expand range of contact lenses available, more comprehensive, inherit small RGP service, PBS, small lenses poor comfort, unstable on irregular cornea
- ▶ Ectasia; SCL, Corneal RGP, hybrid, mini scleral, small scleral, full scleral, moulded shells
- ▶ Monitoring service for corneal ectasia, pentacam, protocol and criteria
- ▶ PBS from predecessor, works well in some cases
- ▶ Post graft, corneal and scleral
- ▶ Ocular disfigurement, DATAC, ptosis prop, squint
- ▶ BCL, large range of size, eg bleb cover
- ▶ Paediatric

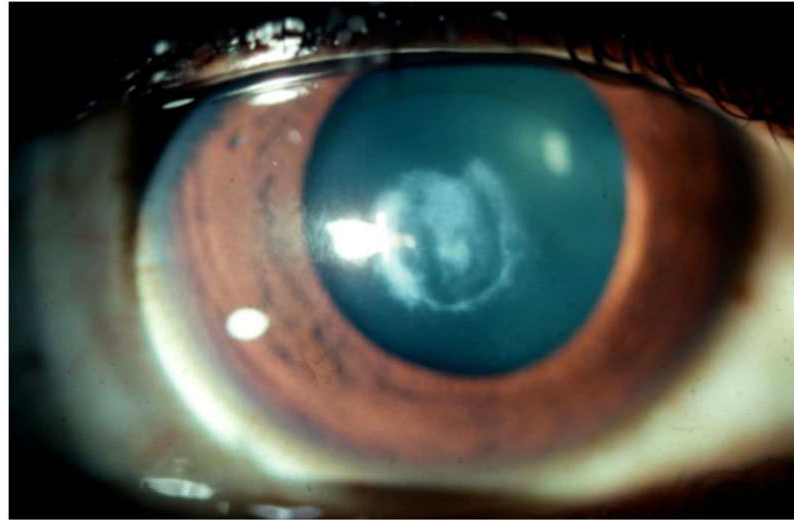
Keratoconus



Keratoconus



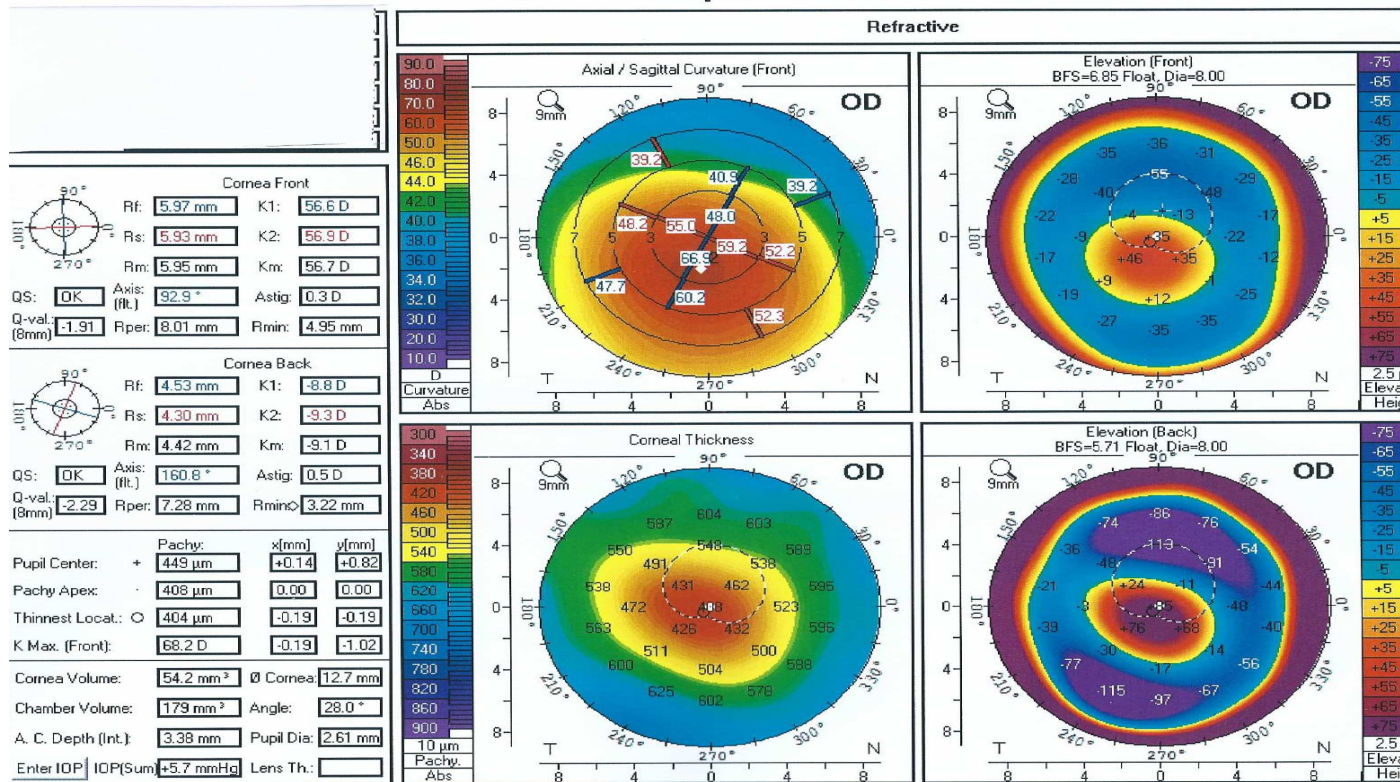
Keratoconus



Topography (Pentacam)

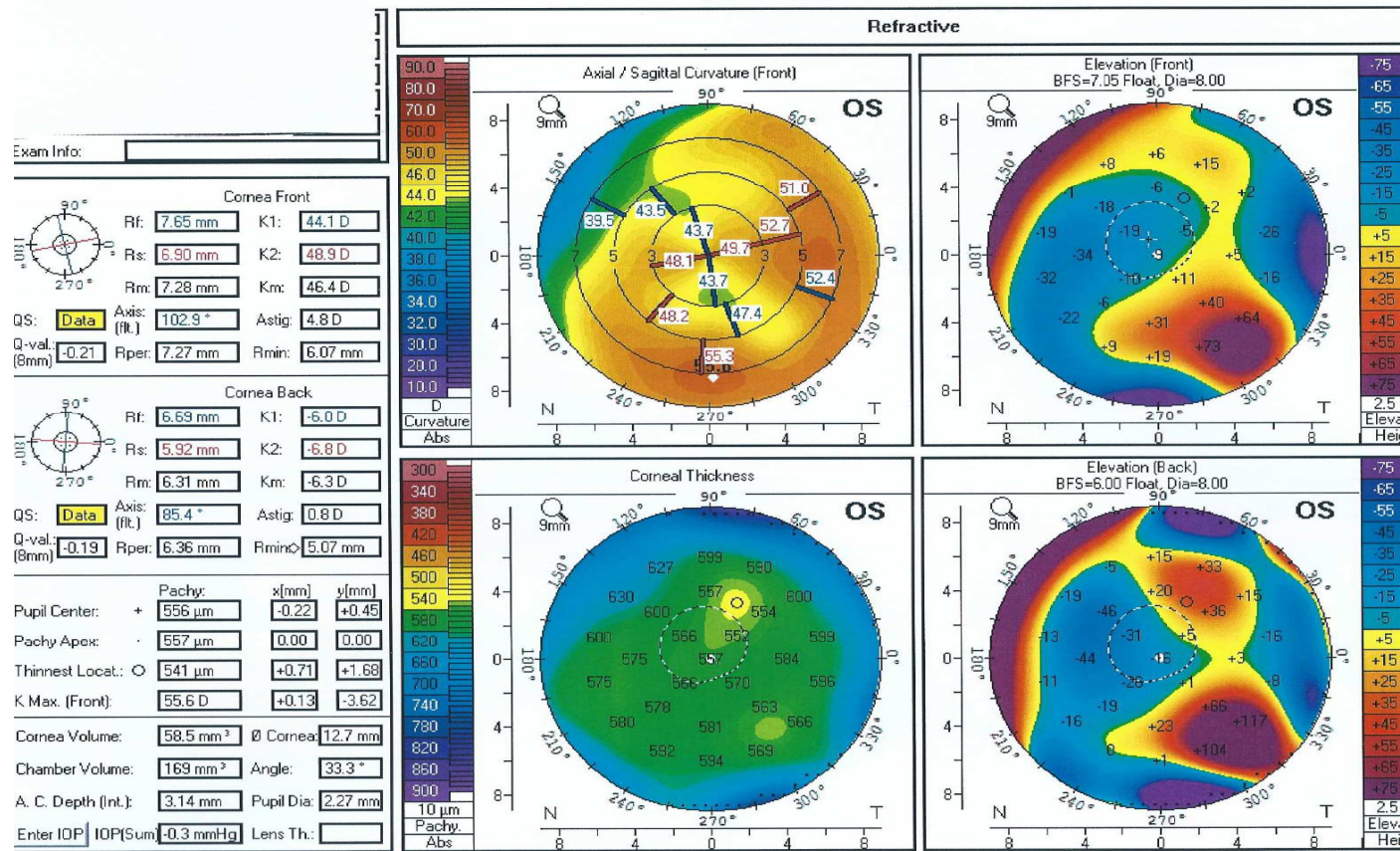
- Images and criteria for progression, based on Moorfields.

OCULUS - PENTACAM 4 Maps Refractive



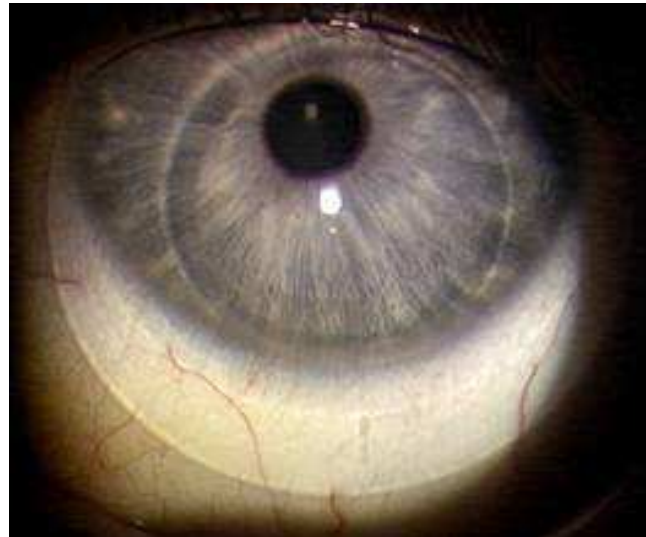
Post graft

OCCULUS - PENTACAM 4 Maps Refractive



SCL

- ▶ Kerasoft Irregular Cornea Lens



Small diameter Rigid Gas Permeable

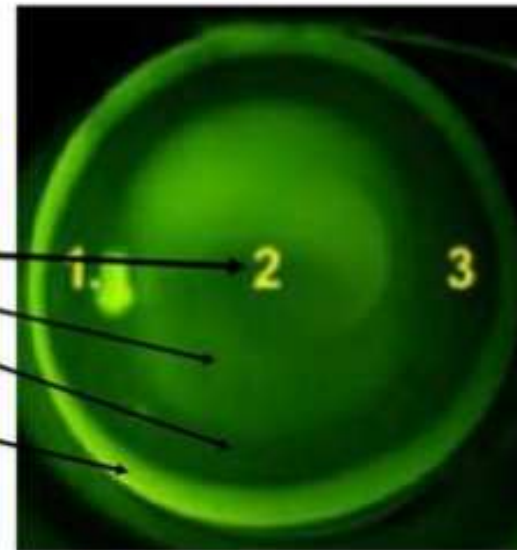
► 3 point touch

Cont:

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- For n
- The r
lens

• Four zones are created:

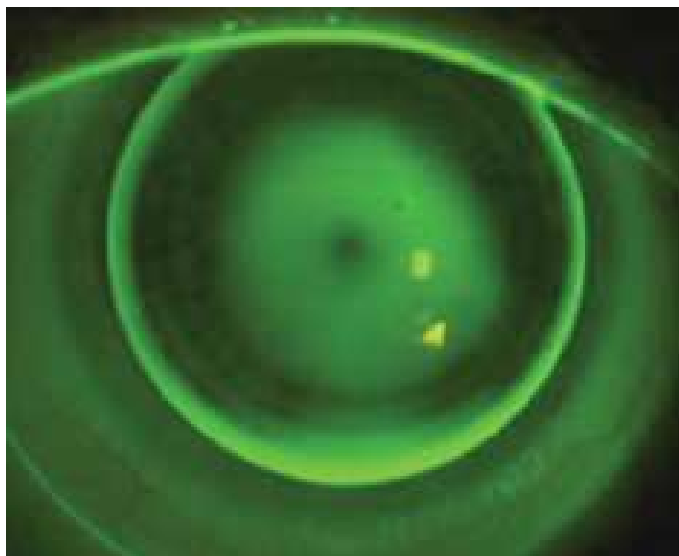
- Slight apical touch
- Paracentral clearance
- Mid-peripheral bearing
- Peripheral clearance



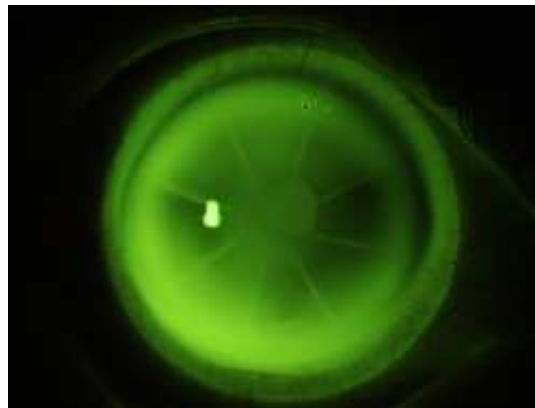
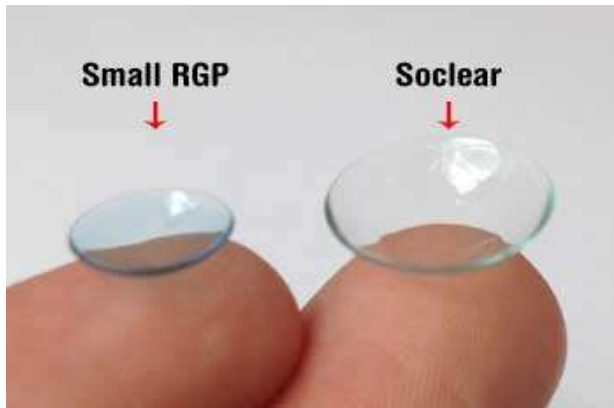
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i diagnostic

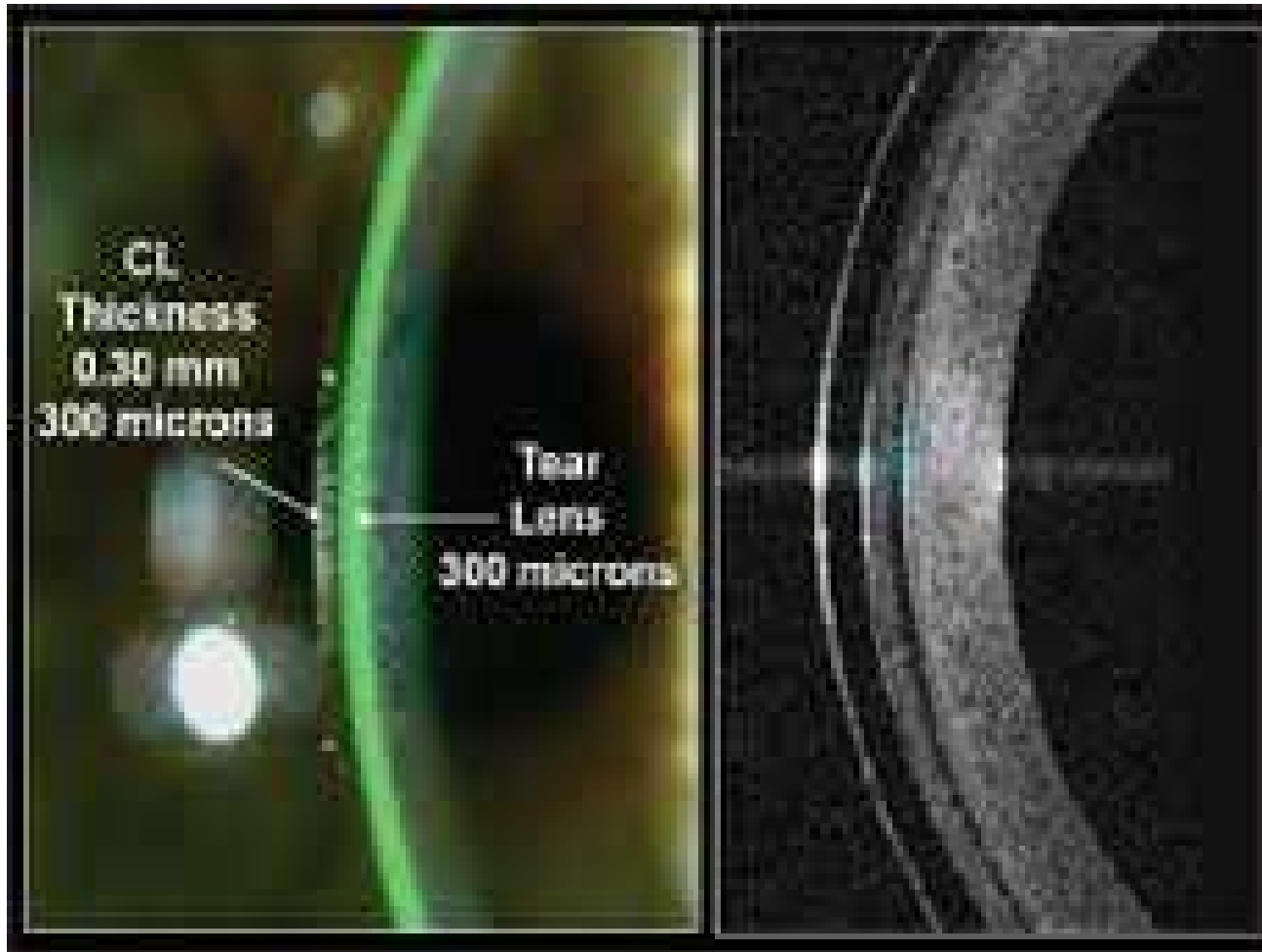
Piggy Back RGP on top of SCL



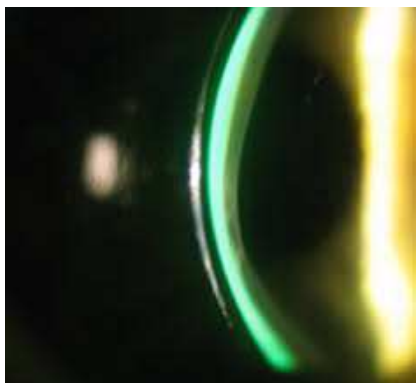
Corneo-scleral contact lens 14mm diameter, advantages



Back surface clearance/ OCT



Mini Scleral CL-16.00-16.50mm



Insertion and removal

To apply your scleral lens, you will need to separate your eyelids in order to position the lens on the eye.

This can be accomplished by using your free hand to pull the upper lid up and the ring finger of the hand with the lens on it to pull away the bottom lid.



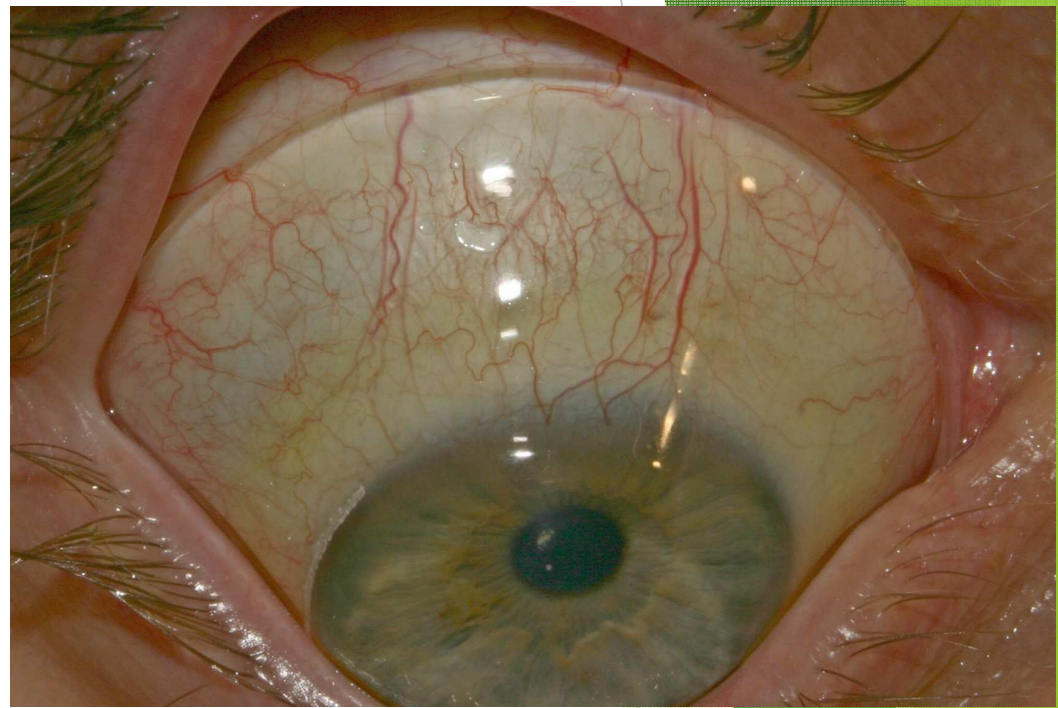
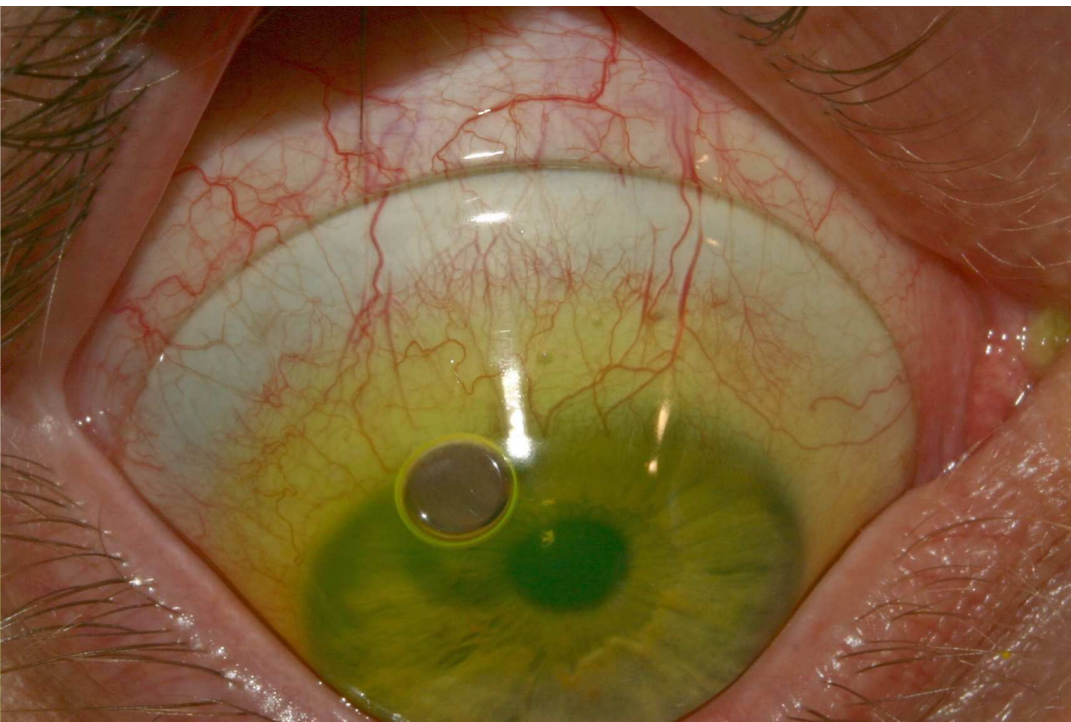
Good idea!



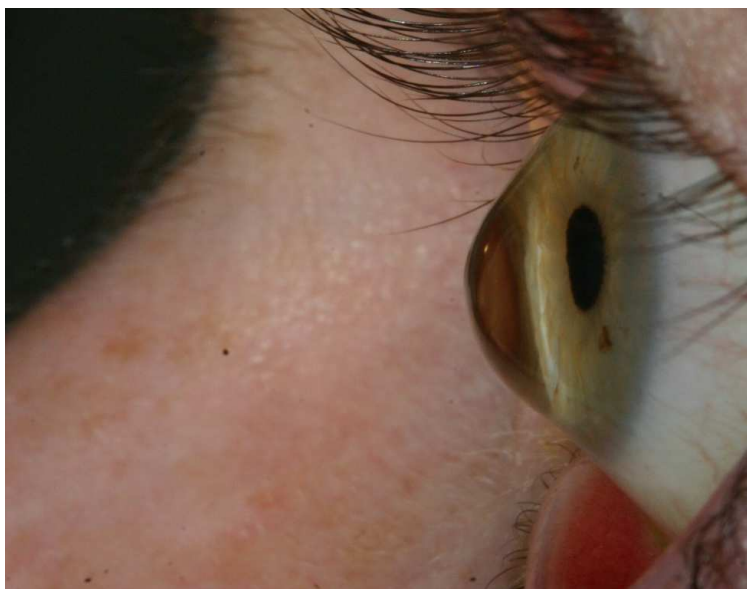
Full Scleral



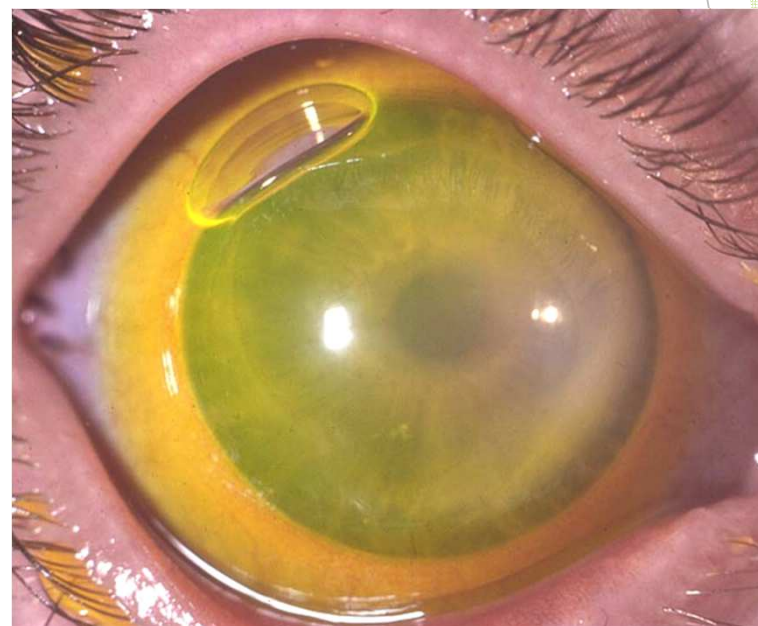
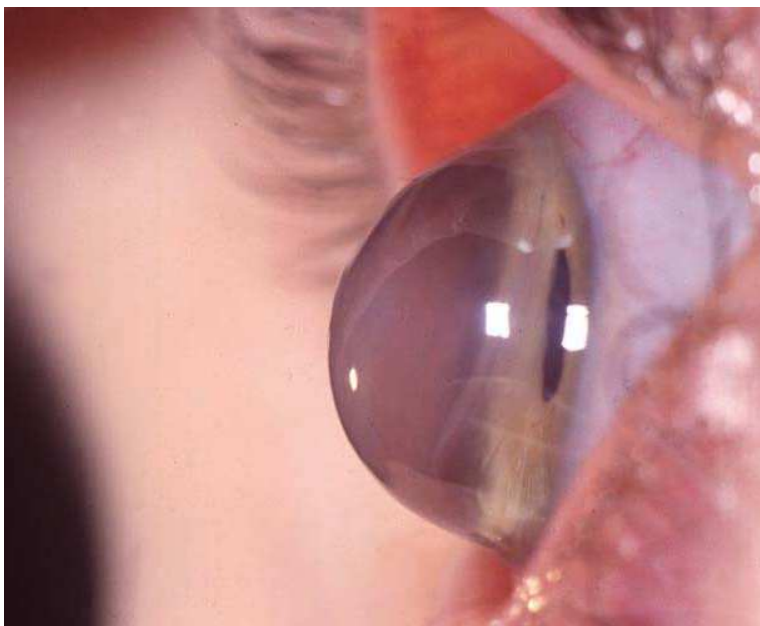
20mm and 23mm sclerals



Keratoconus 23mm scleral 6/12 vision

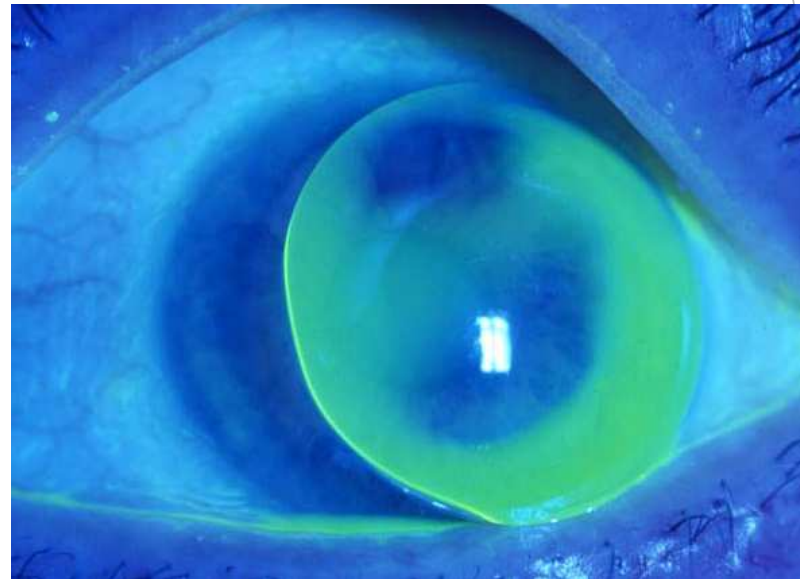


Yikes, well done Ken!

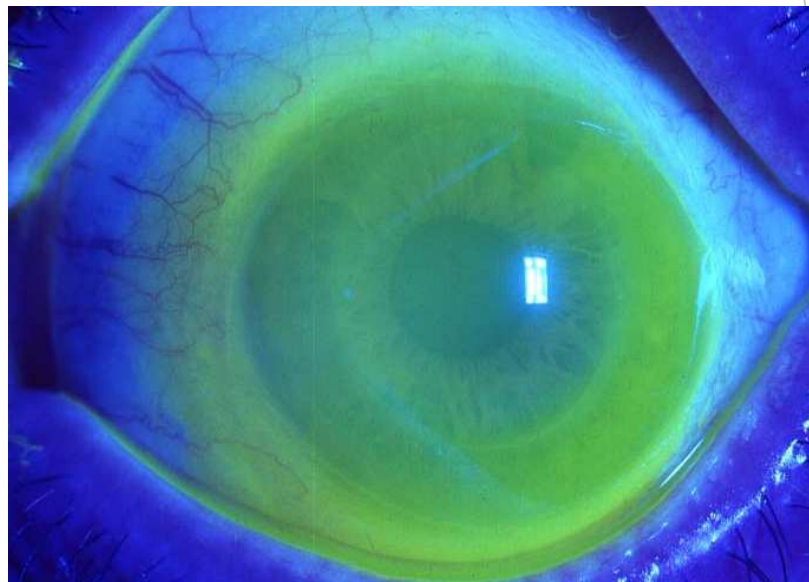
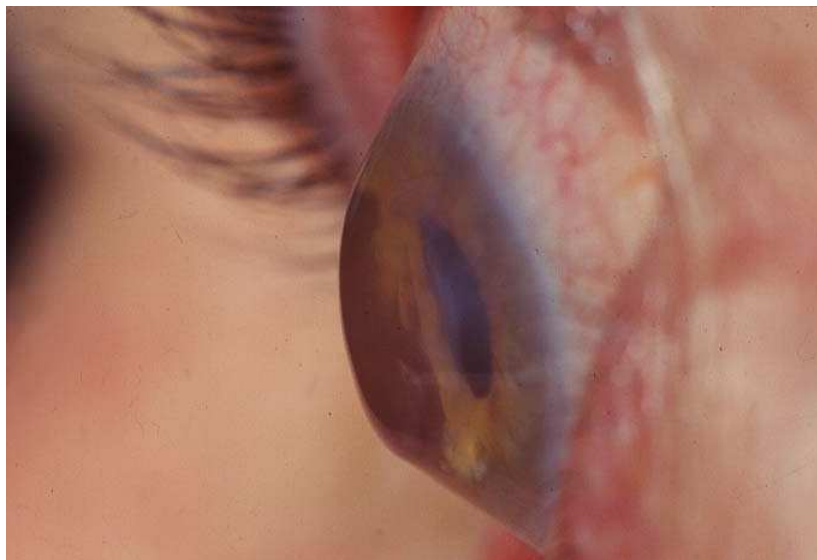


Post graft

- ▶ 40 year graft survival
- ▶ 22DC astigmatism
- ▶ 6/9 with small diameter RGP
- ▶ very poor stability



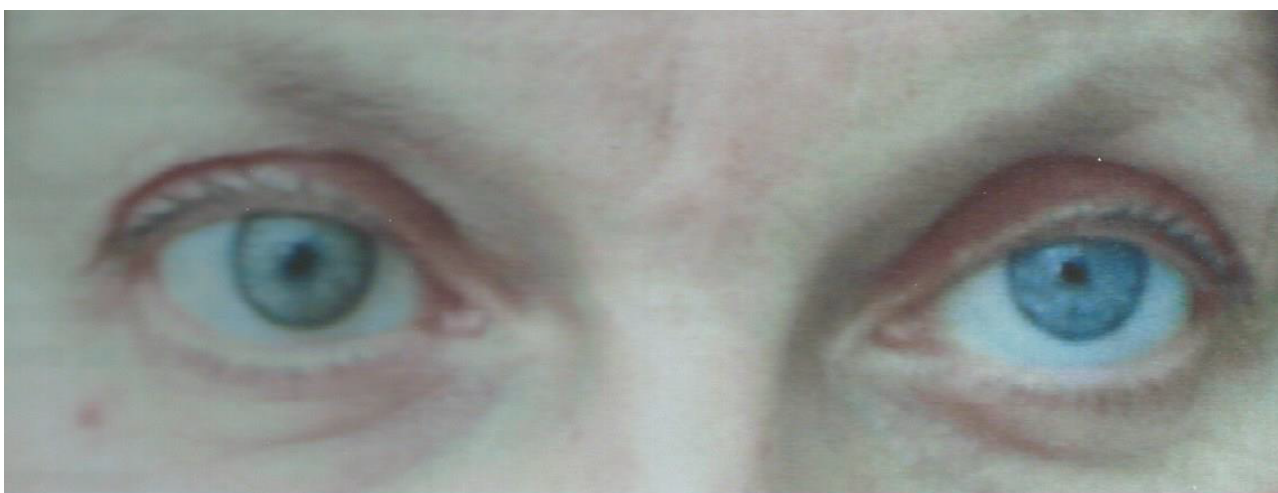
RGP scleral, daily wear post graft



Prosthetic/ occlusive



Prosthetic



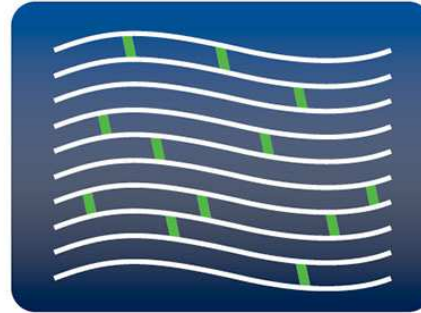
Bandage contact lenses

- ▶ Damage to epithelium
- ▶ Post cross linking
- ▶ Decompensated corneas
- ▶ Hydrops
- ▶ Neurotrophic keratopathy
- ▶ Bleb leak
- ▶ Corneal wound sealing

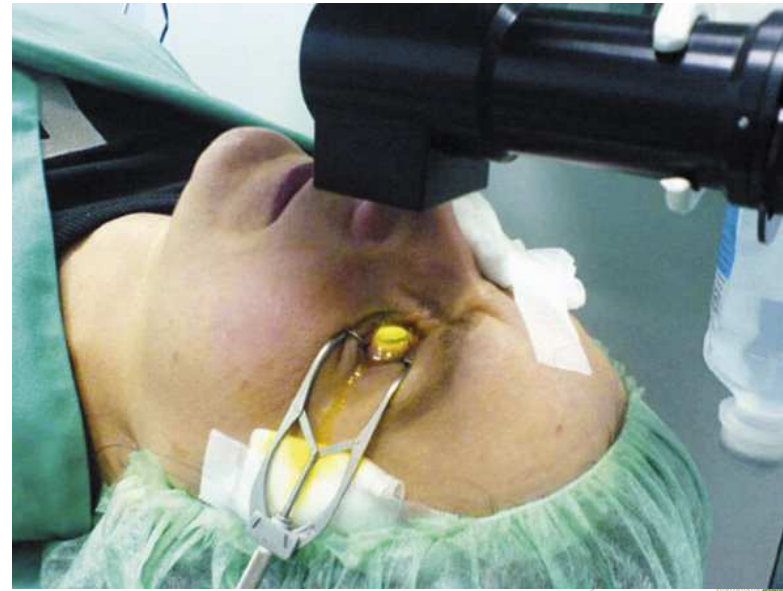
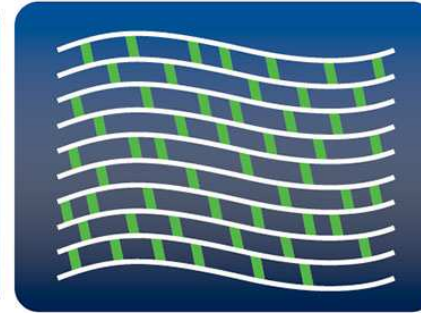


Cross linking

BEFORE CXL : LESS CROSSLINKING
= WEAKER CORNEA



AFTER CXL : MORE CROSSLINKING
= STRONGER CORNEA



Criteria for Collagen Cross Linking

- ▶ >1.5D change in refractive astigmatism
- ▶ >1 line loss of CDVA
- ▶ >1.5D increase in central steep anterior keratometry K2
- ▶ >1.5D increase in Kmax
- ▶ >0.5D increase in steep posterior K2
- ▶ >15 μm decrease in central or minimum corneal thickness

Exclusion criteria

- ▶ Active ocular surface disease
- ▶ Pachymetry at thinnest location <400 μm
- ▶ Pregnancy
- ▶ Anterior K2 > 58.0D

What to send up

- ▶ All? suspect KC, especially in early teenagers and those in 20's
- ▶ Older late 20's, 30+ with evidence of refractive change especially increase astigmatism
- ▶ Small RGP CL wearers unstable, or poor comfort, those lost to follow up
- ▶ Grafted patients with poor fitting CL, and those without CL would like to see better
- ▶ Squints unhappy, poor cosmesis such as decompensated eye/ cataract
- ▶ Diplopia

Take home messages

- ▶ Collagen cross linking works and is available on the NHS
- ▶ Advent of small sclerals means many patients can be fitted successfully and may not need full scleral or grafts

Thank You and any Questions?

