

# Wide diameter DALK in the management of conventional diameter DALK associated high astigmatism

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Interface



Operation note  
Manual/  
Big bubble

# POOR VISION IN DALK



Astigmatism

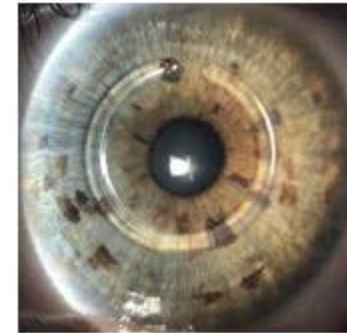
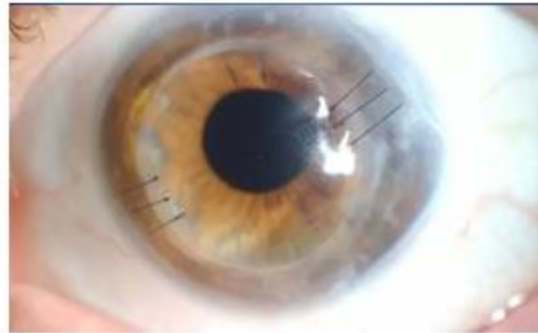
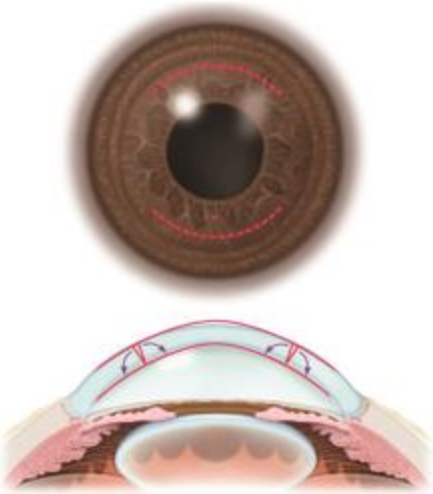


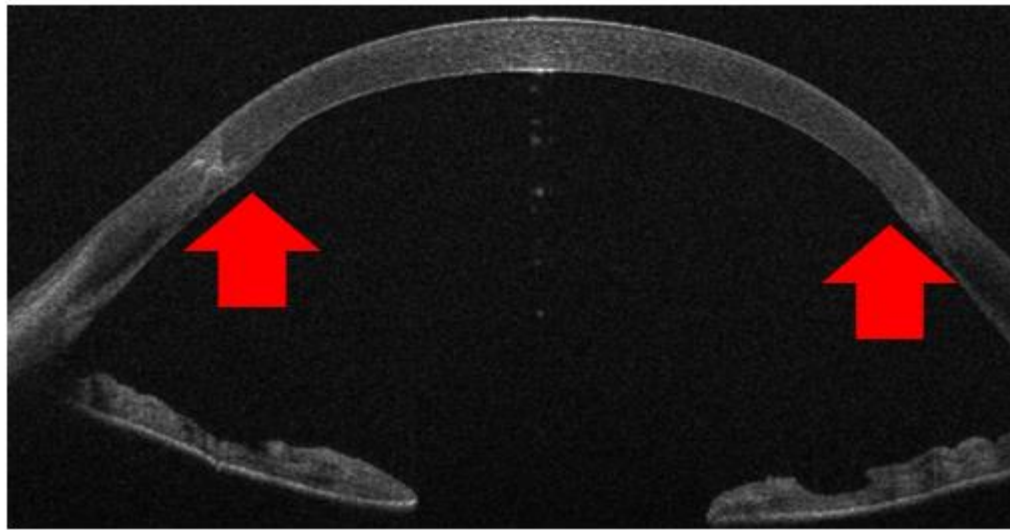
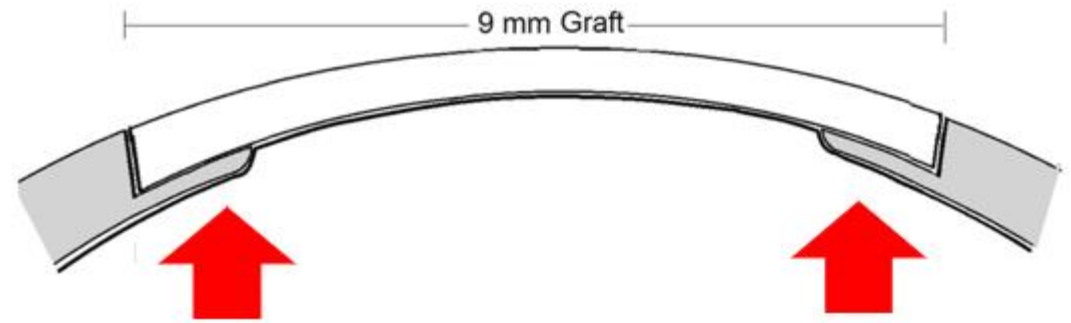
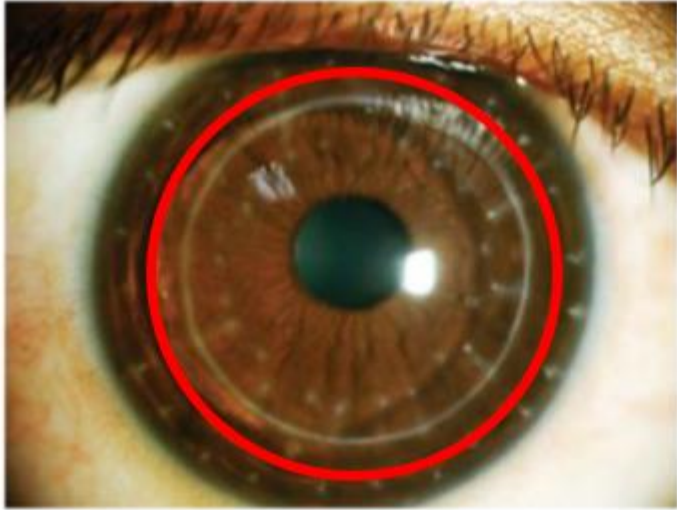


# How can we control astigmatism post DALK?



Laser  
refractive  
surgery





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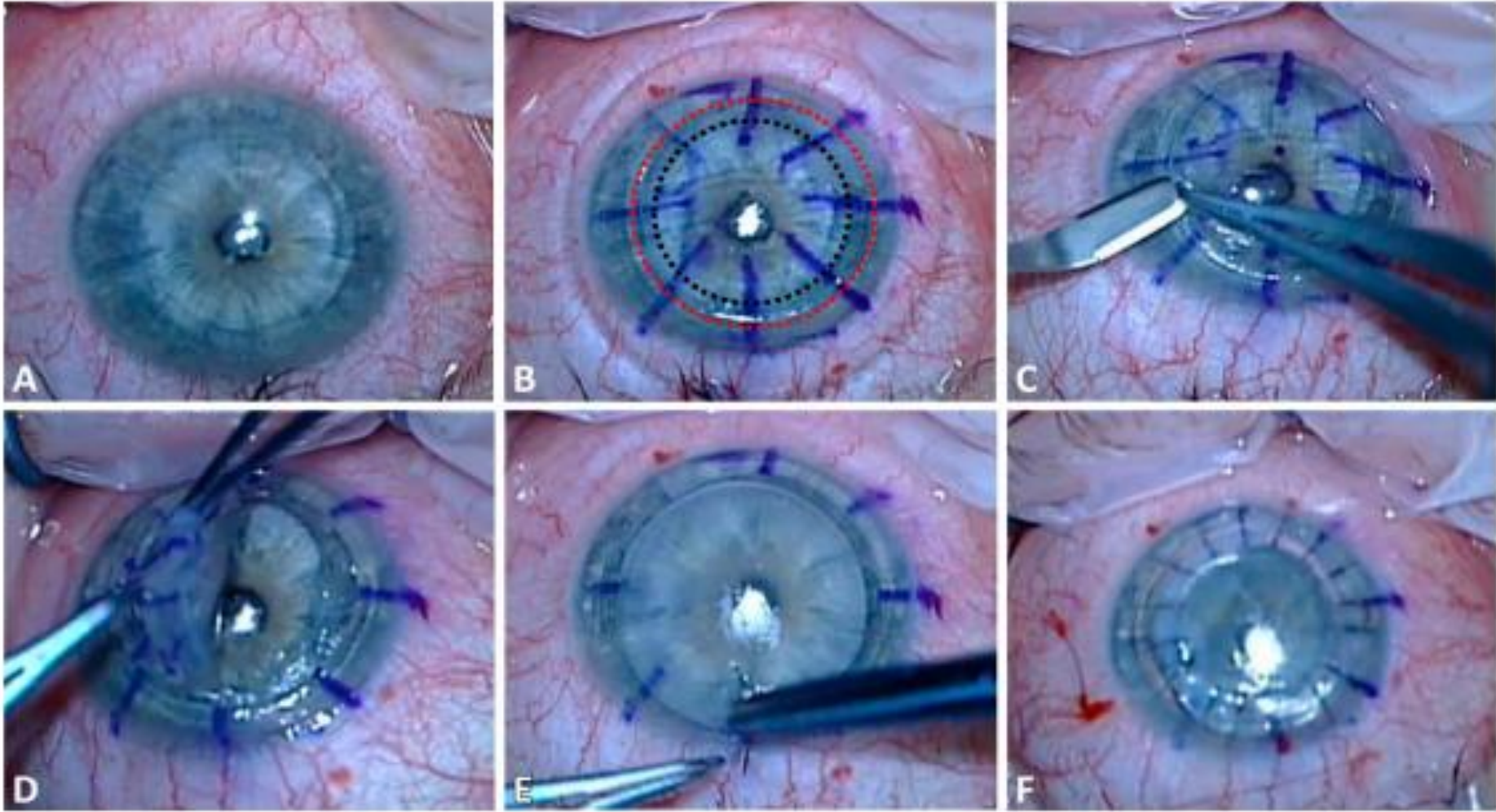
# Case 1

- 38yr male
- Atopic keratoconic
- 8mm conventional DALK 2017
  - Type 1 bubble
- Post suture removal and corneal-based astigmatic interventions → 12D astigmatism
- BSCVA 6/60
- Intolerant to contact lenses
- 9mm wide diameter DALK 2021 with interrupted sutures
  - Sutures removed → 6.62D astigmatism
  - Blunt in the wound blunt manual relaxing incisions → 3.5D
  - Plano/-3.50x175 refraction
  - BSCVA 6/9

# Case 2

- 42yr male keratoconus
- 7.75mm DALK 2012
  - Type 1 bubble
- Keratometric astigmatism of 10.5D and BSCVA CF
- Multiple corneal-based astigmatic interventions
- Intolerant to contact lenses
- 9mm repeated DALK 2021 with double continuous sutures
- Post suture removal at 13 months → 3.1D
- -1.00/-2.75x25 and BSCVA 6/9

# Surgical technique



**Cornea Front**

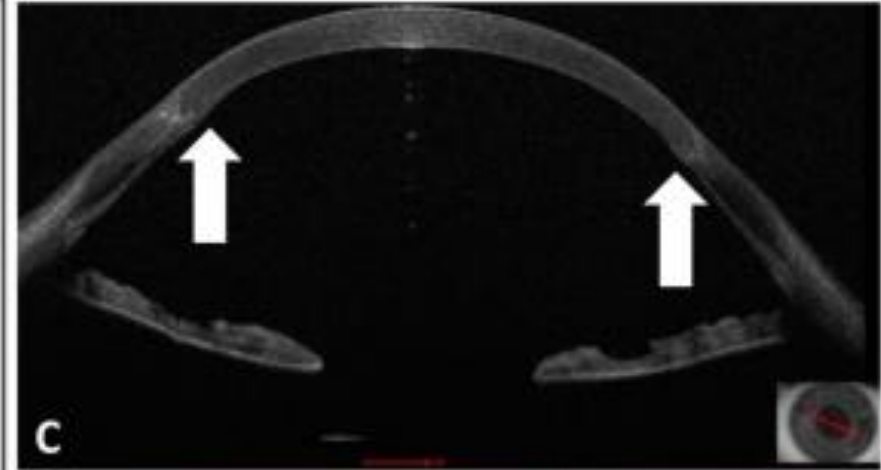
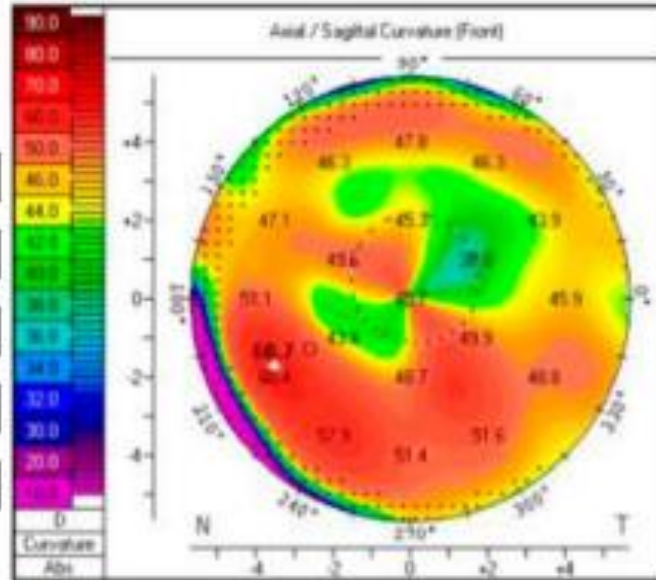
Rh: 8.51 mm    K1: 39.6 D

Rv: 6.54 mm    K2: 51.6 D

Rm: 7.53 mm    Km: 44.8 D

Axis: 36.2°    Astig: -11.9 D

Rper: 6.84 mm    Rmin: 5.56 mm



**A**

**Cornea Front**

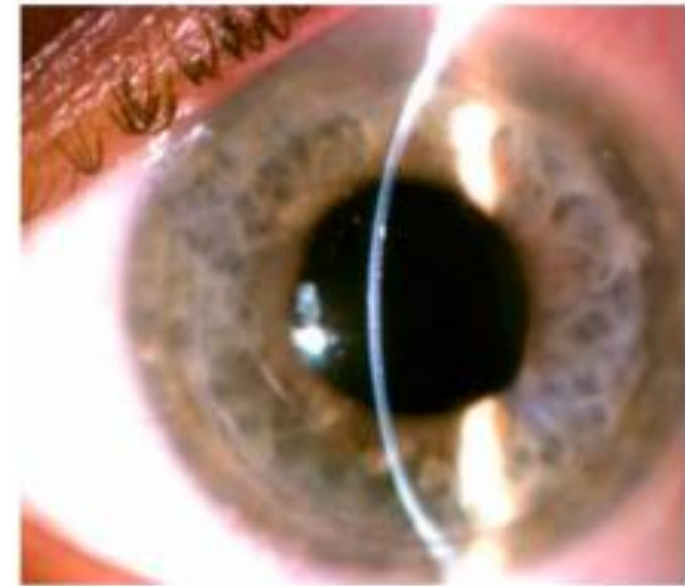
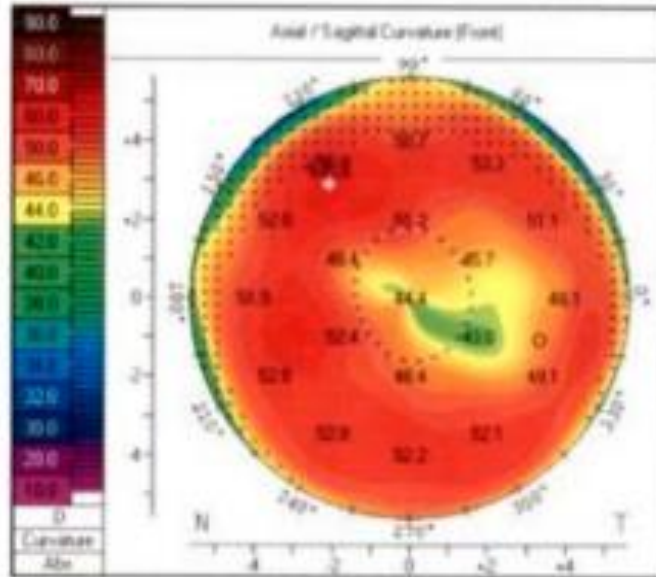
Rh: 7.60 mm    K1: 44.4 D

Rv: 7.05 mm    K2: 47.9 D

Rm: 7.32 mm    Km: 46.1 D

Axis: 149.8°    Astig: -3.5 D

Rper: 6.53 mm    Rmin: 5.89 mm



**B**

**D**



# Summary

- This technique limited to post DALK with reduced vision due to high keratometric astigmatism
  - Interface irregularity
  - High astigmatism
- Corneal-based astigmatic interventions
- Must review operative notes ?successful pneumatic dissection
- Avoids PK and associated rejection risks
- Atopic eyes – close proximity to limbal vasculature → graft/interface vascularisation
- Creation of a peripheral stromal shoulder allows safe further titration of residual astigmatism

# Thank You



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