

Refractive surgery after DALK



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No Financial Interest to Disclose



Aim of this presentation

- To highlight the indications and precautions of refractive surgery following DALK

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Why refractive surgery?

- Visual complaints after keratoplasty
- less than half achieved refractive error **within 2 D of emmetropia**



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Why refractive surgery?

- Most studies evaluating post-keratoplasty outcomes document **mean cylinders** of **4-5** diopters
- **range** of **2-8 D**
- **spherical equivalents** in the range of **2-12 D**



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Why refractive surgery?

- In mild to moderate cases, refractive correction can be achieved with spectacles or contact lenses



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Why refractive surgery?

- Spectacles are only appropriate in cases of anisometropia < 3.0 D or astigmatism < 4.0 D
- Some patients are unable to tolerate or to handle contact lenses



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Appropriate time



- Ensure refractive and tectonic stability
- no consensus regarding the appropriate time interval between keratoplasty and refractive intervention

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Appropriate time



- Most studies recommend waiting **at least 12 months** after the transplant
- There is general agreement that waiting **3-6 months after suture removal** is an appropriate time interval

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Aim of refractive surgery



- The **primary goal** is resolution of myopia and astigmatism sufficient enough **to allow for spectacle or contact** lens correction
- Improvement of UCVA is **secondary** and not always possible

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Types of refractive surgery

- Relaxing incisions
- PRK
- LASIK
- Intraocular lenses (IOLs)

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Types of refractive surgery

Relaxing incisions

- For high postoperative astigmatism $> 4D$

Disadvantages

- Do not address spherical abnormalities
- Poor predictability of the final outcome
- Higher incidence of wound dehiscence

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Types of refractive surgery

PRK

Photorefractive Keratectomy With Mitomycin C After Deep Anterior Lamellar Keratoplasty for Keratoconus

Antonio Leccisotti, MD, PhD

corneal haze

- The use of mitomycin-C seems to improve outcomes

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CLINICAL STUDY

Femtosecond laser-assisted *in situ* keratomileusis for the correction of residual ametropia after deep anterior lamellar keratoplasty: a pilot investigation

A. Balestrazzi¹, A. Balestrazzi², F. Menicacci³, G. Cartocci⁴, F. Menicacci¹, P. Michieletto² and E. Balestrazzi²

- LASIK flap creation using Femtosecond is a better option to control flap size and location

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Types of refractive surgery

LASIK

Disadvantages

- Increased risk for graft rejection
- Risk of graft dehiscence upon microkeratome application
- If the flap is not confined to the graft itself
→ Free cap or loss of a crescent of flap tissue.



Types of refractive surgery

Contraindications of corneal refractive surgeries

- Peripheral corneal vascularization
- Thin host tissue
- Wound ectasia
- Significant graft malposition



Types of refractive surgery

Intraocular lenses (IOLs)

- Available option in patients who are not candidates for corneal refractive procedures



Types of refractive surgery

Intraocular lenses (IOLs)

- Phakic IOLs and refractive lens exchange have been reported to correct myopia after keratoplasty
- Piggyback IOLs are available for pseudophakic patients with high refractive errors



Types of refractive surgery

Intraocular lenses (IOLs)

- **Toric IOLs** have been used to correct astigmatism after DALK



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Remember

To do **refractive surgery** after **DALK**
you
should be an expert in both techniques



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THANK YOU

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