The Learning Curve:
DMEK Pearls

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- I have no relevant financial disclosures

Patient Selection
DMEK: Patient Selection

- Fuchs Dystrophy
- Early Pseudophakic Bullous Keratopathy
- PBK with premium lens
- Large Descemet's detachment/trauma
- Healthy (may need repeat procedure)

DMEK: Patient Selection

- Patients to avoid:
  - Large iris defects
  - ACIOLs
  - PPV
  - Tubes/Trabs +/-
  - Vitreous prolapse
  - Poor visualization
  - Unwillingness to return to the OR

DMEK: Surgical Technique
DMEK: Intraoperative Challenges

DMEK: Recipient Preparation
**Background**

- Influence of graft adhesion on descemetorhexis size
  - Group A 10mm (1mm bare stroma)
    - graft detachment 33.3%
    - rebubbling rate 6.7%
  - Group B 6mm (1mm overlapping Descemet's)
    - graft detachment 78.3%
    - rebubbling rate 30.4%

**Descemetorhexis Size**

- DMEK
- Descemetorhexis

**References**

- Theofilos Tourtas, MD; Juliane Schlomberg, MD; Julia M. Wessel, MD; Bjoern O. Bachmann, MD; Ursula Schlötzer-Schrehardt, PhD; Friedrich E. Kruse, MD. Graft Adhesion in Descemet Membrane Endothelial Keratoplasty Dependent on Size of Removal of Host Descemet Membrane. *JAMA Ophthalmol.* 2014;132(2):155-161.
Pearls: Recipient Preparation

- Descemetorhexis with 0.5mm clear zone of bare stroma is ideal
- Stain with trypan blue post-descemetorhexis if unsure
- Consider laser peripheral iridotomy to avoid intraoperative hemorrhage

DMEK graft
Descemetorhexis

DMEK: Donor Preparation
Surgeon Prepared DMEK

Preparation of Descemet's Membrane

Eyebank Prepared DMEK

Loading Modified Jones Tube
DMEK: Insertion and Unfolding
Pearls: Insertion and Unfolding

- Practice with peripheral punch (Terry/Straiko)
- Rotate modified Jones tube for double barrel configuration prior to insertion
- Shallow chamber during insertion and unfolding
- Careful when shallowing from main incision

Summary

- Descemetorhexis larger than donor graft by 0.5mm
- Shallow chamber on insertion and unfolding
- Consider 20% SF6 vs air especially in combined cases
- Rebubble early