The Learning Curve:
DMEK Pearls

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Introduction

- DMEK offers faster recovery
- Greater percentage of BCVA 20/20 (>50%)
- Less rejection and chronic steroid use (15x less risk)
- Potential for use in premium IOLs (Toric, Multifocal)

DMEK: Patient Selection

- Fuchs Dystrophy
- Early Pseudophakic Bullous Keratopathy
- Younger age group
- Healthy (may need repeat procedure)
- Avoid in post PPV eyes (lose convexity of cornea due to hypotony)

Why I perform DMEK...
Case Presentation: Phakic DMEK

- 72 y/o female with Fuchs Dystrophy
  - CE/PCIOL OS--corneal edema--DSAEK OS
  - +1.00-1.00x50 20/30+
- Cataract OD
  - BCVA 20/80
  - pachy 753 microns
  - 3+ NS; RAM 20/40
  - no corneal bullae; trace Descemet's folds

Preoperative: Corneal Topography

Surgical Plan: Phakic DMEK

Post-DMEK: Corneal Topography

Plan: CE/PCIOL SN6AT4

- Flat meridian K1 43.31 D @ 77° ±0.414 D
- Steep meridian K2 44.90 D @ 167° ±0.043 D
- Astigmatism AST 1.59 D @ 167° ±8.7°
- Keratometric index n 1.3375
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%
Pearls: Recipient Preparation

- Descemetorhexis with 1mm clear zone of bare stroma is ideal
- Stain with trypan blue post-descemetorhexis if unsure
- Consider laser peripheral iridotomy to avoid intraoperative hemorrhage

DMEK: Donor Preparation

- DMEK graft

- Descemetorhexis

- DMEK graft

- Descemetorhexis
Surgeon Prepared DMEK

Eyebank Prepared DMEK

Loading Modified Jones Tube

DMEK: Insertion and Unfolding
Pearls: Insertion and Unfolding

- Rotate modified Jones tube for double barrel configuration prior to insertion
- Shallow chamber during insertion and unfolding
- DO NOT TOUCH main incision
Summary

- Descemetorhexis larger than donor graft
- Shallow chamber on insertion and unfolding
- Consider 20% SF6 vs air
- Rebubble early