

# Single pass Ultra-Thin DSAEK

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- The definitive treatment for persistent corneal edema (pseudophakic bullous keratopathy, Fuch's endothelial dystrophy etc...) is KERATOPLASTY
- Penetrating keratoplasty vs Endothelial keratoplasty

## Advantages of Endothelial over Penetrating keratoplasty

- Few or no sutures used → minimal induced astigmatism → Rapid visual rehabilitation  
→ less incidence of vascular ingrowth and graft rejection
- Smaller graft → less foreign antigen introduced to the donor → less graft rejection
- Absence of large full-thickness penetrating wound → lower risk of dehiscence

Descemet's Membrane Endothelial Keratoplasty DMEK	Descemet's Stripping Automated Endothelial Keratoplasty DSAEK
Descemet membrane + endothelium	Stroma + Descemet membrane + endothelium
No need	Need of artificial chamber and automated microkeratome
Difficult tissue handling and graft unrolling	Easy tissue handling and graft unrolling
Fast visual recovery and better visual acuity	Comparatively slow visual recovery

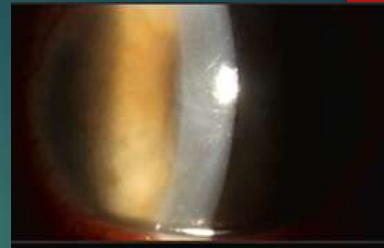
Question is

Can we get the advantages of both techniques?

## Ultra-thin DSAEK



- 57y old
- Male
- Right eye
- Persistent Corneal edema
- VA 3/60



## Technique used preparing Ultra-Thin graft:

The graft is created with two microkeratome passes, the first one to debulk the donor tissue and the second one to cut down the final thickness to about 100 micrometers

## Technique used preparing Ultra-Thin graft:

- Mounting the graft on the artificial ant. Ch.
- Removal of epithelium
- Pachymetry 550  $\mu\text{m}$
- Single pass 350  $\mu\text{m}$  calibrated single use head giving a  $\approx 425 \mu\text{m}$
- Target  $\approx 130 \mu\text{m}$

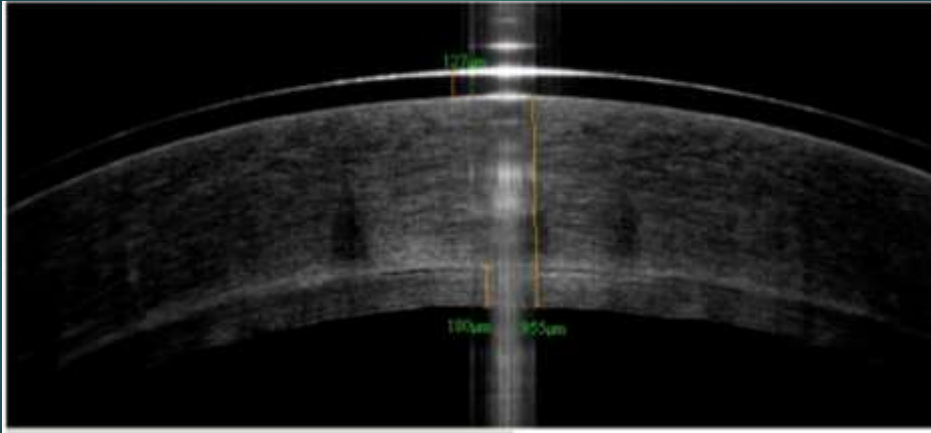
## Graft preparation



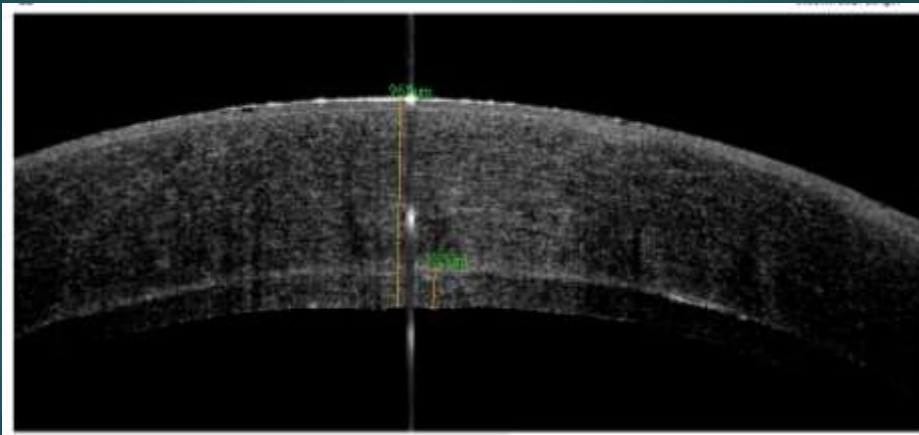
## Graft insertion in recipient



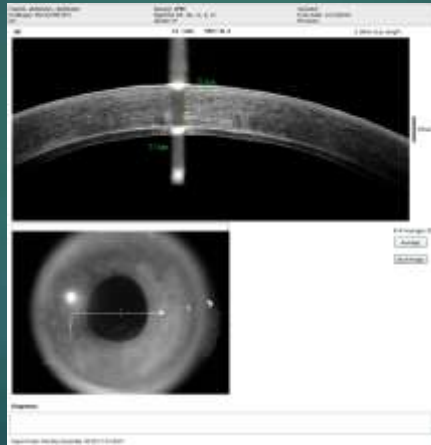
1<sup>st</sup> day post operative



7 days post operative

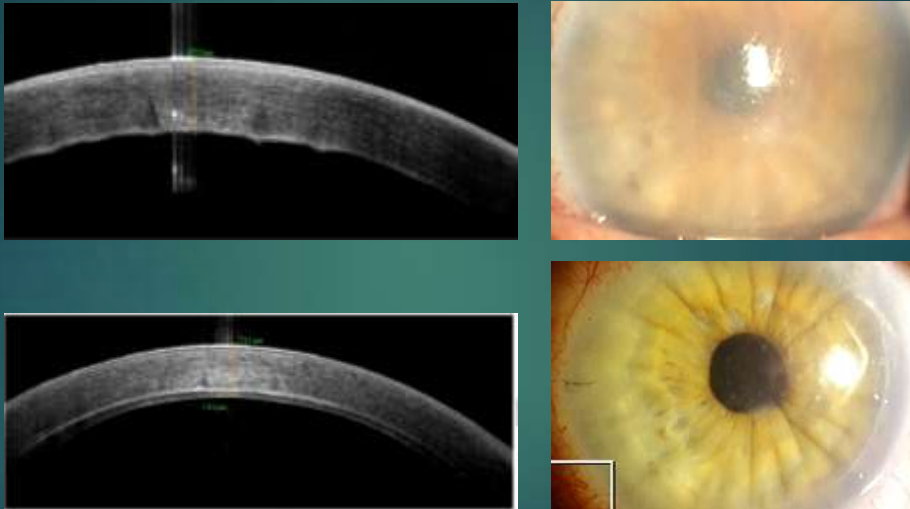


# 18 days post operative



# 30 days post operative





## Take home message

- Ultra-thin DSAEK has all the advantages of endothelial keratoplasty over PKP
- Easier graft preparation and easier tissue handling inside the recipient's eye compared to DMEK





THANK YOU