

## Advanced Cornea Processing for DMEK Hydrodissection “Blister” Technique

The Lions Eye Institute for Transplant and Research’s (LEITR) no-touch hydrodissection technique for preparing DMEK grafts uses Trypan Blue to simultaneously dissect and stain Descemet’s membrane to preserve endothelial cells by limiting tissue manipulation and exposure of endothelium to the stain.

- **No-Touch Technique**
- **Isolates exposure of Trypan Blue to DM**
- **Instant staining during dissection**
- **Graft is supported evenly by fluid during dissection**
- **Decreases endothelial cell loss**
- **Decreases failure rates**

LEITR introduced the Blister technique in 2012 after multiple internal studies demonstrated this unique procedure safer and more reliable for gently dissecting DMEK grafts.<sup>1</sup> Most eye banks continue to use the “Submerged Cornea Using Backgrounds Away” (SCUBA) method because it is the initial approach used by surgeons in the operating room. The advantages of the Blister method align with LEITR’s innovative culture of improving standards and providing the highest quality tissue possible with the objective of improving clinical outcomes.



*“Having peeled close to a thousand DMEK donors with the SCUBA technique has given me a unique perspective on the tremendous advantages of the hydrodissection (blister) technique.*

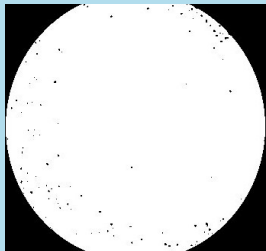
*I only use the LEITR Blister Method. It’s a game changer!”*

— Mark Gorovoy, MD  
Gorovoy Eye,  
Fort Myers, Florida

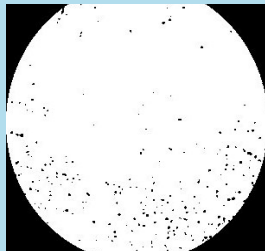
## Cell Damage Evaluation after Dissection and Staining

**Blister vs. SCUBA: Ten times less endothelial cell loss using LEITR's Blister technique.**

**Blister = 2.2% cell damage (n=5)**

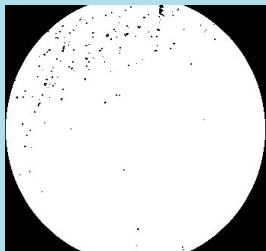


**0.4% cell damage**  
B4 processing

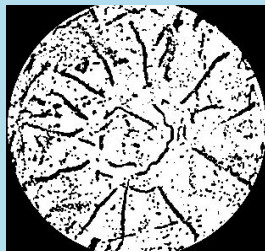


**2.6% cell damage**  
post-processing

**SCUBA = 20.1% cell damage (n=5)**



**0.6% cell damage**  
B4 processing



**20.7% cell damage**  
post-processing

## Blister's Hydrodissection Advantages

- No-touch dissection and simultaneous direct staining of Descemet's membrane (DM) limits tissue manipulation and subsequent endothelial cell loss
- Less endothelial cell loss after dissection and staining (2.2%) compared to 20.1% when prepared using SCUBA method and staining
- Fluid (Trypan Blue) gently separates the DM from stroma
- No-Touch Technique: no forceps contact with DM or endothelium, no tissue folding during dissection
- Graft is supported evenly by controlled fluid expansion during dissection
- Eliminates pulling, stretching and tension on DM causing damage to endothelium
- Isolates exposure of Trypan Blue to DM
- Limits processing steps and manipulation of the graft
- Limits endothelial cell exposure to Trypan Blue (only stromal side of DM is stained)
- Provides a lasting dark blue stain on DM due to direct exposure
- Decreases processing failure rate and tears
- Increases transplantable graft yield honoring the donated "gift" of sight
- Reduces surgeon stress eliminating the need for replacement cornea

Register your DMEK specifications to receive DMEK grafts prepared using the Blister technique for your next cases.

**Scan QR code to register.**



1 E. Abdullayev MD, MBA, CEBT; Mark Gorovoy MD, Nicholas Sprehe B.S.— "Descemet's Membrane (DM) grafts preparations with liquid "Blister" separation method" - Free paper abstracts, Cornea Society/EBAA Fall Education Symposium, October 14, 2016, Chicago IL, USA.

