

Lenticoli DMEK pre-caricati

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MEMBRANE FOR DMEK

➤ PRE-STRIPPED

➤ 2016 = 252

➤ 2017 = 212 *

➤ PRE-LOADED

➤ 2017 = 52 *



Parekh M. et al.

“Standardizing Membrane Graft Preparation Method in the Eye Bank-Experience of 527 DMEK Tissues” Cornea. 2017 Dec;36(12):1458-1466.

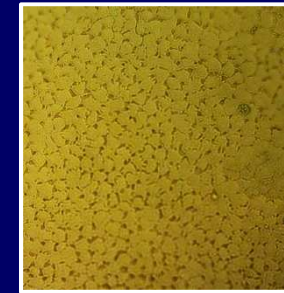
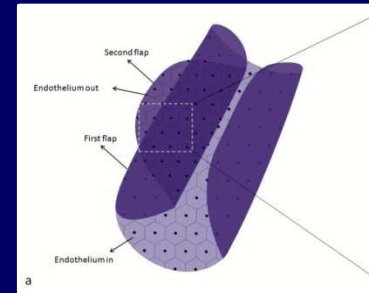


BACKGROUND

- **Preloaded** Tissues for DMEK. Am J Ophthalmol. 2016 Jun;166:120-125.

- **ENDO-IN** (After 4 days of preservation)

- ECL: 4,35%
- Mortality: $3,55 \pm 5,89\%$

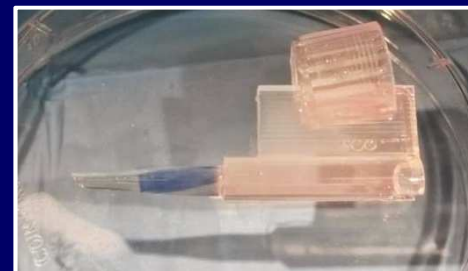


- **Endothelium-in versus endothelium-out** for DMEK graft preparation and implantation.

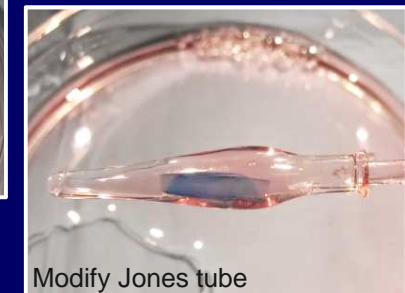
Acta Ophthalmol. 2017 Mar;95(2):194-198.

- **UNFOLDING SIMULATION:**

- ENDO-IN
 - TIME: $0,96 \pm 1,10$ min
- ENDO-OUT
 - TIME: $4,92 \pm 4,21$ min



ENDO IN



Modify Jones tube

ENDO OUT

- Preservation of Preloaded DMEK Lenticules in **Dextran and Non-Dextran-Based** Organ Culture Medium. J Ophthalmol. 2016; 2016:5830835. Epub 2016 Nov 22.

DEXTRAN VS NON DEXTRAN

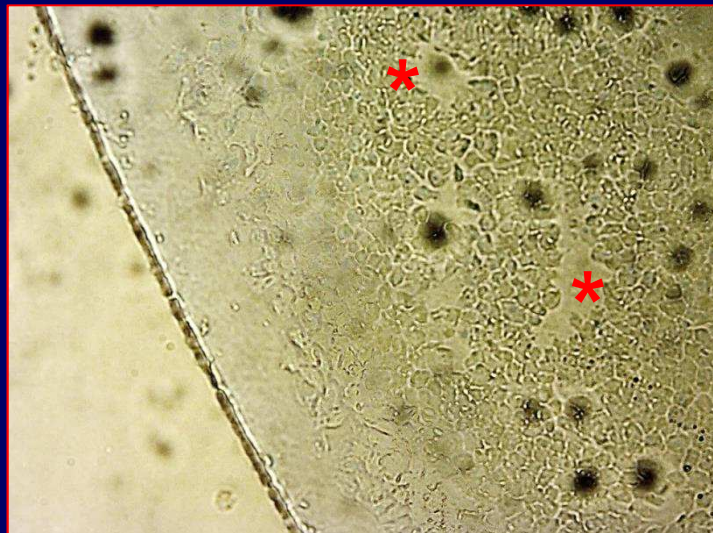
After 4 days of preservation

MEM

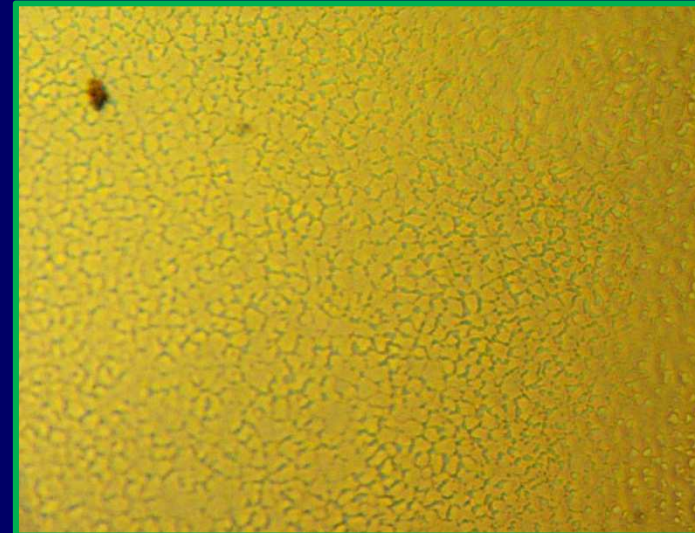
**- Dextran
(n=10)**

**+ Dextran
(n=10)**

Success rate	7/10	10/10
Mortality	25.94(±44.23) %	3.8(±7.74) %
Uncovered areas	40.7 (±47.96) %	13.0(±18.55) %



100x – Saccarosio/Trypan Blue



100x – Saccarosio/Trypan Blue

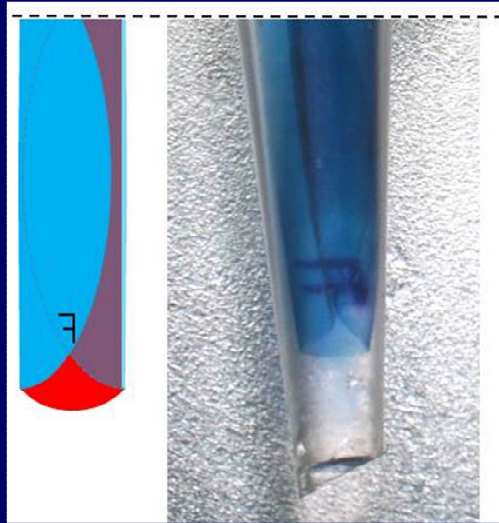
MEMBRANE LOADING

Eye Bank

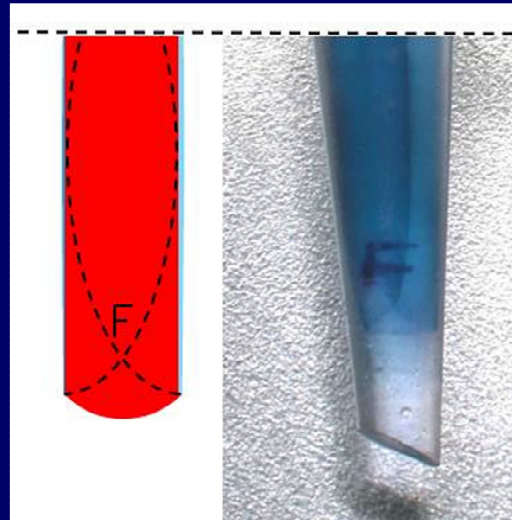
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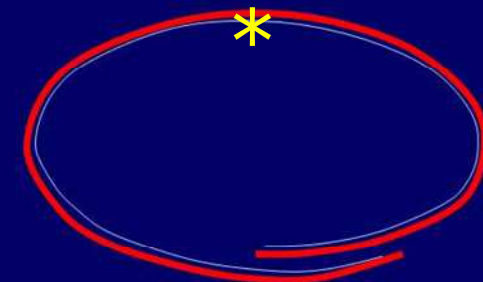
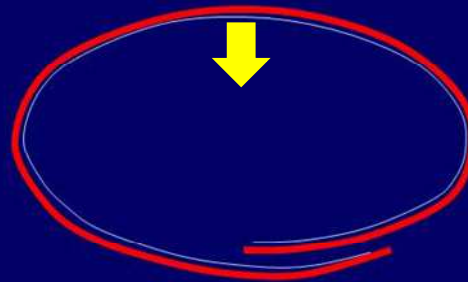
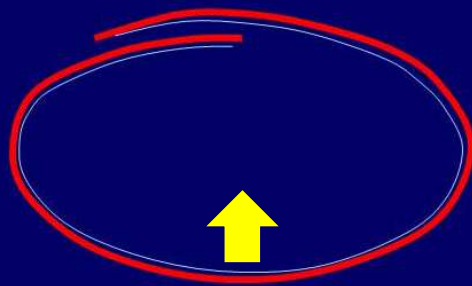
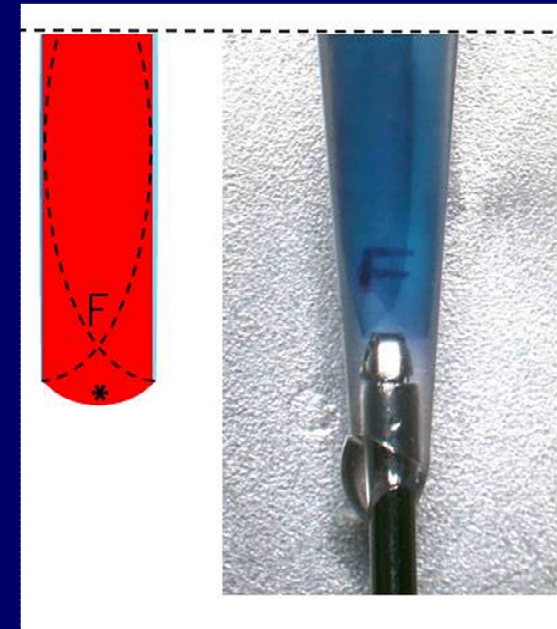
MEMBRANE ORIENTATION



Endo facing **UP**



Endo facing **DOWN**



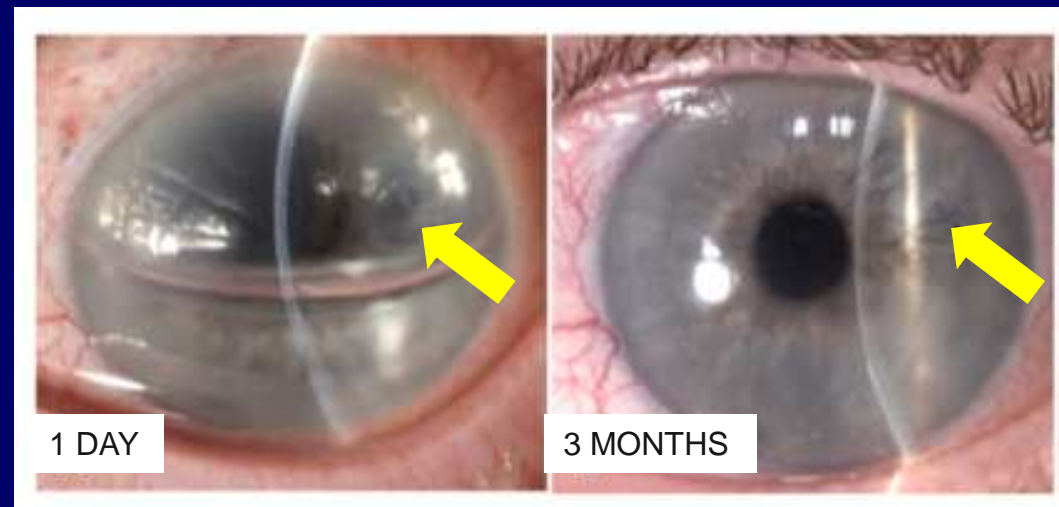
MEMBRANE INSERTION

Surgery Room



EARLY CLINICAL RESULTS

- 25 Surgery (prof. Busin)
- No complications
- Membrane preparation time (in eye bank): ~ 25 min
- Membrane insertion time (in theatre): ~ 6 min
- Graft detachment: 20%
- BSCVA: 20/25
- Cell loss: $32 \pm 12\%$



TAKE HOME MESSAGE

PRE-LOADING membrane for DMEK

- An Eye Bank **standardized procedure**
 - **ENDO-IN**: Ease to unfold by pull through
- ISSUES
 - Learning curve
 - Membrane orientation and preparation time
- IMPROVEMENT
 - **New dedicated device**

THANK YOU FOR YOUR ATTENTION



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