DMEK un-scrolling times: Are they affected by anterior chamber size?

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05/09/2017
Financial Disclosure

• Authors have no financial disclosures relevant to this presentation.
Presumed reasons for difficult un-scrolling

- Deep anterior chamber
- Fibrin or blood in the anterior chamber
- Prior vitrectomy making chamber shallowing difficult
- Mechanical factors: tubes, AC IOLs, etc
What about preoperative deep chambers?
• When performing DMEK surgery it is “common knowledge” that an eye with a deep chamber will make the un-scrolling time more difficult and extend the time until the graft is unfolded and attached to the recipient bed.

• But is this true?
• 66 EYES WITH FED THAT UNDERWENT TRIPLE PROCEDURE

• 03/03/2014 till 09/15/2015
METHODS

LENSTAR BIOMETRY

WHITE TO WHITE

LENS THICKNESS

ANTERIOR CHAMBER DEPTH

UN-SCROLLING TIMES
## RESULTS

<table>
<thead>
<tr>
<th>DEMOGRAPHICS</th>
<th>Average</th>
<th>Range</th>
</tr>
</thead>
<tbody>
<tr>
<td>Age</td>
<td>66.3 ± 7.8 yrs</td>
<td>50 – 83 yrs</td>
</tr>
<tr>
<td>Eye</td>
<td>32 OD; 34 OS</td>
<td>*</td>
</tr>
<tr>
<td>Gender</td>
<td>44 F; 22 M</td>
<td>*</td>
</tr>
</tbody>
</table>
# RESULTS

## PREOPERATIVE MEASURES

<table>
<thead>
<tr>
<th></th>
<th>Average</th>
<th>Range</th>
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</thead>
<tbody>
<tr>
<td>Anterior Chamber Depth</td>
<td>3.1 ± 0.4 mm</td>
<td>2.29 – 4.04 mm</td>
</tr>
<tr>
<td>White to White</td>
<td>12.1 ± 0.5 mm</td>
<td>10.1 – 13.2 mm</td>
</tr>
<tr>
<td>Lens Thickness</td>
<td>4.5 ± 0.4 mm</td>
<td>3.7 – 5.4 mm</td>
</tr>
<tr>
<td>Pachymetry</td>
<td>550.1 ± 36 µm</td>
<td>460 – 625 µm</td>
</tr>
</tbody>
</table>

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<thead>
<tr>
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</tr>
</thead>
<tbody>
<tr>
<td>Un-scrolling Time</td>
<td>5.72 ± 4.9 min</td>
<td>&lt;1min – 27.25 min</td>
</tr>
<tr>
<td>Scroll tightness</td>
<td>2.24 ± 0.9</td>
<td>1 – 4</td>
</tr>
</tbody>
</table>
Myth Buster

![Graph showing scatter plot with R² = 0.0006]
Myth Buster

![Graph showing scatter plot with unscroll time on the x-axis and lens thickness on the y-axis. The graph includes a trend line with the equation R^2 = 6E-05.]
4.04mm chamber triple procedure
Conclusions

• Regardless of anterior chamber size DMEK grafts can be un-scrolled quickly utilizing standard un-scrolling maneuvers.
• Its NOT the preoperative size of the chamber that determines un-scrolling times.
• It is the ease of shallowing the chamber that matters most.
THANK YOU/QUESTIONS