Factors Affecting Lower Eyelid Height

- Horizontal laxity
- Lower eyelid retractors
- Conjunctiva
- Proptosis
- Orbicularis tone
- Direction of gaze

Eyelid Retraction Defined

- Eyelid margin below corneal limbus
  - Anterior lamella
  - Posterior lamella
  - Middle lamella

What causes it?

- Etiologies
  - Thyroid eye disease
  - Facial nerve palsy
  - Negative vector
  - Deficient skin
  - Trauma
**Evaluation**
- Horizontal laxity
- Orbicularis tone
- Skin assessment
- Cheek/midface
- Proptosis

**Management**
- Lubrication
- Lateral tarsorrhaphy
- Surgery
  - Posterior spacer

**Hard Palate Mucosal Graft**
- Considered the gold standard
- Advantages
  - Least shrinkage
  - Mucosal surface
  - No material cost
- Disadvantages
  - Painful harvest site
  - Oral cavity risks – infection, fistula
  - You have to operate in the mouth

**Spacer Materials**
- Allograft
  - Banked sclera
  - Cadaveric acellular dermis matrix (Alloderm)
- Xenograft
  - Porcine acellular dermis matrix (Enduragen)
**Autologous Dermis**

- **Advantages**
  - Availability/size
  - No material cost
  - Less painful than palate graft

- **Disadvantages**
  - Increased operating time
  - Second incision site

**Surgical Technique**

- Incise conjunctiva inferior to tarsal border
- Blunt dissection of adhesions
- Measure graft
- Debride epithelium
  - Burr or scissors
- Remove subcutaneous fat
- Suture into place

**Methods**

- **Outcomes**
  - Graded eyelid position vs. limbus
    - At or above = 1
    - 0 to 2 mm below = 2
    - >2 mm below = 3
  - Margin reflex distance 2
Our Experience

- 14 eyelids, 13 patients (9 men)
- 24 – 78 years old (mean 56)
- 4 eyelids with failed Enduragen
- Indications:
  - Graves - 6
  - Facial nerve palsy – 4
  - Cicatricial – 2
  - CPEO – 1
  - Post-facial reconstruction – 1

Results

<table>
<thead>
<tr>
<th></th>
<th>Pre-Operative</th>
<th>Post-Operative</th>
</tr>
</thead>
<tbody>
<tr>
<td>Inferior scleral show Mean (Range)</td>
<td>3.5mm (1 – 10)</td>
<td>0.25mm (-1.5 – 2)</td>
</tr>
<tr>
<td>Eyelid position grade Mean (Range)</td>
<td>2.64 (2 – 3)</td>
<td>1.64 (1 – 3)</td>
</tr>
</tbody>
</table>

- Rate eyelid position vs. limbus
  - 1 = None (At or above)
  - 2 = Mild (0 to 2 mm below)
  - 3 = Moderate – Severe (>2 mm below)

- 11 eyelids within 1mm of limbus
- 3 eyelids within 2 mm of limbus

Complications

- Ectropion
- Keratinization/hair
**Conclusions**

- Autologous dermis is an alternative to hard palate mucosa
- May prove to be the preferred posterior lamellar spacer
- Potential complications
- Long-term follow-up study

**References**