Lower Eyelid Malposition

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Involutional Ectropion

Eyelid Retraction

Involutional entropion

Trichiasis

Dynamic malposition – e.g. blink lag

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Pathophysiology

- Involutional
- Horizontal laxity
- Vertical laxity
- Cicatricial
- Paralytic
- Mechanical
- Negative vector (prominent eye, midface ptosis, or both)

Examination essential: assess eyelid laxity

Lacrimal Pump

Lower eyelid free

Horizontal Shortening

Canthoplasty: 1. engage tarsus
Canthoplasty: 2. secure to periosteum

Canthoplasty


Upper & lower lid length disparity

Gray line to gray line suture
Tarsus to tarsus then periosteum 
(after upper eyelid shortening)

Tarsal fixation

- Usually Periosteum
- Drill hole
- Miniplate
- Wire

Drill hole

Medial ectropion: lateral anchoring 
often insufficient

Medial spindle procedure
Medial Spindle

Comlications of lateral tarsal anchoring:
- Exposed sutures
- Granuloma
- Dehiscence, horizontal phimosis of palpebral aperture
- Upper and lower eyelid length disparity
- Clotheslining the globe

Examination pearl #2: Assess globe prominence

But not too high!!
Vertical vector eyelid considerations

- Globe prominence
- Vertical laxity
- Vertical cicatrix
- Lower eyelid retractors
- Midface ptosis

Lower eyelid anatomy

Retractor band or capsulopalpebral fascia (CPF)

- Analogous to levator aponeurosis
- Originates from sheaths of the inferior rectus and inferior oblique muscles

CPF accounts for lower lid movement on vertical ductions

Canthoplasty alone will likely fail

Instability of the lower eyelid retractors

Closed approach: rotational sutures

Involutional ectropion  Involutional entropion
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Central lower lid has limited support

Examination pearl #3: Assess vertical vectors... [Z finger test]
- Patipa M. [Cosmetic Discussion]. PRS June 2005; 115(7):2115-2117.
- One finger at lateral canthus to mimic canthal fixation
- If second finger necessary to achieve correct position of mid eyelid, canthal anchoring alone WON T WORK.

Treating lid retraction
- Recess eyelid retractors, then:
  - Add tissue
  - Lift tissue
  - Both of the above

Lengthen eyelid: recess retractors & release any vertical cicatrix

Dissection down to conjunctiva
Horizontal tightening

Canthal anchoring

Skin graft

Frost suture, vertical traction

Skin graft to lower eyelid

- Effective
- May leave an undesirable scar or noticeable tissue mismatch; patient selection is key:
  - Fair complexion
  - Rhytids (elderly)
Alternative to skin graft:
Midface lift with or without middle or posterior lamella spacer

Retro-orbicularis dissection

Periosteal release (pre-periosteal or subperiosteal)

Periosteal release

Typically not problematic to sacrifice zygomaticofacial & zygomaticotemporal nerves.

Preserve infraorbital nerve

Recessing inferior retractors

Enduragen™ spacer
Collagen “splint”

Spacer Materials

- Autograft
  - Auricular or nasal septal cartilage
  - Hard palate
- Allograft
  - Sclera
  - Alloderm
- Xenograft
  - Dermal (Enduragen)
- Synthetic
  - Mersilene mesh
  - Porous polyethylene (Medpor)

Orbicularis oculi flap (SMAS)

Muscle flap anchored to temporalis fascia and/or periosteum

4-0 Mersilene™ or Prolene™
Prominent globe and other difficult lower eyelid retraction

Orbital decompression is sometimes the only effective procedure

Floor & medial wall decompression

Suspenders for eyelid?
Hughes flap

Pillars

Good functionality
Poor cosmesis

Tarsconjunctival Onlay flap

...TaO flap
TaO Flap 1+ year later

Urgaze/Bells moves fornix & flap $\rightarrow$ lower lid elevates on closure!!!
Conclusions

- Correct treatment for lower eyelid malposition depends on clinical findings:
  - Laxity (horizontal & vertical)
  - Snap test
  - Lid distraction test
  - Prominent globe
  - Exophthalmometry
  - Midface ptosis and other vertical vectors
  - 2 finger test
  - Paralysis
    - Study the blink!