Relevant Anatomy

- Orbicularis oris muscle surrounds each eye
- Levator muscle is responsible for opening the eyelid
- Tarsus or Tarsal plate is a thin piece of cartilage that gives the eyelid its shape. The medial and lateral canthal tendon attach the tarsal plate to the eyelid.
- Orbital septum is a fibrous membrane behind the eye that provides cushion for the eye.
- The orbital fat pad is posterior to the orbital septum.
Relevant anatomy

Orbicularis muscle (red)
Orbital Septum (Blue)
Lash
Orbital Bone
Mueller’s Muscle (red)
Preaponeurotic Fat (Yellow)
Levator Aponeurosis (Blue)
Tarsal Plate (Pink)
Eye
Physiology

- The eyelid is used to protect the eye.
Pathophysiology

- Cosmetic
- Dermatochalasis: relaxation and hypertrophy of the eyelid skin
  - Associated with the relaxation of the fascial bands that connect the skin to the orbicularis oris muscle causing a “bag” to form
  - Linked to sun exposure and age
  - Can restrict vision
  - Can affect upper and lower eye
Pathophysiology
Diagnostic exams

• History and physical
Surgical Intervention

Removal of excess skin, fat, and muscle around and on the eyelid due to dermatochalasis or because patient is unhappy with the appearance of their eyelids
Special Considerations

- Put eye ointment in before the case to prevent eyes from drying out.
Anesthesia, positioning, skin prep, and draping

- Anesthesia: local
- Positioning: Supine with arms tucked at the side and head in a headrest
- Skin prep: hairline clavicles and as far down as possible. Make sure the prep solution in the patient's eyes.
- Draping: headwrap/ turban with a U-drape or split sheet over the body.
Incision

Elliptical
Equipment, Supplies, and Instrumentation

- Headlamp
- Plastic instrument set
- Marking pen
- ESU
- Weck-cel spears
- Ointment for eyes
Procedural steps

- A marking pen is used to outline the incision then local anesthesia is administered.
  - Make sure that the outline is equal bilaterally.
  - Outline is done before local because local could alter the anatomy.
- A #15 blade is used to make an elliptical incision along ciliary margin following the natural curve of the eye.
- Using scissors, the skin flap, any extra tissue, and the medial and central fat pads are removed.
Procedural Steps

- The wound edges are brought together and the underlying tissue is sutured with absorbable suture. The skin is then closed with a monofilament nonabsorbable suture such as prolyne.
- Procedure repeated on the opposite side and under the eye if needed and antibiotic ointment is applied.
- https://www.youtube.com/watch?v=CSxzAF2inC8
Counts and specimen care and dressing

- Initial
- Final
- No specimens
- No dressings, but an antibiotic ointment can be applied
Prognosis

- If no complications occur: Patient is suspected to have a full recovery after a few days.
- Some bruising may occur
- Sutures are removed 3-5 days post-op
Complications

- Too much tissue removed; causing patient to be unable to close eyes
- Unequal amounts of tissue removed
- Post-op SSI
- Death
Wound Classification

- Class 1: clean
Before and After

www.drsteiger.com
Relevant Anatomy

- **Procerus Muscle**: Responsible for pulling the skin between the eyebrows downward, causing horizontal wrinkles.
Relevant anatomy

Corrugator muscle: pushes the skin between the eyebrows into vertical folds and draws the brow medially and inferiorly
Physiology

- The eyebrow protects the eye
Pathophysiology

- None, this is a cosmetic procedure
Diagnostic exams

- History and physical
Surgical intervention

- Removal of horizontal and vertical wrinkles on the forehead due to aging
Special Considerations

● Know how to set up the endoscopic and orthopedic instrumentation and test it all before the patient enters the room.
● Make sure you label all your meds on your back table because there are a lot.
Anesthesia, positioning, skin prep, and draping

Anesthesia: General is preferred by can be done under local

Positioning: supine with arm tucked at the side.

Skin prep: hairline to clavicle and bilaterally as far as possible. Don't let the prep pool in the patient's eyes.

Draping: standard facial draping: which is headwrap and u-drape
Incision

- A transverse incision is made on the forehead.
- 3-5 transverse incisions are made behind the hairline.
Equipment, supplies, and instrumentation

- Plastic instrument set
- Minor orthopedic set with periosteal elevators and nerve hooks.
- 5mm 30 degree endoscope
- Up-cutting periosteal dissectors
- Grasping forceps
- Tumescent fluid
- 60-mL syringe
- 18-gauge needle
- CO2 laser
- Mitek anchor, titanium screws, or absorbable screws
- Bown screw insertion instrument set
- Power drill
Procedural Steps

- Tumescent solution is injected beneath the periosteum with 60-mL syringe and 18 gauge needle and a small transverse incision is made in the forehead and the endoscope is inserted.
- 3-5 transverse incisions are made behind the hairline
- The forehead is dissected free from the skull at the periosteal level. The periosteum separated to free the brow and allow access to the corrugator and procerus muscles.
Procedural Steps

- The supraorbital nerve and small veins are located and preserved.
- The corrugator muscle is separated, avulsed, or resected according to the surgeon's preference.
- Next a permanent or temporary fixation is performed.
Procedural steps

- **Temporary:** titanium screws are placed posterior to the hairline. Staples or sutures are placed around the to anchor the elevated brow in place for 10-14 days. The screws are removed 10-14 days later in the surgeon's office once structures are healed.
- **Permanent:** Mitek anchors and suture or short permanent screws are implanted.
- Instruments are removed and closed with nonabsorbable suture.
- https://www.youtube.com/watch?v=dLAq8hUVhXQ
Counts

- Initial
- Final
Dressing material and Specimen care

- Dressing material: 4X4’s and kept in place for 1-2 days.
- No specimen
Prognosis

- If no complications occur: Swelling and bruising is minimal; ice pack may be applied.
- Patient may experience severe headaches so OTC painkillers are advised.
- If temporary fixation is used patient will come into the office to get the screws removed 10-14 days post-op.
- If permanent fixation is used the sutures or staples are removed 5 days post-op.
Complications

- Complications are very rare
- Malposition or shaping of the brow
- Alopecia
- Scarring
- Temporary or permanent paralysis of frontalis muscle, forehead, and scalp numbness caused by edema and stretching of supraorbital nerve.
Wound classifications

- Class 1: clean