Facial Plastic and Reconstructive Surgery Inservice Review

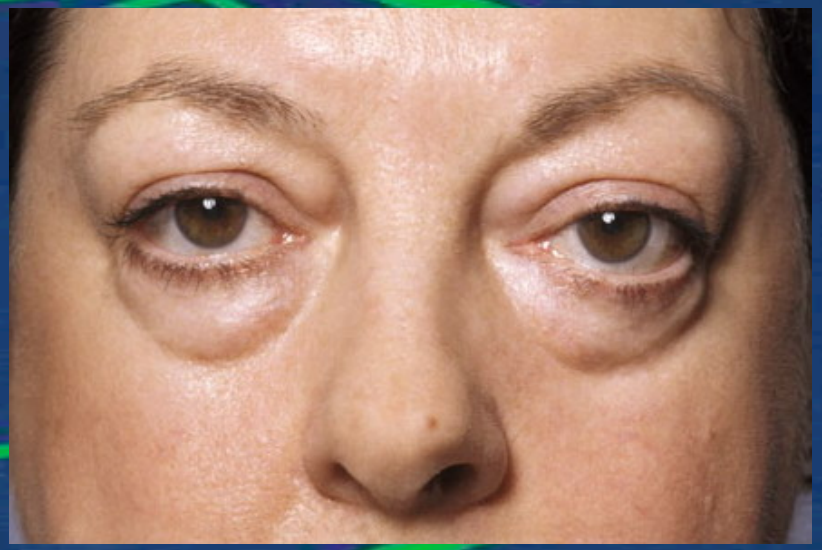
2008

Select Topics

- Blepharoplasty
- Aging Face / Rhytidectomy
- Rhinoplasty
- Facial Resurfacing
- Cleft Lip/Palate
- Hair Transplantation

Blepharoplasty

- Dermatochalasis: laxity and redundancy of eyelid skin secondary to aging. (OLDER PATIENTS).
- Blepharochalasis: rare familial condition, young women with recurrent eyelid edema (bouts of localized angioedema, idiopathic) with skin and soft tissue laxity… levator damage and ptosis…



Blepharoplasty: Patient Eval

- Dry eyes: Schirmer's test (placement of filter paper in the lateral fornix for 5 min. >15mm normal, 10-15 mm borderline, < 10 mm inadequate. Not an absolute contraindication (more conservative excision).
- Snap Test (lower lid): inferior pull and release. Slow return or no return without blinking, high risk for ectropion, consider canthal tightening.
- Distraction Test (lower lid): lid is grasped between the thumb and forefinger and pulled anteriorly (>10mm -> lax).

Blepharoplasty

- Upper: skin pinch to measure redundancy, skin / muscle / fat excision.
- Lower: Subciliary (skin muscle flap) vs Trans-Conjunctival… Extensive dermatochalasis / orbicularis hypertrophy… Scleral show (“round eye” deformity) and ectropion with subciliary…

Blepharoplasty - Complications

- Bleeding: pain, proptosis, vision changes (severe cases). Tx: emergent canthotomy and cantholysis, return to the O.R., ophtho consult (mannitol, steroids, acetazolomide).
- Extra-ocular muscle injury: most common inferior oblique (btw medial and central fat pads)
- Ptosis: transection of weakening of aponeurosis
- Lower eyelid position: ectropion / entropion
- Dry eye syndrome: most common functional problem, exacerbated by lagophthalmos (inability to close eyes) and/or lower eyelid retraction.

Question #1

- Photo of a trans-conjunctival approach to lower bleph. Patient has pain in the eye with irritation post-op. Next step:
  - Observation
  - Fluorescein dye test
  - Lateral cantholysis
  - OR for exploration

In a transconjunctival blepharoplasty, a tiny incision is made inside the lower eyelid and fat is removed with fine forceps. No skin is removed, and the incision is closed with dissolving sutures.

Fluorescein Dye Test: to r/o corneal abrasion / gtts… Extreme pain/proptosis->hematoma->cantholysis / OR exploration

Question #2

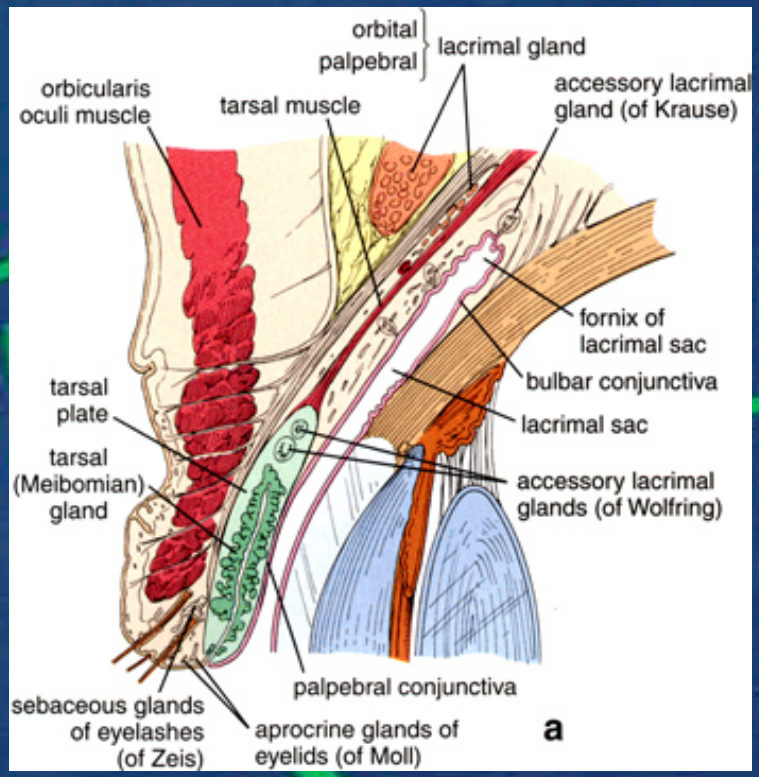
- S/P blepharoplasty, pt develops ptosis in one eye. What is the cause?

Levator muscle or aponeurosis injury: clinical feature: high lid crease. Diagnosis: hold the lid down and ask the patient to look up. Treatment?

Exploration: the detached distal margin of the levator should be identified and re-attached to the tarsus

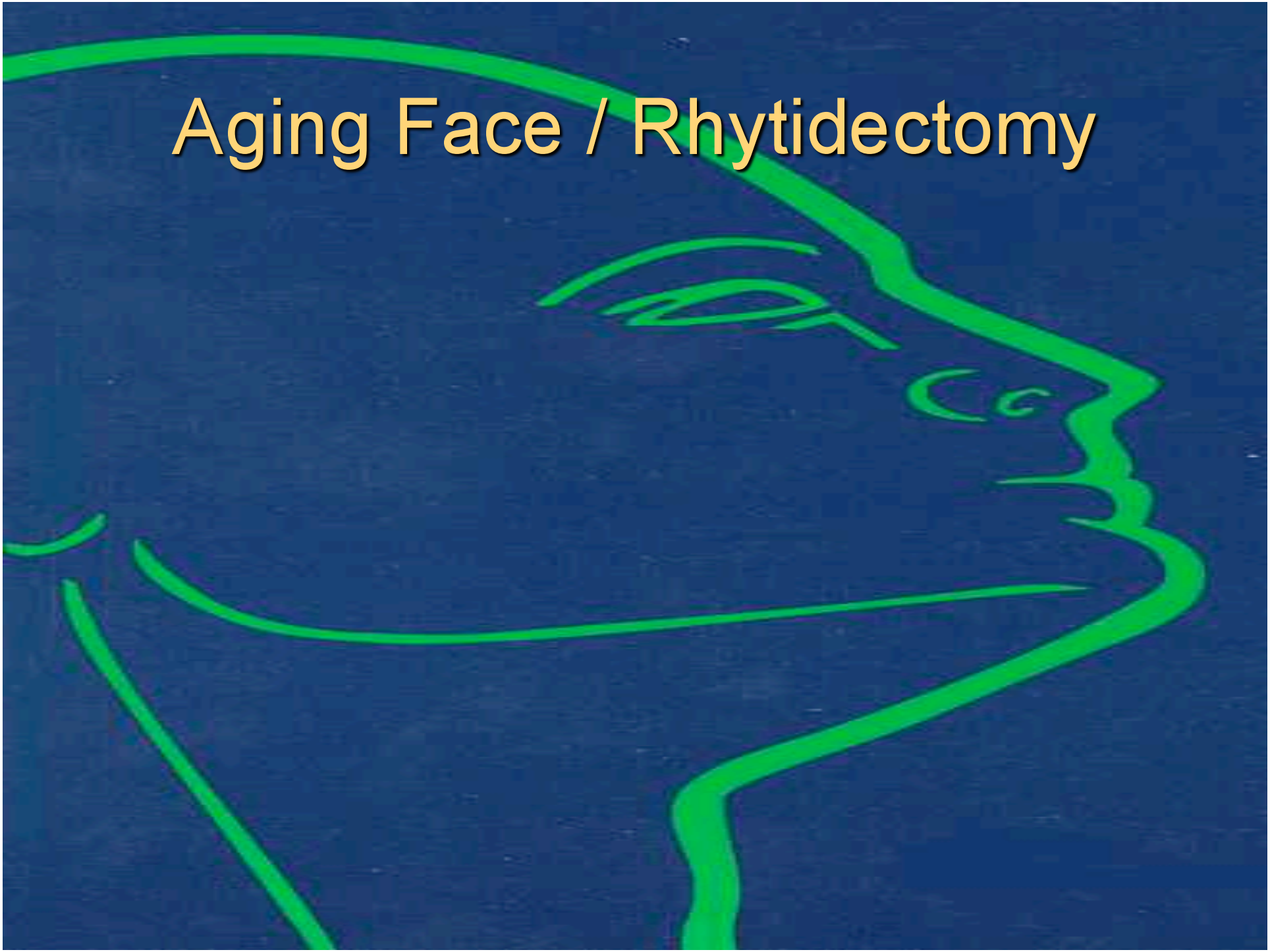
Question #3

- Explain the absence of lid crease in the Asian eye-lid…



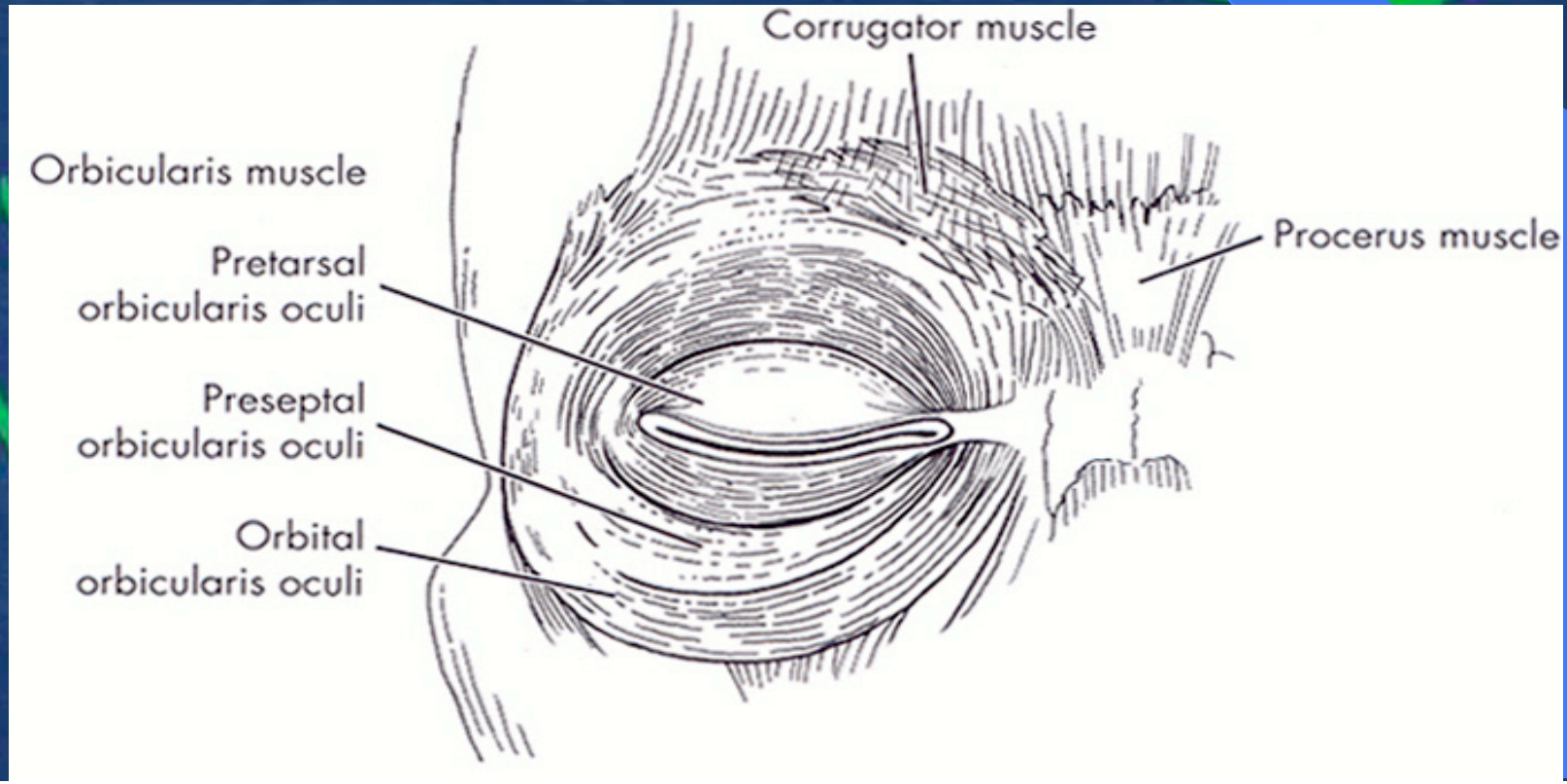
Levator muscle (aponeurosis) has no connection to pretarsal skin!

Aging Face / Rhytidectomy

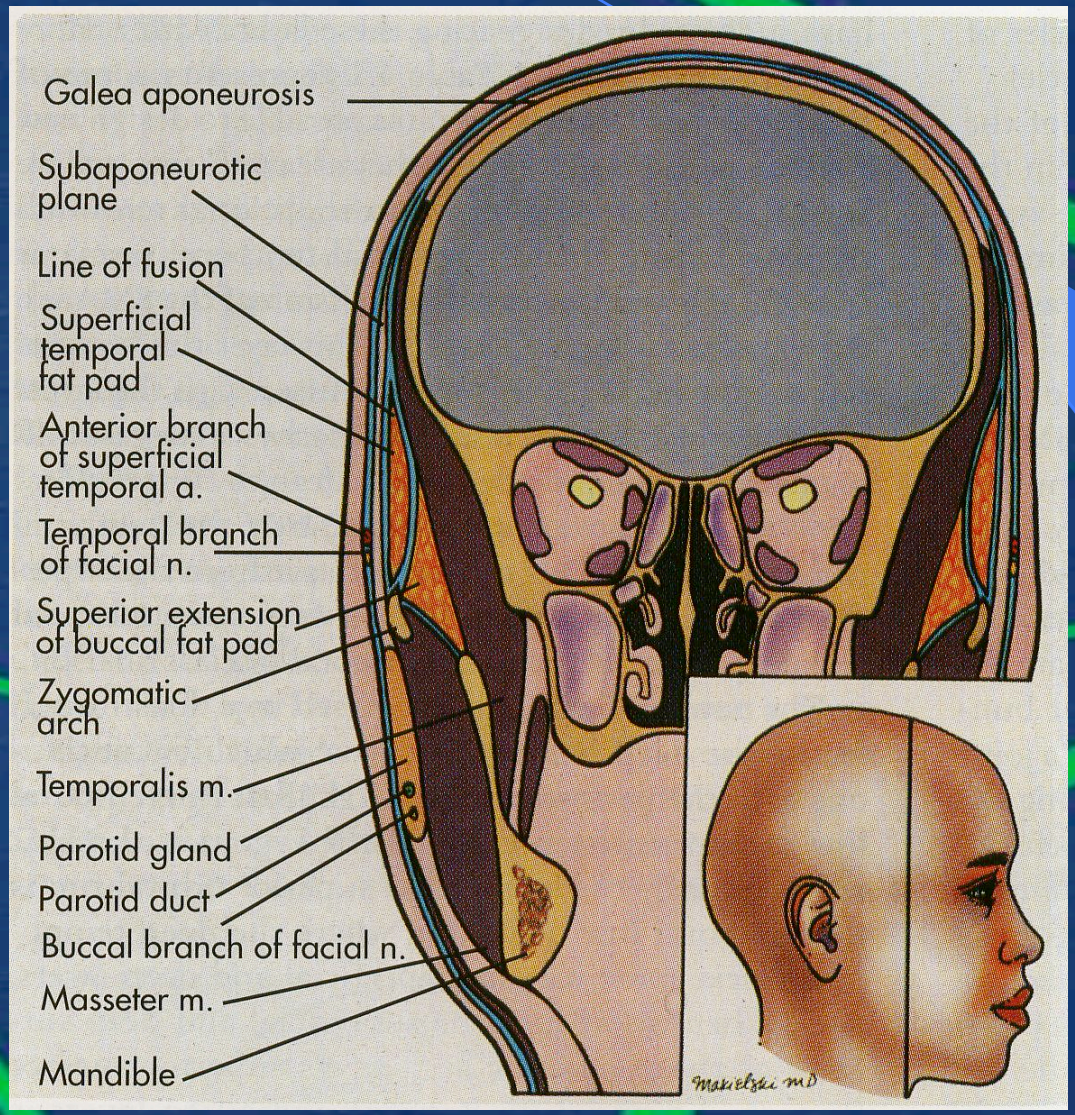


Anatomy - Glabella

- Procerus (vertical muscle): horizontal lines
- Corrugator (oblique / horizontal muscle): vertical lines



Anatomy - Temple



Complications: Nerve Injuries

- Most common nerve injury: greater auricular (1-7%)
- Most common motor (VII) nerve injury: Temporal > Marginal (2-5%), most commonly neuropraxia secondary to traction and/or cautery

Complications

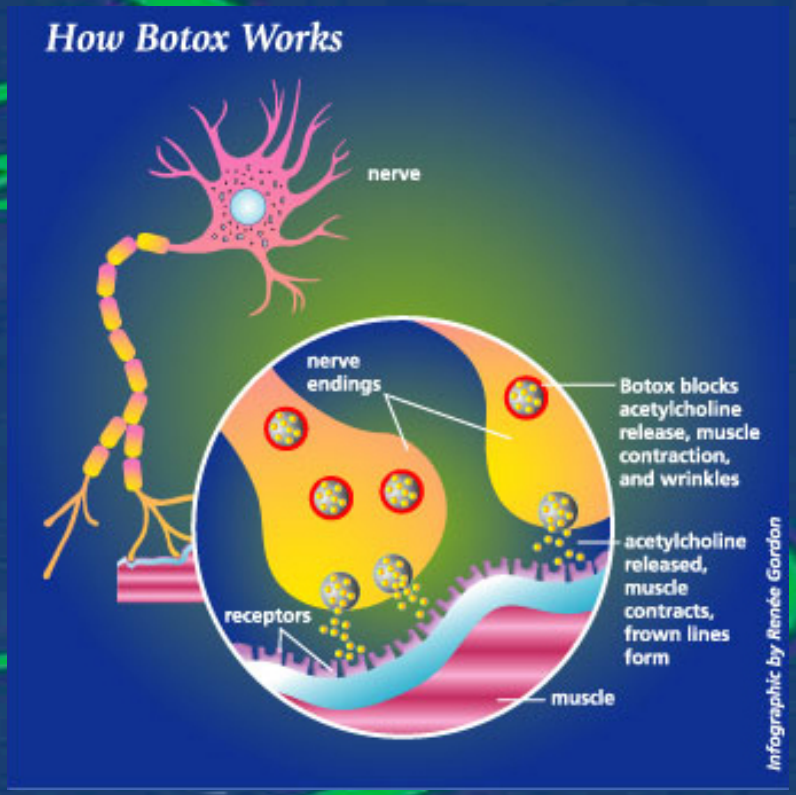
- Most common complication: hematoma (1-10%), greater in men… Pain (remove the dressing to r/o hematoma).
- Treatment: aspiration vs evacuation in the O.R. Key: prompt intervention is indicated to prevent skin flap necrosis.
- Skin necrosis: due to excessive tension on the skin flap, higher incidence in smokers, hematomas.

Complications

- Scar hypertrophy: Kenalog injections
- Earlobe traction inferiorly (pixie or satyr ear): V-Y repair
- Incisional hair loss: if permanent, consider micrografting

Question #1

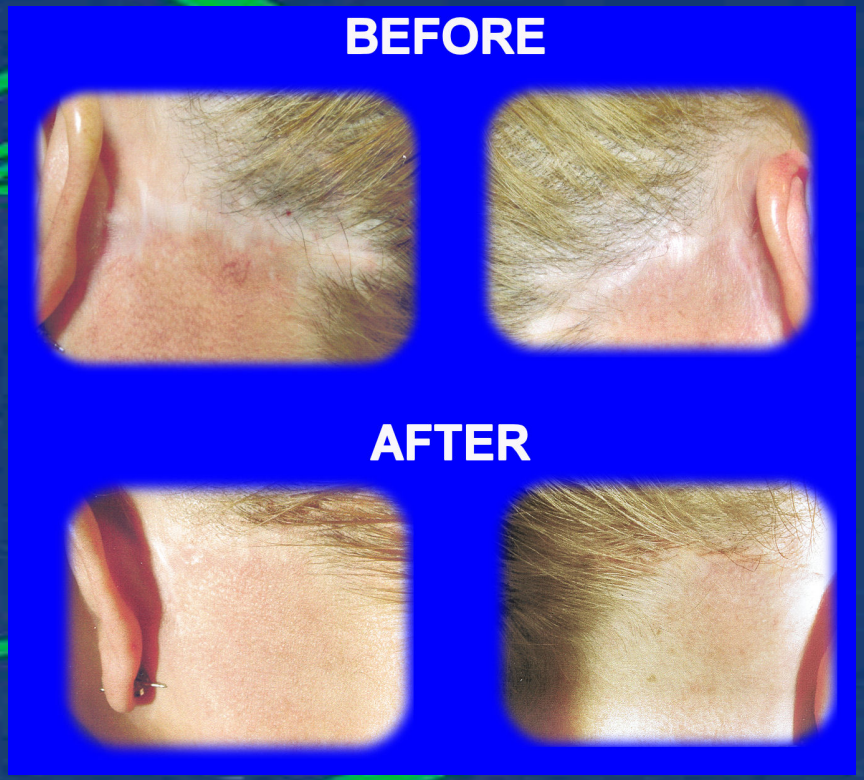
- Drawing of an axon at the neuromuscular junction. Where does Botox A work?
  - Axon
  - Pre-Synaptic
  - Cleft
  - Post-Synaptic
  - Beyond



Pre-Synaptic: Prevents release of vesicles containing acetylcholine.

Question #2

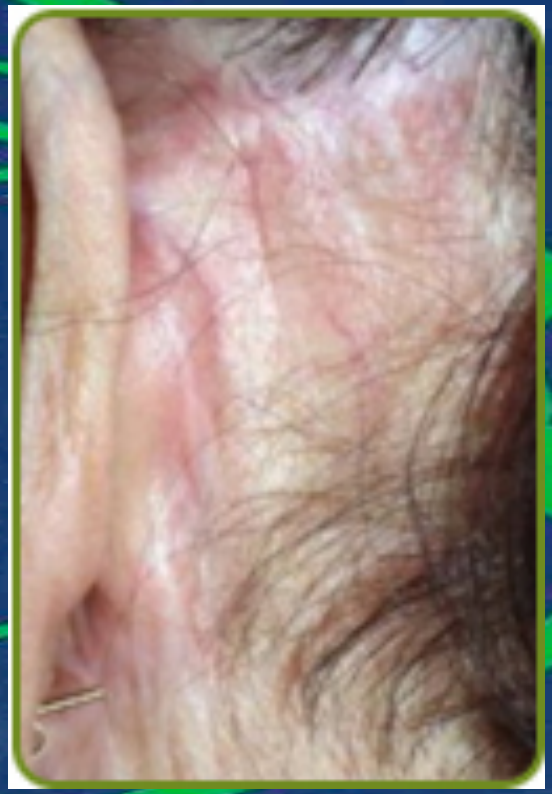
- Temporal rhytidectomy scar with a bald patch behind it. Cause:
  - Poor incision placement
  - Inadequate SMAS plication
  - Injury to hair follicles during incision



Hair Follicle Injury: improper beveling of the incision!

Question #3

- Most common site for skin sloughing s/p rhytidectomy:
  - Temporal
  - Pre-Auricular
  - Post-Auricular
  - Posterior Scalp



Post-auricular: distal-most portion of the face-lift flap!

Rhinoplasty

- Tip Support Mechanisms
  - MAJOR: size/shape/resilience of lower lats, medial crural attachment to caudal septal cartilage, attachment of upper lats (caudal border) to lower lats (cephalic border)
  - MINOR: interdomal ligament, sesamoid complex, cartilage attachment to the overlying skin/muscle, membranous septum, etc

Internal Nasal Valve

- Nasal septum, caudal margin of the upper lateral cartilage, floor of the nose/turbinate.
- Collapse usually seen following reduction rhinoplasty (dorsal hump reduction).
- Correction: spreader grafts (between the septum and upper lateral cartilages)

External Nasal Valve

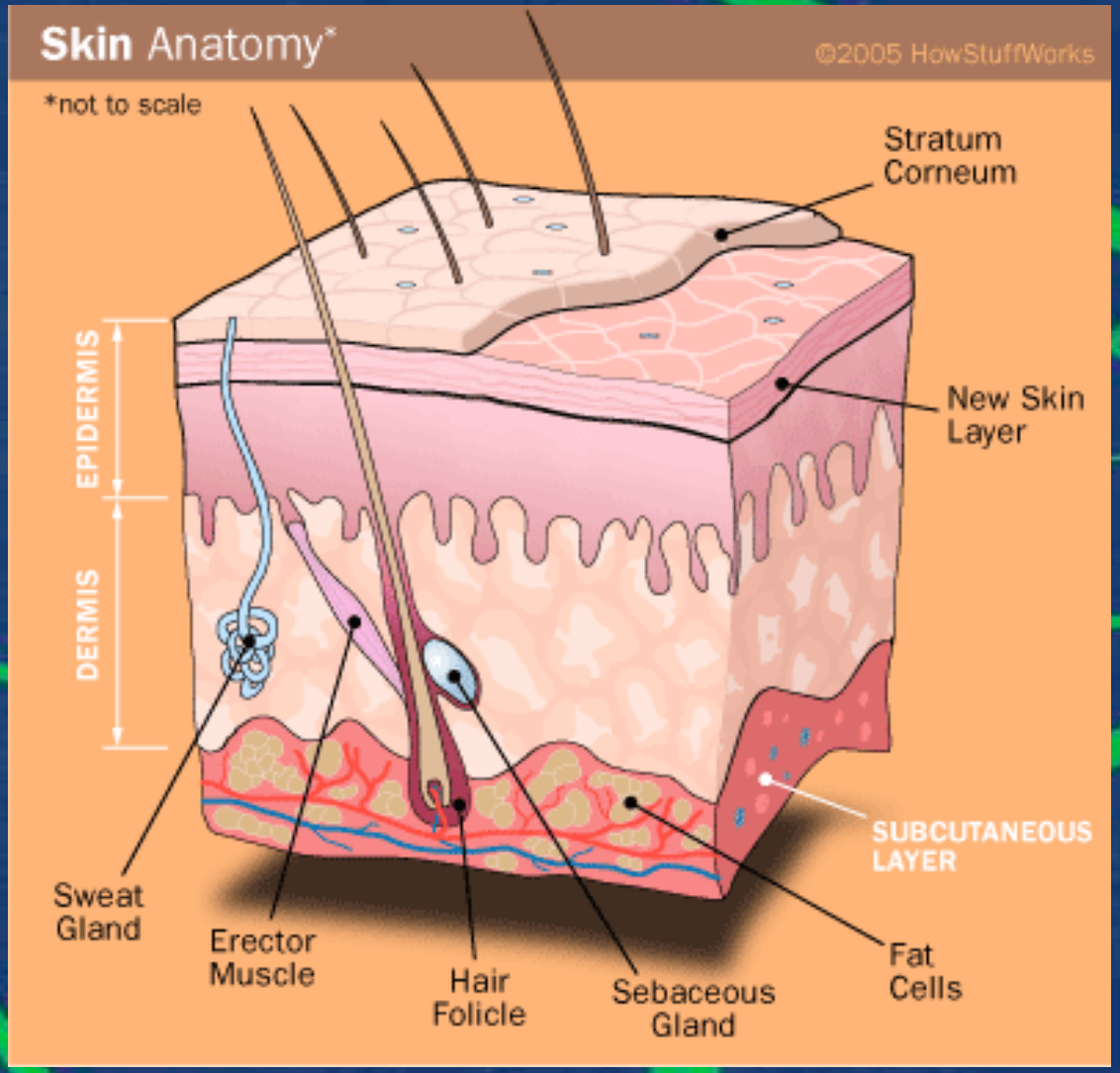
- Nostril, alae (fibro-fatty tissue, lateral crura of the lower lateral cartilage).
- Commonly seen with aging (loss of support) or in facial paralysis.
- Correction by placement of structural grafts into the alar lobule to provide support (batten grafts)
- Batten grafts: cartilage grafts placed into a precise pocket at the point of maximal lateral wall collapse (or site of supra alar pinching)

Complications

- Rocker Deformity
- Pollybeak
- Inverted ‘V’
- Bossae
- Alar Retraction
- Saddle Nose
- Nasal Valve Collapse

Facial Resurfacing

Chemical Peels

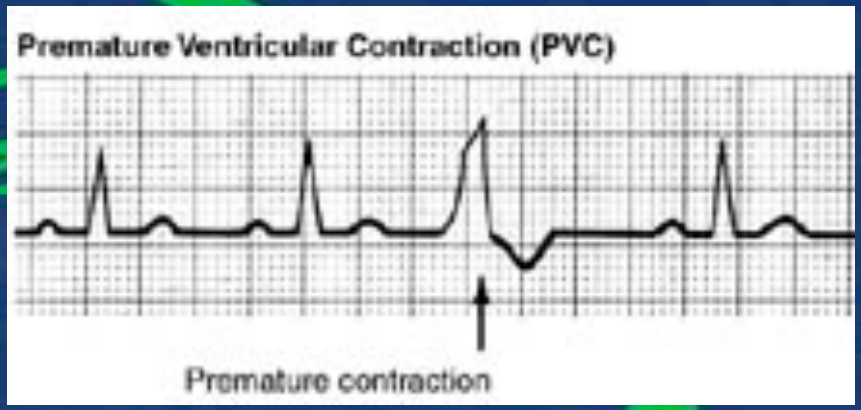


Depth of Peels

- Superficial: EPIDERMIS ONLY
  - Glycolic acid, Jessner, Retin A
- Medium: PAPILLARY DERMIS
  - TCA (at 20, 30, or 50%)
- Deep: RETICULAR DERMIS
  - Phenol of varying concentrations. Key: higher concentration -> a less deep peel. Other: systemic toxicity, cannot be used in patients with heart conditions, etc.

Question #1

- What agent used in a face peel is cardiotoxic:
  - TCA
  - Glycolic Acid
  - Phenol



Phenol: deep chemo-exfoliation, cardiac arrhythmias, cardiac monitoring (?). Other complications: scarring, epidermal inclusion cysts (milia), pigmentation changes, herpetic outbreaks (prophylactic acyclovir).

Cleft Lip / Palate

- General paradigm: fix the lip until 1 year, then palate.
- Rule of 10s for the lip: >10 weeks, >10 lbs, Hgb > 10.

Cleft Lip / Palate

- 3 months: cleft lip, rip rhinoplasty, MTs
- 1 year: cleft palate repair
- 5 years: columellar lengthening
- 10 years: alveolar bone grafting and orthodontic work
- 15 years: plastics

Question #1

- 4 month old with cleft lip and palate. Surgery:
  - Alveolar bone graft
  - Cleft lip repair
  - Cleft palate repair

Cleft Lip Repair

Hair Transplantation

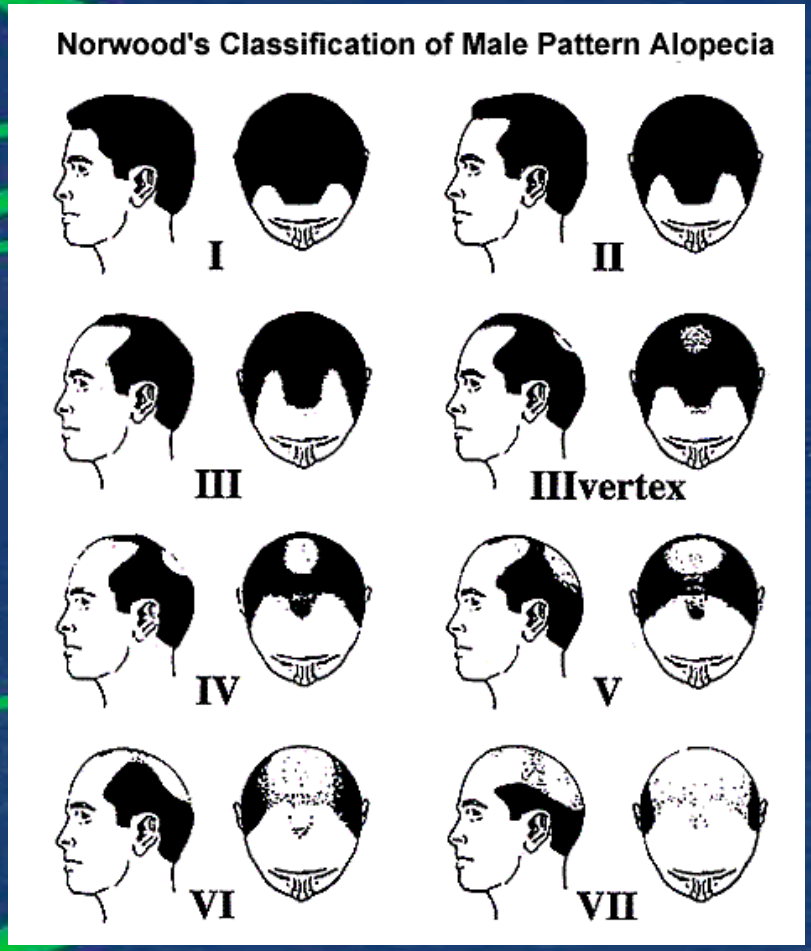
- Current Technique: FOLLICULAR UNIT GRAFTING
- Follicular unit: terminal hairs surrounded by an adventitial sheath, containing sebaceous glands… allows microscopic dissection permitting excision of all excess non-hair-bearing tissue… #hairs: 1-4, most commonly 2-3.
- Technique: Micrografts (1-2 hairs) are placed along the hairline (irregular), minigrafts (3-5 hairs) for remaining areas.

Hair Transplantation

- TELOGEN EFFLUVIUM STAGE: transplanted hairs fall out in several weeks, start to regrow in 8-10 weeks...

Question #1

- Best way to evaluate a 35 year-old man for hair transplantation:
  - Wait until 45 years of age and re-evaluate
  - Wet hair
  - Assess hair loss pattern of paternal grandfather
  - Plan surgery based on future pattern of hair loss



Plan based on future hair loss pattern: think of class III becoming class VI…