Rhytidectomy: Evolution and Current Concepts

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History

- Little known about earliest procedures -- “vanity surgery”
- Held in low esteem by other physicians
- Viewed as trivial, unnecessarily risky, and even contrary to the prevailing laws of nature
History

• Developed in Europe, America at turn of century
• Many plastic surgeons published only on reconstructive topics but paid the bills with cosmetic surgery
  – reputation
  – financially lucrative, may not want to share techniques
History

• Initially elliptical excision of redundant skin
• 1950’s “classic” facelift in use
• 1974 Skoog develops subfascial approach
• 1976 SMAS identified
• 1990’s deeper planes being developed
Preoperative Evaluation
Preoperative Evaluation

• Explore patients’ desires and motivations
• SAFE
  – Self-image
  – Anxiety
  – Fear
  – Expectation
Preoperative Evaluation

• Relevant medical history
• Avoid certain medicines
  – Aspirin/NSAIDs
  – Steroids
  – Vitamin E
  – Certain herbs
Preoperative Evaluation

• Potential contraindications
  – Diabetes
  – Smoking
  – Collagen-vascular disease
  – Psychiatric history
  – Steroid use
  – Hypertension
  – Prior surgery
Preoperative Evaluation

- Anatomical evaluation
- Checklist may be helpful
- Note asymmetries or weaknesses
- Photographs

### The Upper Third

**The Forehead**
- Hair: coarse, fine, thin, thick, balding
- Hairline: low, normal, high, absent, surgically absent
- Sideburns: low, normal, high, surgically absent, surgically altered
- Eyebrow pattern: full, partially plucked, absent, surgically absent
- Rhytids
  - Forehead-transverse: absent, shallow, deep, surgically altered—pattern
  - Glabellar frown: absent, shallow, deep, surgically altered—pattern
- Headaches: never, rare, frequent, location
- Skin
  - Orbital rim: bare, hairbearing
  - Ptosis/brows + supratarsal (right and left): none, relaxed, ptotic

**The Upper Eyelids**
- Prior blepharoplasty scar: years postoperative, mm from lid margin, mm from browline
- Supraorbital fat: medial 0.1.2.3.4. +/mid 0.1.2.3.4.+/central 0.1.2.3.4. +/right and left
- Palpebral aperture at midpoint: R____mm____ L____mm____
- Symmetric
  - Asymmetry: description of asymmetry
- Levator function: ptosis, pseudoptosis, attenuation
- Supratarsal skin redundancy:
  - Wrinkled, but palpebral fold visible right and left
  - Palpebral fold obscured right and left
- Hooded skin rests on lashes right and left
- Hoods extend laterally right and left

**The Lower Eyelids**
- Scleral show: R____mm____ L____mm____
- Tone of margin: good, firm, poor, surgical
- Eyelid margins: entropion, ectropion, senile, norm
- Retraction: R____mm____ L____mm____
- Ectropion: R____mm____ L____mm____
- Intraorbital fat: medial 0.1.2.3.4. +/mid 0.1.2.3.4.+/central 0.1.2.3.4. +/right and left
- Skin: smooth, relaxed, wrinkled, festoons
- Orbicularis oculi muscle: paralyzed, hypactive, hyperactive, hypertrophic, normal
- Malar bags: absent, small, large
- Visual acuity: right and left corrective lenses, contacts, cataracts, implanted lenses, impaired/blindness
- Schirmer’s test: R____mm____ L____mm____
- Symptom/history of keratitis

### The Mid Third

**The Face**
- Facial configuration: round, oval, triangular, rectangular, skeletal, thin, normal, obese
- Facial cheek skin: thick, thin, atrophic, oily, dry, scarred
- Facial asymmetry
  - Rhytids
  - Nasolabial: shallow/deep
  - Cheeks: parallel/comminated
  - Perioral
  - Marionette/dowlines
  - Vertical/horizontal
  - Jowls: 0.1.2.3.4.+
  - Upper lip: elongated, margins thin, commissures downturned
- Scars: nevi, papillomata, keratoses, malignancies, other
- Previous face lift scars: coronal/frontal, temporal, preauricular (pre/retrotragal), lobular (pulled), postauricular, mastoidial, occipital
- Ears: protrusion, antehelical contour, lobules (small/normal/enlarged), lobular fold (absent/normal/scarred/pulled)
- Parotid: absent, small, normal, large, masses

### The Lower Third

**The Chin and Jaw**
- Chin and jaw: retruding, small, normal, large, senile deformity
- Adipose deposits: submandibular, submental (0.1.2.3.4. +)
- Submaxillary gland: small, normal, large, ptotic, masses

**The Neck**
- Skin: smooth, relaxed, ptotic, scarred
- Rhytids: multiple, crepy, 0.1.2.3.4.+
- Platysma: anterior cords (earily, parallel [diverging, ptotic, 0.1.2.3.4. +]), secondary cords
- Lesions: keratoses, nevi, papillomata, other
Preoperative Evaluation

- Maneuver to estimate surgical results
Preoperative Evaluation
Preoperative Evaluation

- Ideal hyoid is high and posterior for optimal cervicomental angle
Dedo classification of cervical abnormalities

**CLASSIFICATION OF CERVICAL ABNORMALITIES**

- **Class I:** Minimal deformity—well defined cervical mental angle, good platysma tone, no accumulation of fat (younger patient).
- **Class II:** Laxity of the cervical skin—begins to hang like a curtain. No fat accumulation, no platysma weakness.
- **Class III:** Fat accumulation
- **Class IV:** Muscle accentuation (banding present in repose or on contraction)
- **Class V:** Congenital or acquired retrognathia
- **Class VI:** Low hyoid
Preoperative Evaluation

- Ideal Characteristics
  - little fat
  - good bone structure
  - not too much skin
Preoperative Evaluation
Preoperative Evaluation

• Develop operative plan, including neck
• Plan any needed adjunctive procedures
  – Brow, eyelids, chemical peeling, nose
    • Intrinsic v. extrinsic properties of skin
• Prescriptions (antibiotics, sedatives)
• Instruction sheet for patient
Anatomy
SMAS

- Superficial Musculo-Aponeurotic System
- Described 1976, Mitz and Peyronie
- Fascial layer connecting frontalis to platysma
- Divides subcutaneous fat into two layers
- Septated connections to dermis
- Distributes and transmits forces of expression
SMAS Anatomy
SMAS
Anatomy
SMAS Anatomy
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SMAS Anatomy
SMAS Anatomy
SMAS Anatomy
Dermal Vascular Supply

- Idea is to preserve septocutaneous vessels
Dermal Stranding photo
SMAS Anatomy: Nasolabial Fold
Anatomy: Buccal Fat Pad
Platysma

- Mentalis
- Depressor labii inferioris
- Depressor anguli oris

Branches of transverse cervical nerve (C2 and C3)
Supraclavicular nerves (C3 and C4)
Platysma
Platysma
Technique
Technique

- Draw incisions in holding with patient sitting
- Tie hair so as to be out of way
- Inject contralateral side before closing first side
- SMAS -- imbrication vs. plication
  - Webster study: no difference
Technique

• Head holder may be beneficial
• Local versus General Anesthesia
Short versus Long Flap
Various Incisions
Tragal incisions by Gender

- Female
- Male
Neck Liposuction
Platysmaplasty
Platysmaplasty
Platysmaplasty

Figure 5. Z-plasty in submental area.
Platysmaplasty
Postop

- +/- Drain
- BP, pain control
- Close follow-up
- Instruction sheet for patients
- Wound care
Complications
Complications

• Hematoma -- most common
• Nerve Injury
  – Most common: greater auricular
  – Most common motor: zygomaticotemporal division of facial nerve
• Skin slough
• Pixie Ear
• Hairline changes
Hematoma
Pixie Ear Deformity

• Defined as an elongated earlobe attached directly to the facial cheek skin
Temporal Alopecia & Pixie Ear
Facial Danger Zones
Greater Auricular Nerve

- Care must be taken when plicating platysma
Temporal Branch of Facial Nerve
Course of Marginal Mandibular Nerve

- Runs deep to platysma until approximately 2 cm from oral commissure
Evolving Techniques
First two Generations of Rhytidectomy

- Does not address, may worsen melolabial fold
Deep Plane Rhytidectomy
Results
Composite Rhytidectomy

- Malar crescent
- Cheek depression
- Ptotic platysma muscle
- Ptotic fat
Composite Rhytidectomy
Composite Rhytidectomy
Composite Rhytidectomy

- Subcutaneous Rhytidectomy
- Skoog Rhytidectomy
- Subcutaneous Rhytidectomy with SMAS
- Deep Plane Rhytidectomy
- Composite Rhytidectomy
Composite Rhytidectomy
Composite Rhytidectomy
Composite Rhytidectomy

- "Extraordinary tension"
- Hamra no longer divides platysma -- "operated look"
Composite Rhytidectomy

- Care needed to avoid facial nerve injury
Case 1
Case 2