FACE & NECK LIFTING PANEL

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Learn from mistakes of others. You can’t live long enough to make them all yourself.

_Eleanor Roosevelt_

Good judgment results from experience, and a lot of that comes from bad judgment.

_Will Rogers_

The trouble with experience is that by the time you have it you are too old to take advantage of it.

_Jimmy Connors_
FACIAL TOPOGRAPHY & THE AGING FACE & NECK SYNDROME
Aging face syndrome

Larrabee & Makielski
Aging face syndrome

- Intrinsic genetic factors & extrinsic factors (smoking, sun exposure) play a role
- Overall thinning of dermis with loss of elastin and collagen (elastosis), and thickening of upper, keratinized layers of epidermis (sallow, dull, blotchy skin)
- Skin pigmentary changes, telangiectasis, keratoses, wrinkles and neoplasia
- Descent of fat with loosening of suspensory ligaments
- Atrophy of muscle and loss bony volume
Aging face syndrome

- **Upper third** (descent of brows, hairline recession, forehead wrinkles and creases)
- **Middle third** (hollowing of the orbit, loss of bone, exposure of orbital rim, laxity and descent of orbicularis m. with lengthening of the lower eyelid and pseudo-herniation of fat)
- Descent of malar fat pad & deepening of the nasolabial fold and zygomatico-cutaneous ligm.
- Lengthening of nose with decrease in tip support, thinning of cartilages and drooping of the nasal tip
Structural effects of aging

Larrabee & Makielski

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Infero-medial descent of the malar fat pad, hollowing of the orbit, exposure of the orbital rim, deepening of the nasolabial fold & jowling
Aging face & neck syndrome

- **Lower third** - upper lip lengthening, red lip thinning, loss of volume of the maxilla, mandible and alveolar ridges, jowling and descent of the chin

- **Neck** (skin laxity and wrinkling, platysmal dehiscence with banding, prolapse of sub-platysmal fat, blunting of the cervico-mental angle
Systematic facial analysis prior to facial rejuvenation

- Skin surface, thickness, laxity, volume
- Upper third (forehead, eyebrows)
- Middle third (eyelids, orbital rims, zygomatico-facial ligament, malar prominence, Ogee curve, lateral cheeks)
- Lower third (lips, chin, jowls)
- Neck (adiposity, laxity, platysmal bands)
Role of “Minimally-invasive” alternatives to facelift “Do they work?” “Which ones?”

Facelift nomenclature: “What do we call it?”

Type of anesthesia?

Design of the incision

Extent of undermining; imbrication versus plication

Procedures combination along with facelift

Prevention of complications and “What my experience has taught me?”

Other innovations in technique?
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Choice of anesthesia

- Prefer deep IV sedation or general (LMA v. endotracheal) anesthesia for extended SMAS +/- fat grafting.
- Modified tumescent solution injected in smaller volumes to obtain analgesia and vasoconstriction. Usually do not need nerve blocks.
- Local anesthesia with anxiolysis may be sufficient in properly selected patients, esp. when undergoing more limited face-lifting.
History of face lifting

- Subcutaneous facelift, Lexar 1916
- Subcutaneous & platysma, Skoog 1960’s
- SMAS, Mitz & Peronie, “low-SMAS” 1976
- Musculofascial plane, Jost & Levet 1984
- Deep plane, Hamra 1984
- S-lift, Salyan 1988
- Subperiosteal facelift, Tessier 1990
- Composite lift, Hamra 1990
- High-SMAS, Connell & Marten 1995
- MACS vertical lift, Tonnard 2009
Goals of a facelift and technique

- Define jaw line and improve jowls (imbricate & suspend SMAS layer, trim the skin flap)
- Improve naso-labial folds (release of suspensory ligaments and elevation of the mid-face in high-SMAS or extended SMAS modification)
- Improve neck contour (remove sub-plastysmal fat, treat platysmal bands, +/- reduce SQ fat)
- Always consider volume augmentation using fat transfer
Rhytidectomy (facelift)

♦ Multiple techniques & variations exist
♦ Skin only (subcutaneous +/- SMAS plication)
♦ Limited undermining & plication (pre-excision S-lift and its modifications)
♦ Skin and SMAS flap (imbrication) with a mostly vertical vector component
♦ High or extended SMAS with release and variable deep plane dissection
Key points

- Skin is an **elastic, distensible** layer that covers and contours over the underlying structures.
- SMAS is a **sturdy, fibrous**, inelastic layer, thicker posteriorly, overlying the parotid gland, thin over the masseter.
- SMAS facelift consists of two lamellar layers (skin and SMAS) which are undermined independently and suspended along two different vectors.
Facial retaining ligaments

- Zygomatic ligaments
- Zygomaticus minor muscle
- Zygomaticus major muscle
- Masseteric cutaneous ligaments
- Risorius muscle
- Mandibular ligaments

Parotid cutaneous ligaments
Key points

- SMAS (superficial musculo-aponeurotic system), platysma, mimetic muscles of the face and the temporoparietal fascia form one continuous layer.

- In the face, the mimetic muscles and SMAS move as a single layer during facial animation.
Facelift technique considerations

- Scar design and scar length
- **SMAS plication** = infolding of tissue
- **SMAS imbrication** = flap undermining and advancement of tissue with excision or infolding of the excess
- SMAS flap incisions and SMAS release
- Direction of SMAS suspension
- Direction of skin pull and trimming
Facelift -- key point

- In a two layer lamellar SMAS facelift with adequate release of ligaments, the SMAS layer suspension bears most of the tension while skin has miminal tension

- The skin and SMAS layers are undermined separately and pulled in different directions
Facelift incisions
Incision in the temporal scalp -- use when facelift with forehead lift

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Incision under the temporal hair tuft
Pre-helical, marginal tragal & pre-lobular components of the incision

Note darts in the incision in order to avoid post-op webbing of the scar
Variations in post-tragal incisions

Miller & Eisbach

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Male versus female facelift incision

Male Rhytidectomy Incision

Female Rhytidectomy Incision

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Occipital post-auricular incision
Facelift incision design
Lamellar low-SMAS facelift: incision below zygomatic arch
Lamellar high-SMAS face & mid-face lift: incision at the zygomatic arch
Initial subcutaneous dissection

Subcutaneous tunnel superior to arch

Subgaleal dissection if simultaneous open forehead lift is to be done

Only skin expected to be removed is undermined

Subcutaneous dissection 4 to 5 cm

Subcutaneous dissection of neck from mastoid to midline superficial to platysma muscle
Subcutaneous plane of elevation-limited elevation

Adamson

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Cheek -- SMAS elevation plane
Neck -- subcutaneous elevation

Adamson
Extensive deep plane elevation into the mid-face is not necessary following the release
Facial retaining ligaments

- Zygomatic cutaneous ligaments
- Parotid cutaneous ligaments
- Masseteric cutaneous ligaments
- Masseteric-parotid ligaments
- Mandibular ligaments
- Cervical retaining ligaments
Retaining ligaments to be released
Extent of subcutaneous undermining
Subgaleal & subcutaneous plane
Subcutaneous elevation after temporal hairline incision

I prefer shorter dissection in the pre-auricular subcutaneous plane -- decreases on incidence of post-op fluid collections
High-SMAS incision
Zygomatic ligaments & massetero-cutaneous ligaments

Marten
Release of zygomatic ligaments
SMAS lifting with extension into deep plane anteriorly
Development of the plane anterior to the parotid & below the SMAS

Pastorek & Bastillo

In the deep plane, deep to platysma and superficial to masseter
To improve the mid-face and lateral cheek, the SMAS is suspended in the direction paralleling Zygomaticus major muscle with several interrupted sutures anchored at the level of the zygomatic arch or in the temporal region.
High SMAS flap suspension

No sutures are placed in this area
NECK CONTOURING & LIFTING
Degrees of aging in the neck

Must individualize procedure depending on the amount of changes to be reversed.
Prominent submandibular glands
Submental incision half way between submental crease & hyoid
Anterior platysmaplasty
Anterior platysmal myotomy
Post-auricular transposition flap
Submental & neck rejuvenation

♦ Tumescent liposuction is sufficient in younger patients with mild changes
♦ Suction removal of fat under the chin and neck may be combined with laser (such as SMART lipo) to increase skin contraction
♦ Judicious removal of fat in the submental region with avoidance of over-suction on the skin and on the platysma (“cobra” deformity)
♦ In older patients usually must combine with plastysmal plication, platysmaplasty and a conservative resection of the central subplatysmal fat
Submental liposuction
Pre-platysmal fat excised following the SMAS suspension
Insetting earlobe to avoid tension and “pixie” ear deformity
Rhytidectomy post-operative care

- Overnight compression dressing if drains or post-auricular drainage opening absent
- Foam padding to compress the neck
- Check for small fluid collections & aspirate with syringe or post-auricular suction
- Wash hair next day
- Consider oral antibiotics for 5 days
- Remove pre-auricular suture at 7 days
- Remove suture or staples in the hair in 10-12 days
Complications of Rhytidectomy

- Expanding hematoma – 1% of pts; avoid hypertension
- Prevent small sero-sanguinous collections with drains, light compression or fibrin tissue glue
- Small wound dehiscence in post-auricular region heals well with minimal wound care
- Adverse scarring, poor incisions and pixie ear deformity
- Flap necrosis with skin slough (tobacco, diabetes, etc)
- Earlobe parasthesias, sometimes permanent (great auric.n.)
- Neuropraxia of CN VII branches, usually temporary, but may be permanent, especially in the marginal and temporal branches with fewer cross anastomoses
- Cellulitis & abscess – not common
- Sialocele – not common, treat with Botox injections
- Disappointment – must manage expectations pre-op
Hematoma

- Small collections of < 20cc of fluid occur in about 15% of patients, more common in men, may lead to prolonged lumpiness
- Expanding hematoma is a true emergency; occurs < 1% of patients
- Compression dressing and drains do not prevent an expanding hematoma
- Best prevention is a dry surgical technique, a strict peri-operative blood pressure control & prevention of PONV
Neuropraxia

- Sensory earlobe neuropraxia due injury to great auricular nerve – some may resolve with time, gabapentin may help the parasthesias
- Must dissect superficially in the region over the SCM below the ear lobule to protect great auricular nerve
- Stay superficial & do not dissect below the platysma in the lateral neck far anteriorly to avoid injury to the marginal mandibular nerve
- Suspension bridal sutures, if used, anchored two finger-breaths below mandible
Sialocele

- Results from deep SMAS plication sutures with injury to the small salivary ducts of the parotid gland
- Injury to the main parotid duct less likely but possible when dissecting anteriorly
- Injections of Botox into the skin and into the superficial parotid gland help
- Must drain and use compression dressings
Avoidable of complications by proper skin incision and avoidance of tension

- Temporal tuft migration
- Anterior tragal pull
- Pixie (Satyr) earlobe
- Visible, hypertrophic scars
- Hairline step-off
AUGMENTATION WITH FAT TRANSFER
Composite picture of volume loss

Defatta & Williams
Volumization using small aliquots of fat injected @ multiple levels with small cannulas. Total of 15 to 40 mL of centrifuged fat transplanted on each side of the face.
Volume augmentation with adipose tissue

Defatta & Williams
Facial augmentation with fat transfer

- Atraumatic, low pressure harvesting usually from abdomen or hip
- Use moderate amt. tumescent solution at the donor site
- For small volume transfer harvest with 10-20cc syringe equipped with #12 F cannula (Tulip)
- Harvest more than 60 mL
- Decant, +/- wash with saline and centrifuge the fat
- May add platelet-rich plasma (PRP) to increase percent of fat survival
- Inject multiple small aliquots of fat using 1mL luer lock syringe 0.9mm & 1.2mm Coleman-style cannulas at multiple depths using rapid back & forth motions
Fat harvested with 20 cc syringe & allowed to separate
Decanted fat placed into 10 cc syringe & centrifuged
Fat injection technique – palming piston of the syringe
EXAMPLES
Facelift

Before

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After

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Facelift

Before

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After

Bel-Red Center for Aesthetic Surgery, P.S.
Facelift

Before
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After
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Facelift

Before

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After

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Facelift and laser resurfacing

Before

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After

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Facelift & laser resurfacing

Before

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After

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Facelift

Before

After

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Facelift

Before

After

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Facelift

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After
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Facelift

Before
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After
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Facelift

Before
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After
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Cheek lift, fractionated CO$_2$ laser

Before

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After

Bel-Red Center for Aesthetic Surgery, P.S.
Facelift & fractionated CO$_2$ laser

Before
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After
Bel-Red Center for Aesthetic Surgery, P.S.
Facelift & fractionated CO$_2$ laser

Before

After

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THANK YOU