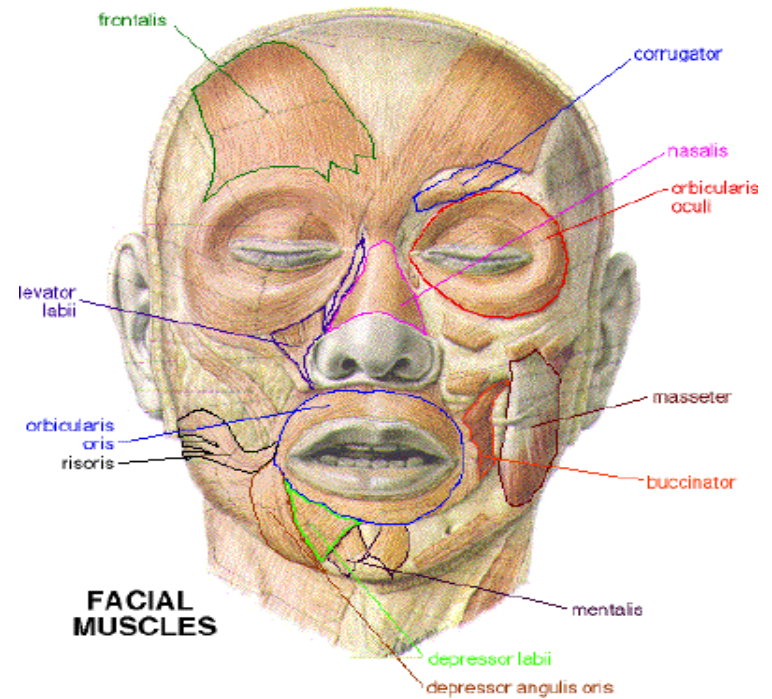
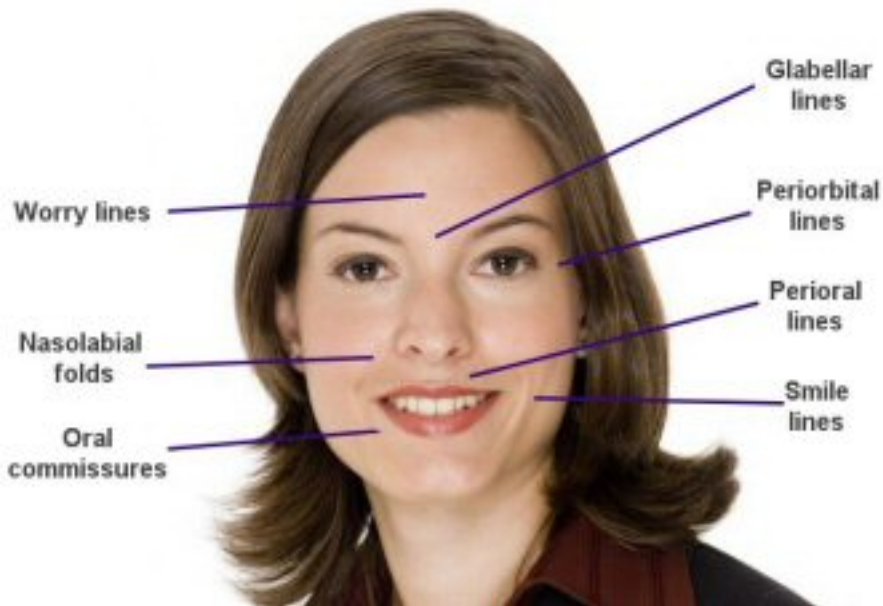


# Resident Talk

Soft Tissue Fillers



# Anatomy



# Temporary Fillers

- Restylane
- Juvederm
- Collagen
- Teosyl



# Semi permanent/Permanent Fillers

- ArteFill
  - 20% polymethylmethacrylate microspheres
- Radiesse
  - Calcium hydroxylapatite microspheres
- Fat
- Silicone
- Aquamid
  - 2.5% cross linked polyacrylamide



# Indications

- Nasolabial folds
- Glabellar lines
- Deep rhytids
- Cheek augmentation
- Temporal wasting
- Lipodystrophy
- Vocal cord augmentation
- Other soft tissue augmentation

# Contra indications

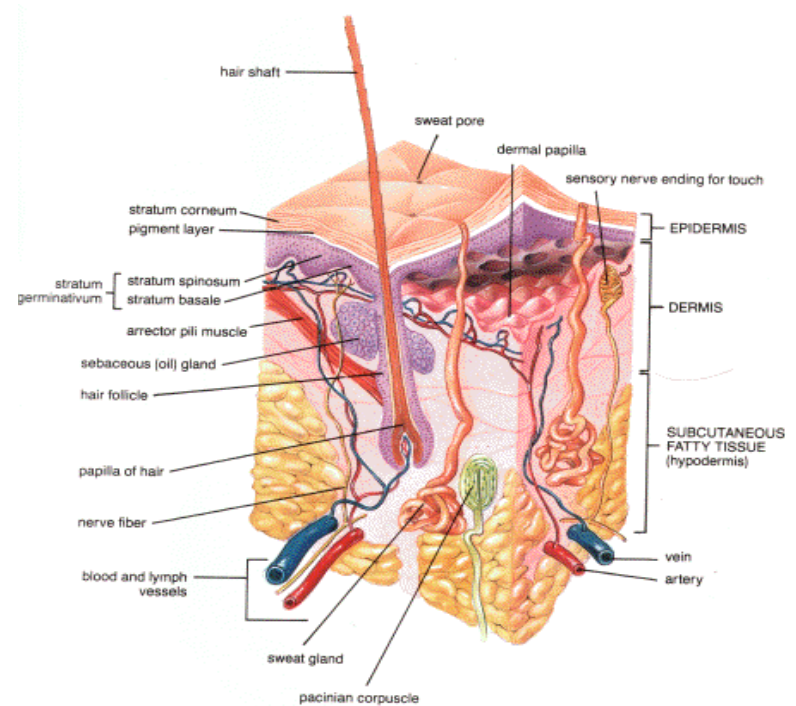
- Unrealistic expectations
- Allergy to given filler
- Active infection

# Alternatives

- Botulinum Toxin
- Surgical procedures
- Chemical Peels
- Laser Resurfacing
- Dermabrasion

# Injection Depth

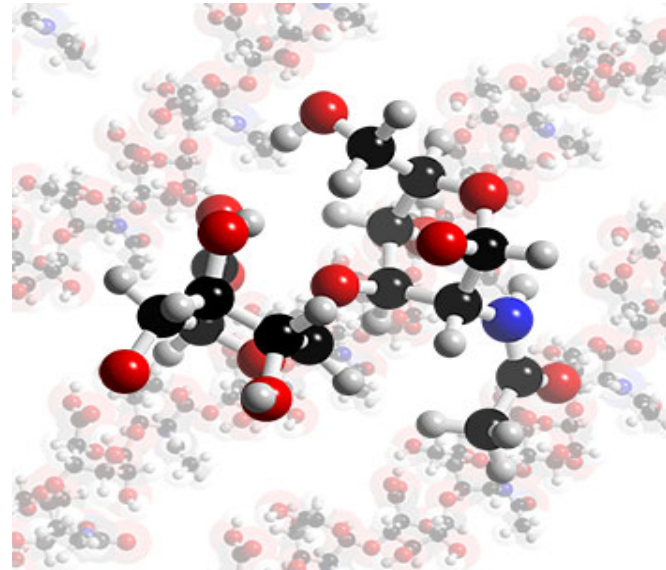
- Deep Dermal
- Subdermal
- Reticular Dermis





# Hyaluronic Acid

- Present in connective tissues of skin, cartilage, bone, synovial fluid
- Viscoelastic properties
- Involved in cell membrane protection and stabilization.
- Reduces in native tissue with age leading to reduced dermal hydration and folding



# Hyaluronic Acid

- Glycosaminoglycan biopolymer of alternating D glucornic acid and N-Acetyl-D-glucosamine monosaccharide residues cross-linked into long repeated unbranched polyanionic chains
- Repeating chains are hydrated and coil upon themselves providing elasticity and viscosity.
- Results in binding water molecules increasing skin hydration and turgor.
- Metabolized in the liver to carbon dioxide and water

# Hyaluronic Acid

- No preinjection required
- Properties are altered by changing cross linking which impacts the longevity and size of particles.
- Combined treatment with Botulinum Toxin A can increase longevity of product by up to 50%

# Hyaluronic Acid

- Restylane
  - Perlane, Restylane fine lines
- Hyalin Gel
- Rofilan Gel
- Differ in particle size, longevity, molecular weight.
- Also impacts on depth and sites of injection

# Restylane

- Derived from a Streptococcus fermentation process.
- No risk of disease transmission
- Low risk of allergy
- Great affinity for water
- High degree of cross-linking
- Lasts 4-6 months
- Mid to deep dermal implantation for moderate to severe wrinkles.

# Restylane

- Restylane fine lines
  - Lower density , less viscous for superficial dermis (dermoepidermal junction)
- Restylane
  - Medium density particles, more viscous for mid dermis.
- Perlane
  - Largest hyaluronic acid compound available fro deeper dermal level
  - Can produce lumpiness if injected to superficially.

# Restylane





# Juvederm

- Uses particle suspension technology coming in a smooth gel form
- Claims to have the highest concentration of non animal cross-linked product available
- Three forms
  - Juvederm 24 HV, 30HV, 30.
  - 30 is for the more superficial dermal augmentation.



# Longevity

- Variable
- Injection sites impact longevity of results
- Tear trough, Malar and glabellar regions, 6 months.
- 9 months in forehead and glabella with Botox
- Lips have shortest duration of 3-4 months
- Additive effect with each injection

# Lips

- Upper lip should project 1-2 mm anterior lower lip
- Upper lip 1/3 of total lip height. Lower lip 2/3
- Cupids bow is well defined in the youthful lip.
- Youthful lips have a full philtral columns, concave sloping from nasal base and labiomental groove.
- Inject in submucosal level, within superficial orbicularis muscle mass.

# Perioral

- Vertical rhytides
  - Superficial dermal injection with Restylane fine lines
- Marionette Lines
  - Mid dermal injection
- Examine jowls
  - Mid to deep dermis



# Combination injections

- Lip augmentation with Botox in Orbicularis and depressor anguli Oris
- Glabellar lines and forehead with Botox
- Orbicularis and temporal wasting with Botox

# Anesthetic

- Some are pre mixed: Juvederm
- Topical
- Blocks
- Direct injection
- combination

# Injection Techniques

- **Serial Puncture:**
  - Glabella, philtral column and fine rhytides, nasolabial folds (mid to deep dermis)
- **Linear Threading**
  - Vermilio-cutaneous border and nasolabial folds
- **Fanning**
  - Not very useful
- **Cross Hatching:**
  - Oral commissures, facial contours where a large area requires correction

# Forehead

- Glabellar lines
  - Mid dermis
    - Compress supratrochlear vessels while injecting to prevent intravascular injection
- Worry lines in forehead



# Tear trough Malar Region

- Tear trough
  - Supraperiosteal plane, 0.5 to 1cc total injection
- Malar region
  - serial injection in supraperiosteal plane from lateral to medial.



# Post treatment care

- Ice to the area or cooling packs
- Antihistamine
- Avoid NSAIDS
- Tylenol prn
- massage

# Complications

- Swelling
- Bruising
- Erythema
- Tenderness
- Itching
- Hypersensitivity (0.06-015%)
- Skin necrosis
- Granulomas: resolve with injection of hyaluronidase, steroids
- Post injection telangectasias: more common in pateitns with pre existing telangectasias

# Hyaluronidase

- Mix 75 U (.5cc of 15 U/cc) with 1.5cc of 1% lidocaine
- Soluble protein enzyme that hydrolyzes hyaluronic acid by breaking glucosamine bond between C1 of the glucosamine moiety and C4 of glucuronic acid

# Summary

- Safe, effective non surgical options
- Rare complications
- Choose the right filler for the right area
- Appropriate informed consent and follow up
- Suggested reading: Journal of American Society of Plastic and Reconstructive Surgery Volume 118(35) Suppl, 1 September 2006 p75-145