TUTORIALS

PG Residency

Plastic Surgery

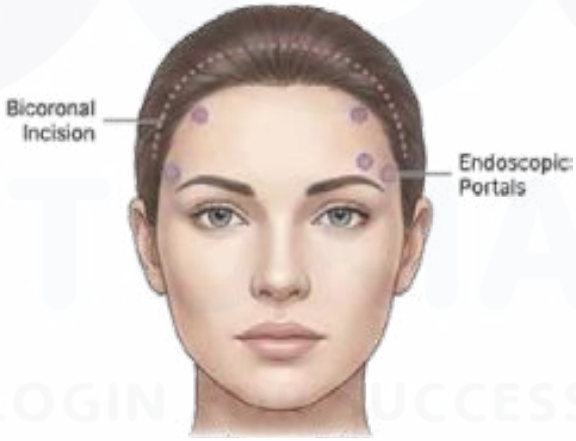
Smart Notes. Better Scores.

Upper Face Rejuvenation: Principles & Anatomy

Patient Selection

The Philosophy:

- Patient Perspective: Success = Managing expectations & addressing specific complaints.
- Contraindications (Red Flags):
  −Body Dysmorphic Disorder (BOD)
  - Substance abuse
  - Unrealistic expectations (e.g., solving relationship issues)



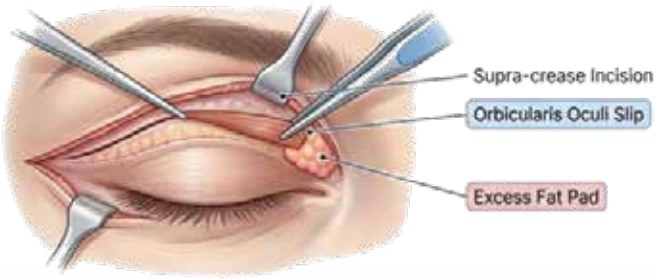
Technique

Brow Lift Approaches:

- **Indications:** Lateral eyebrow ptosis (tired/angry look), forehead wrinkles, upper eyelid crowding.
- **Open Lift:** Bicoronal or hairline incision. Elevates in the subgaleal plane. Excess skin trimmed.
- **Endoscopic Lift:** Minimally invasive (5 portals}. Subgaleal dissection. Resection of corrugator/procerus muscles. Fixation via screws.

Warning: Contraindications are crucial.

Periorbital Surgery: Blepharoplasty



Upper Blepharoplasty

- **Target**:Ptosis, excess skin, and fat prolapse.
- **Technique:** Supra-crease incision. Excision of orbicularis oculi slip and resection of excess fat.

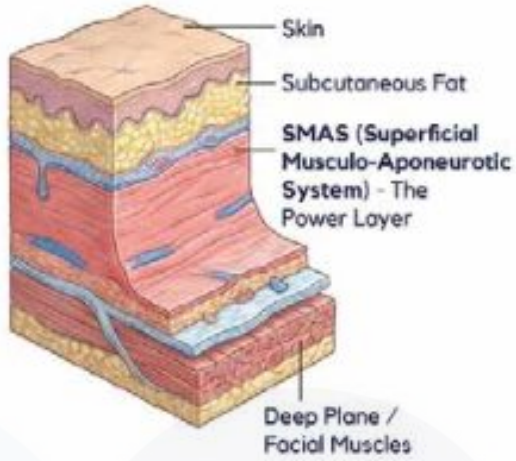
Lower Blepharoplasty

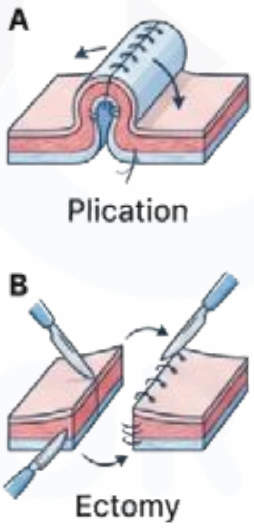
- **Challenge**:Assessmentofskin laxity and globe adherence.
- **Laxity Correction Methods:**
  - **Canthopexy** :Plicationoflateral canthal tendon (Mild laxity)
  - **Canthoplasty** :Incisionand fixation of eyelid to **Whitnail's**
  - **Tubercle** (Severe laxity)

Key Complications

- Dry eye, scleral show, **Ectropion** (outward turning of eyelid; exposure risk).

Facial Rejuvenation: The SMAS Concept





Rhytidectomy Principles

- Move beyond skin excision. Manipulate the **SMAS laye**r (carries facial muscles) for lasting results.

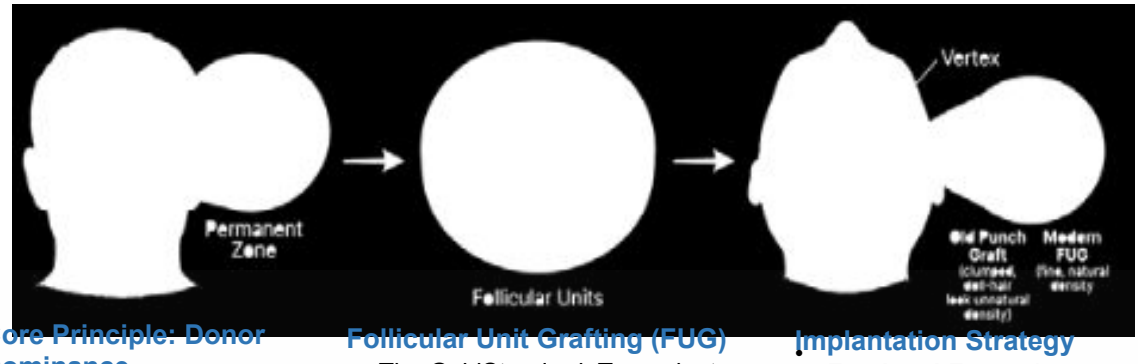
Surgical Techniques

- **SMAS Plication:** Folding and suturing the sagging SMAS.
- **SMAS Ectomy:** Excising excess muscle layer before suturing.
- **Deep Plane:** Lifts entire muscle complex with deep structures (Longest lasting).

Ancillary & Risks

- **Platysmaplasty**: Tightens neck muscles to correct vertical banding.
- **Complications:** Hematoma (most common), hypertrophic scarring, nerve injury (greater auricular).

Hair Transplantation: Biology & Technique



Core Principle: Donor Dominance

- Graft survival dependson do nor site characteristics (occipital hair is permanent), not the recipient site.

Follicular Unit Grafting (FUG)

- The GoldStandard: Transplants natural groupings of 1, 2, or 3 hairs.
- Advantage: Natural density; avoids 'cobblestone' appearance.

Implantation Strategy

- **Forehead:**Forwardvector.
- **Vertex:** Spiral pattern.
- **Indications:** Androgenic alopecia, scarring alopecia (burns), eyebrow reconstruction.

Rhinoplasty & Skin Refinement

Rhinoplasty Approaches

- **Open** :Columellarincision (inverted V). Full visualization for osteotomy /grafts.
- **Closed** :No externalscar. Limited manipulation.
- **Key Maneuvers:** Osteotomy (narrowing bones), Spreader Grafts (valve collapse), Strut Graft (tipsupport).

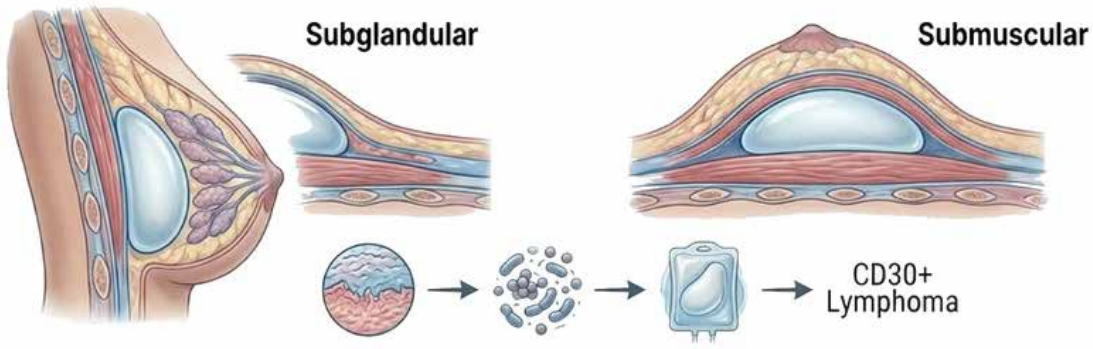
Skin Resurfacing

	Ablative (CO_2)	Fractional Photothermolysis
Mechanism	Thermalcoagulation of dermis	Coagulative injurycolumns
Recovery	7-10 Days	24-48 Hours
Risk	Hyperpigmentation	Faster healing

Skin Resurfacing

- **Ablative Lasers:** Stimulates basal cells via thermal injury.
- **Fractional:** Spares surrounding tissue for rapid recovery

Breast Aesthetic Surgery



Augmentation & Safety

- **Planes**:Submuscular placement reduces capsular contracture risk.
- **BIA-ALCL:** Lymphoma linked to textured implants & biofilm. Presents as peri-implant seroma

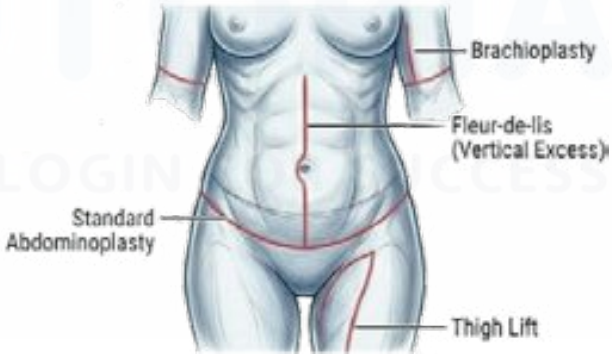
Reduction & Lift

- Reduction: Removes hypertrophy. Preserves NAC on a pedicle.
- Mastopexy: Corrects ptosis from attenuated Cooper's ligaments.

Gynecomastia

- **Florid:** Ductal hyperplasia (Liposuction).
- **Fibrous:** Stroma fibrosis (Excision).

Abdominal & Body Contouring



Abdominoplasty

- Contour procedure, not weight loss.
- **Traditional:** Transverse incision + diastasis plication + umbilical transposition.
- **Fleur-de-lis:** Adds vertical incision for horizontal excess (Massive Weight Loss).

Post-Bariatric Considerations

- **Criteria:** Stableweight (4mo), BMI <30, wait 1.5 years post-surgery.
- **Belt Lipectomy:** Circumferential lower body tissue removal.
- **Brachioplasty:** Excision of medial arm skin ('batwing').
- **Risks:** Highskinnecrosis (smokers), seroma, DVT/PE.

Post-Bariatric Considerations

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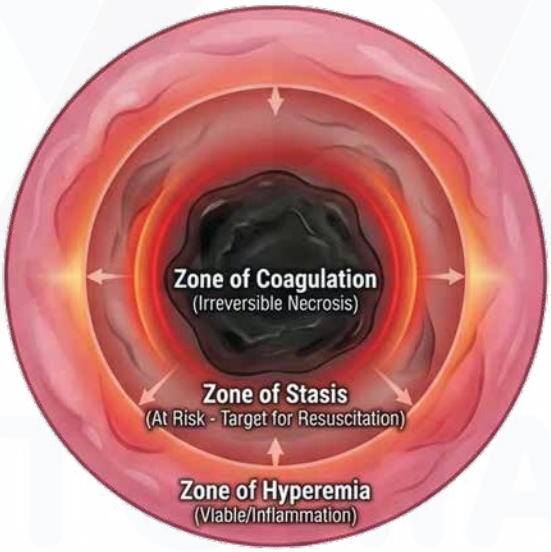
Burns: Pathology & Zones of Injury



Pathophysiology

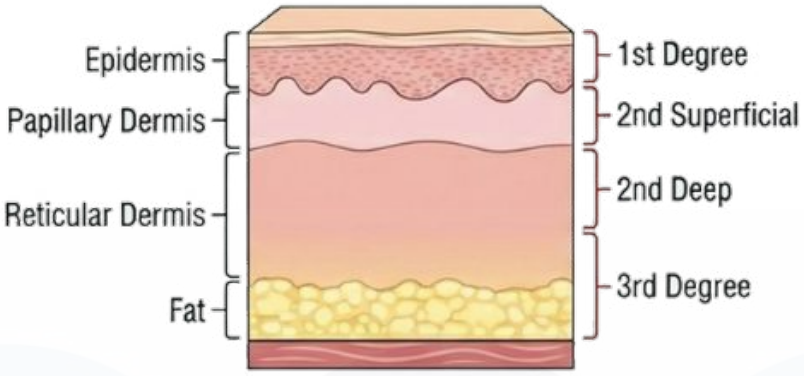
- **Flame/Scald:** Causes Coagulative Necrosis (protein denaturation).
- **Electrical/Chemical:** Causes Liquefactive Necrosis + coagulation.

Jackson's Zones

1. **Zone of Coagulation:** Central necrosis.Irreversible.
2. **Zone of Stasis**: Impaired perfusion. **The Critical Target**. **The Critical Target**.Must resuscitate to prevent conversion to necrosis.
3. **Zone of Hyperemia:** Inflamed but viable tissue.

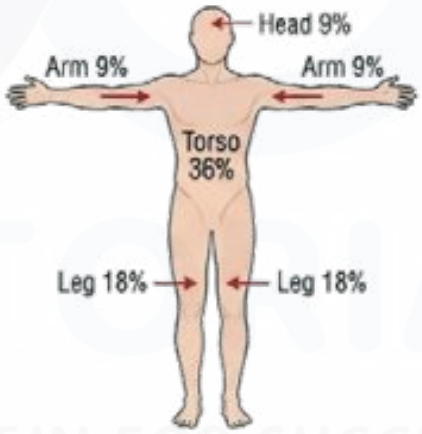
Burn Classification: Depth & Size

Depth Assessment



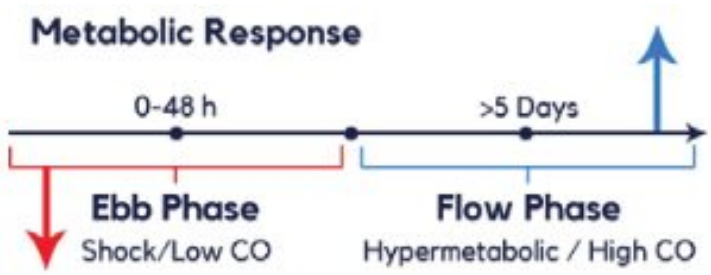
- **Superficial 2nd:** Papillary dermis. Blisters pink/moist, blanches. Heals <14 days.
- **Deep 2nd:** Reticular dermis. Pale/mottled, no blanching. Heals 2-5 weeks (scars).
- **3rd Degree:** Fullthickness. Leathery eschar, insensate. Requires surgery.

TBSA Calculation



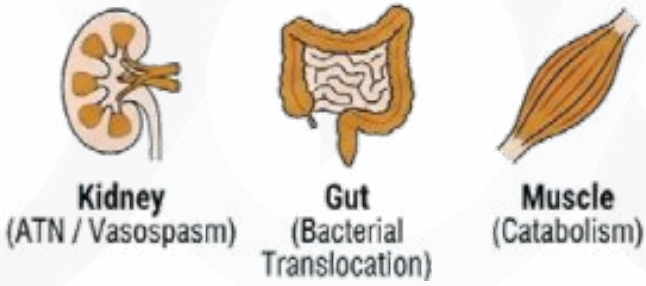
- **Rule of Nines**:Adult standard (Head 9, Arm 9, Leg 18, Trunk 36).
- **Palm Method:** Patient's palm + fingers = 1 % TBSA.
- **Lund-Browder:** Adjusts for age (Most objective).

Metabolic & Systemic Effects



The Response Timeline

- **Ebb Phase (0-48h):** Shock state.↓Cardiac Output, ↓ BMR.
- **Flow Phase:** Massive catecholamine surge. Hyperdynamic (CO 1.5x). Severe catabolism.
- **Prognosis:** Lossof>40% muscle mass= high mortality.



Systemic Impact

- **Renal**:Vasospasm risk Acute Tubular Necrosis.
- **GI**:Mucosal death Permeability Bacterial Translocation (Sepsis source).
- **Immune:** Global depression.

Acute Management & Resuscitation

ImmediateProtocol

- **Stop the Burn:** Cool water (no ice). Cover with clean dry dressing.
- **Pain:** IVMorphine (Avoid IM in shock).
- **Indication:** Fluids for Adults > 15%TBSA; Children > 10%.

Fluid Resuscitation

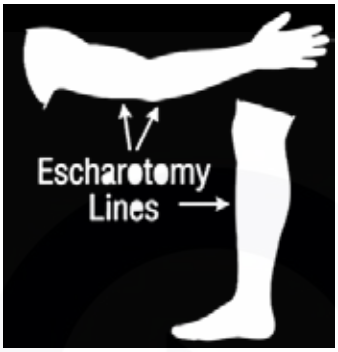
- **Choice:** Ringer's Lactate (RL).
- **Monitoring:** Urine Output is gold standard.
- **Adults:** 0.5-1 ml/kg/hr
- **Children:** 1ml/kg/hr

Complications: Pressure & Airway

Compartment Syndromes

- **Abdominal (ACS):** Pressure >30mmHg compresses veins/lowers CO. Rx: Decompression.
- **Limb Ischemia:** Circumferential deep burns constrict flow(>40mmHg).

Escharotomy



- **Goal:** Release pressure. Incise eschar only until sub-cut tissue pops up.

- **Sites:** Mid-lateral limbs (avoid nerves), subcostal chest (for breathing).

Inhalation & Poisoning

Inhalation Injury Signs
Singednasal hair, carbonaceous sputum, hoarseness.

- **Inhalation:** Edema/Pneumonia risk. Rx: Intubation (low tidal volume).
- **CO Poisoning:** Cherry red blood. Rx: 100°/o 02.

Assessment & Wound Care

Wound Assessment Strategy

Classification Strategy

- **Group A:** Blanches, painful. Heals spontaneously. Rx: Moisture/Antibiotics.
- **Group B:** Fixed, bottle, no blanching, leathery. Rx: **Surgical Excision.**
- **Nikolsky's Sign:** Epidermal separation indicates injury.

Topical Management

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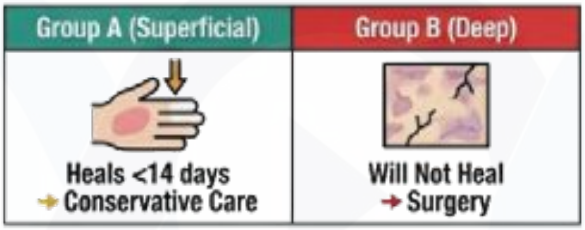


Topical Agents

Agent	Characteristics
	Standard. Does not penetrate eschar. Leukopenia.
Silver Sulfadiazine	Penetrates eschar. Painful. Metabolic Acidosis.
Mafenide Acetate	Biofilms / Pseudomonas.
Dakin's	

- **Silver Sulfadiazine**:Common, but limited penetration.
- **Mafenide:** Usedfordeep burns/eschar penetration (Watch for Acidosis).

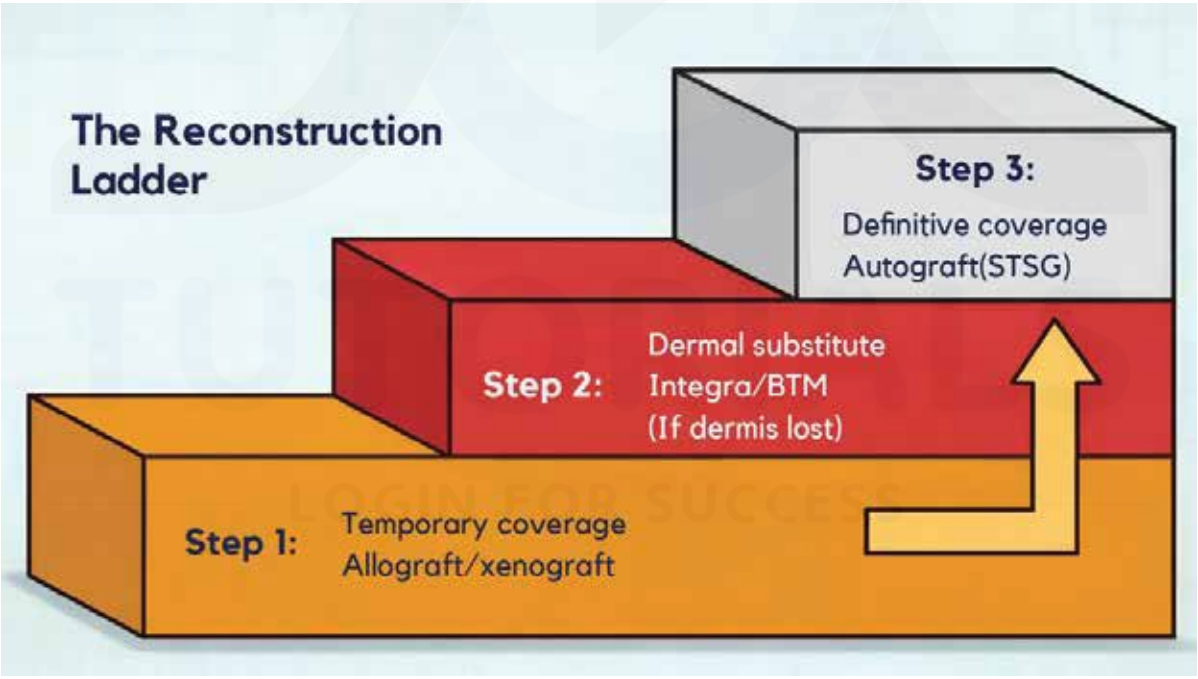
Surgical Excision & Grafting

Excision Principles

- **Tangential Excision:** Sequential shaving until punctate bleeding (viable dermis).
- **Timing:** Excisionoffull-thickness wounds within 48h decreases mortality.
- **Fasciotomy:** Deepexcision for electrical burns/fungal infection.

Coverage Options

- **Split Thickness Skin Graft (STSG):** Gold standard. Often meshed.
- **Allografts** :Temporarycadaverskin.Used in "Sandwich Technique".
- **Dermal Matrices (Integra/BTM):** Scaffolds for neodermis when donor skin is scarce.



Nutrition & Pharmacology

Nutritional Support

- Goal: Counter hypermetabolism and prevent gut atrophy.
- Curreri Formula: 25 kcal/kg +
- 40 kcal/% TBSA.
- Protein: High needs (1-2 g/kg/day).

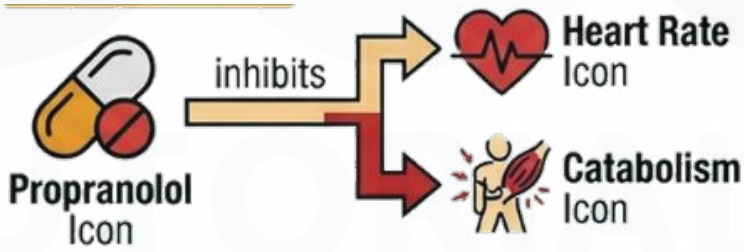
Nutritional Support

Calc Needs (Cureri) (Formula)	**Early** Enteral Feeding	**Monitor** Nitrogen Balance

Pharmacology

- **Propranolol**: Beta-blocker.↓ Heart rate,↓Catabolic activity, ↓Fatty liver.
- **Oxandrolone:** Anabolic steroid to preserve muscle mass.
- **Protocol:** Change catheters every 5 days. Perioperative antibiotics for >30% TBSA

Beta-Blockade



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