

Formation and Revision of the Cicatrix

Herve' LeBoeuf, MD

Karen Calhoun, MD

Tension Lines

- Langer's lines
- Relaxed Skin Tension Lines
 - Unique to each patient
 - Frequently perpendicular to muscle
 - Different from "wrinkle lines"
 - Identified by pinching the skin
- Straith, Kraissl, Bulacio

Wound Healing

- Neovascularization
- Inflammation
- Epithelialization
- Granulation
- Contraction
- Remodeling

Preoperative Management

- Debridement & Irrigation
- Instrumentation
- Anesthesia
- Incision planning
- Patient consultation

Intraoperative Precautions

- Incision placement
- Undermine where necessary
- Meticulous hemostasis
- Dead space obliteration
- ****Dermal closure****
- Suture type & placement
- Anti-tension taping of wound

Postoperative wound care

- Topical emollients for moisture
- Frequent cleaning with H₂O₂
- Early dermabrasion of irregular wounds
- Avoidance of sun, water
- Steroid creams, retinoids, etc.

Goals of scar revision

- Flat scar, level with surrounding skin
- Good color match with local tissue
- Narrow
- Parallel to the patient's RSTL
- Absence of straight, unbroken lines

Scars that may benefit...

- Those interrupting a facial aesthetic unit
- Webbed or pin cushion scars
- Hypertrophied or widened scars
- Those adjacent to a favorable site
- Long scars perpendicular to RSTL
- Aesthetically or functionally distorting

Excisional techniques

- Fusiform excision with or without M-plasty

Rotational flaps

Tissue expanders

- Repositioning of scars
- Partial serial excision of larger scars

Altering scar polarity

- Classic Z-plasty
- Multiple “running” Z-plasties
- W-plasty
- Geometric Broken Line Closure
- Early dermabrasion with the irregular closures and hypertrophied scars

Nonsurgical revisions

- Steroids -- Injectables and creams
- Estriol and tretinoin with iontophoresis
- Silicone gel sheeting and tocopherol
- Ultrapulsed CO2 laser resurfacing
- Injectable fillers: Zyderm, Zyplast, Fibrel, autologous fat, Autologen, Silicone, etc.
- Cosmetics