

# Plastic Surgery Teaching

## Introduction

Scar tissue – type III collagen laid down, remodelled to type I.

Flap – has own blood supply

Skin graft – has to develop blood supply from bed

Relaxed Skin Tension Lines (RSTL) – also known as Langer's lines. Incisions along them cause less scarring than transverse cuts.

Split thickness skin graft heals well, can be larger than full thickness.

Imbibition – oxygen diffusion – in grafts

Inosculation – capillary loops infiltrate graft

## Acute Wound Management

Aim to clean and close within six hours, otherwise delayed closure may be necessary.

Reconstructive ladder:

- Free flap (Last choice)
- Pedicled flap
- Local flap
- Full thickness skin graft
- Split skin graft
- Conservative (First choice if effective)

Specific types:

- Abrasions
  - Epidermal loss due to contact with moving surface
  - Dirt implantation – needs thorough cleaning
- Amputation
  - Fix bone, then nerves and vessels
  - Priorities:
    - Thumb – 40% of hand function
    - Index/middle – 20% each
    - Others – 10% each
  - Shorten bone before replantation – slack in soft tissues
  - Replantation not always best option – part often stiff, cold intolerant
- Blast
  - Need to carefully remove all dirt
- Bites
  - Multiple pathogens
  - Augmentin (+metronidazole for dog bite)
  - Debride and close

- Punch injury – beware of tissue planes moving
  - Deeper injuries, including to bone, may not be visible
  - Explore
- Burst/Crush
  - Consider need for fasciotomy
  - Debride
  - Elevate
- Injection (High pressure)
  - Open, explore, and clean
    - Aggressive surgery
- Lacerations
  - Look for nerve/tendon injuries
    - Digital nerves can be repaired if proximal to DIP joint
  - Consider occupational therapy referral (especially for hands)

### **Breast Reconstruction**

Up to 75% of women immediately after mastectomy – delayed rate unknown. Many motivations, including body shape, clothing to fit, femininity, put cancer behind them, sexually attractive.

Aesthetic goals: Restoration of volume, Shape, Position, Inframammary fold, Ptosis, Contour, Nipple/Areola reconstruction, Minimising scars

#### **Immediate**

Single operation  
Better cosmetic results  
Less psychological morbidity

#### **Delayed**

Recurrence not masked  
Staggered recoveries

Lengthy surgery  
More complications  
Can mask recurrence

Effects of RT  
Cosmesis harder  
Multiple operations  
?More expensive

#### Options

- Implant – silicone, saline, other.
  - Simple, quick, only one scar (no donor site)
  - Smaller breasts, complications, poor ptosis, poor projection to nipple area
- Flap – TRAM (Transversus Rectus Abdominal Myocutaneous) – Gold standard, Latissimus dorsi, Gluteal, Other
  - Best cosmesis, can withstand RT, no artificial materials
  - Major operations, donor site scars and complications

Nipple/Areola reconstruction – typically 3-4 months later. Local flap, skin graft, tattooing.