Skin Grafting and Flaps in Burn wounds

Skin grafting is a surgical procedure where a section of skin (integument) is transferred from a donor site to a recipient site (host bed). The graft survives by developing a new blood supply.

Advantages of Skin Grafting

- Accelerates healing of burns and wounds
- Reduces scar contracture
- Improves cosmetic outcome
- Reduces insensible fluid loss
- Protects against bacterial invasion

Classification of Skin Grafts

Type	Description
Split Thickness Skin Graft (SSG)	Contains epidermis and part of dermis; commonly harvested from thigh or buttocks
Full Thickness Skin Graft (FTSG)	Contains entire dermis; harvested from areas with lax skin allowing primary closure
Composite Graft	Includes whole skin plus some subcutaneous tissue
Autograft (Autogenous graft)	Graft taken and transplanted within the same individual
Allograft (Homograft)	Transplant between genetically different individuals of the same species
Isograft (Syngeneic graft)	Transplant between genetically identical or highly inbred individuals (mostly experimental)
Xenograft (Heterograft)	Transplant between different species

Indications for Skin Grafting

- Tissue loss after excision of scars, tumors, or lesions
- Covering defects after local flap rotation
- Scar revision with poor-quality scars or color mismatch
- Burn reconstruction (primary method)

Choice of graft depends on wound size, location, condition, and aesthetic factors.

Donor Site Selection Factors

- Consider scar visibility and color match
- Prefer hidden donor sites for SSGs (e.g., lateral buttocks)
- For hand/fingertip reconstruction, use upper inner arm

- Avoid donor sites with unwanted hair growth, especially in children
- Avulsed or surgically removed skin can sometimes be used for SSG

Preparation of Wound for Grafting

- Ensure adequate wound bed (vascularized and clean)
- Manage factors impairing healing
- Maintain asepsis

Causes of Graft Failure

Cause	Description & Prevention
Hematoma	Blood accumulation under graft; prevent by good hemostasis, meshed grafts, pressure dressing
Seroma	Fluid collection under graft; reduces graft take
Movement	Shearing disrupts graft-to-bed adherence
Infection	Bacterial count >10?/gm tissue impairs graft take; treat infections before grafting

Flaps

Flaps are sections of tissue transferred from one part of the body to another **with their own blood supply** intact.

Classification of Flaps

1. 1. By Movement
    - **Local flaps:** donor site near the defect; moved directly to cover defect
    - **Distant flaps:** created far from defect and transferred to it
2. 2. By Blood Supply
    - **Random flaps:** blood supply is unknown or diffuse
    - **Axial flaps:** have a known, defined blood vessel supplying the flap
3. 3. By Tissue Composition

Type	Description
Cutaneous flaps	Skin and subcutaneous tissue
Fasciocutaneous flaps	Skin, subcutaneous tissue, and fascia; better viability; requires anatomical knowledge
Muscle flaps	Consist of muscle with its dominant vascular pedicle; more reliable if based on major pedicle
Composite flaps	Contain skin, subcutaneous tissue, muscle, and bone; allow single-stage reconstruction with permanent blood supply

Uses of Flaps

- Coverage of exposed bone, blood vessels, or nerves
- Reconstruction when vascular supply to the area is compromised or insufficient for grafting