PLASTIC SURGERY:
Plastic surgery is defined as repair or reconstruction of lost, injured or deformed parts of the body chiefly by transfer of tissue.

The term plastic concerns molding and reshaping of tissues and comes from the Greek Plasticos (that may be molded).

The tissues are moved or reshaped by two fundamental methods (Grafts and Flaps).

A Graft is a piece of tissue that is moved without its blood supply.

A Flap is a piece of tissue that is moved maintaining its blood supply and is not reliant on the recipient site for its vascularity.

Priorities in reconstruction
With any defect it is important to recognize that the most important priority is to achieve primary healing.

The purpose of reconstructive procedures is to avoid the adverse consequences of healing by second intention in term of delay and poor function.

If one can achieve quiet primary healing and thereby restore the patient to function superior result in terms of appearance will usually result.

Where these aims cannot be achieved by direct closure of a wound a more complex technique is selected from the reconstructive ladder. Planning and selection are central to the practice of plastic surgery.

Priorities in plastic surgery
1-Healing
2-Function
3-Cosmetic

SKIN GRAFT:
Free grafts are tissues which are completely detached from the body before it is transplanted to other host bed.

DONOR AREA

Recipient Area.
Free grafts commonly used in plastic surgery are:
1-Skin graft
2-Fat graft
3-Bone graft
4-Cartilage graft
5-Tendon graft
6-Nerve graft
7-Composite graft

**SKIN GRAFT:**

Skin graft consists of epidermis and variable thickness of dermis

**Types of skin graft:**

1- Depending on the donor:
   - Autograft
   - Allograft (Homograft)
   - Xenograft
   - Isograft.

2- Depending on the thickness of the dermis:
   A- Split thickness skin graft
      = Thin
      = Intermediate thickness
      = Thick
   B- Full thickness skin graft

**INDICATIONS OF SKIN GRAFT:**

1- Skin loss:
   - Post-traumatic
   - Post surgical
   - Pathological process e.g. venous ulcer
   - Extensive burn

2- Mucosal loss:
   - After excision of leukopakic patch in oral cavity
   - Vaginal a genesis

**Contraindications:**

1- Avascular recipient areas:
   - Cortical bone without periosteum
   - Cartilage without perichondrium
   - Tendon without paratenon

**BRIDGING PHENOMENON**

2- Infection:
   a- Heavily infected wound with copious discharge (100 000 bact./gram of tissue).
b- Infection by Beta haemolytic streptococcus

**Causes of skin graft failure:**
1. Haematoma (Most common)
2. Inadequate graft fixation; too tight or too loose.
3. Misjudgment of vascularity (poor bed)
4. Bacterial contamination (infection)
5. Technical error upside down graft
6. Dependent position of lower extremity

**Clinical differences between healthy and unhealthy granulation tissue**

<table>
<thead>
<tr>
<th></th>
<th>Healthy granulation</th>
<th>Unhealthy granulation</th>
</tr>
</thead>
<tbody>
<tr>
<td>1- Slough</td>
<td>absent</td>
<td>Present</td>
</tr>
<tr>
<td>2- Discharge</td>
<td>Minimal, mainly serous</td>
<td>Copious serosanguinous or Purulent</td>
</tr>
<tr>
<td>3- Color</td>
<td>Pink or red</td>
<td>Yellowish red</td>
</tr>
<tr>
<td>4- Surface</td>
<td>Granular</td>
<td>Glazed, slimy</td>
</tr>
<tr>
<td>5- Marginal epithelium</td>
<td>Healthy and grows towards centre</td>
<td>Unhealthy and does not grow towards centre</td>
</tr>
<tr>
<td>6- Skin grafting</td>
<td>Support skin grafting</td>
<td>cannot support skin grafting</td>
</tr>
<tr>
<td>7- Odor</td>
<td>no bad odor</td>
<td>Bad odor</td>
</tr>
</tbody>
</table>

**Process of take:**
The process of revascularization and reattachment (fibrin anchorage) of skin graft to the recipient area is called **TAKE** of the graft.

**Factors influencing take of the graft:**
Various factors which influence the take of the graft are:

1- Graft factors:
   a- Thickness of the graft:
   b- Vascularity of donor area:
   c- Delay in application of harvested graft:
   d- Meshing.

2- Graft bed factors: are
   a- Vascularity
   b- Infection:
   c- Necrotic tissue:
   d- Irradiated graft bed:
3- Environmental factors:
   a- Close contact: between graft and recipient bed
   b- Immobile contact: Any shearing force break the vascular link up.
   c- Inadequate venous and lymphatic drainage:

4- Immunogenic factors:
   Allograft and Xenograft induces a rejection reaction.

**Sheet grafts:**
provide a superior aesthetic benefit and should always be used on the face and hands.
(joints, hand, face)

**Meshed grafts:**
Advantages:
1. larger area
2. contours irregular surface
3. drain blood and exudates
4. increase edges___________re-epithelialization

Disadvantages:
1. much of wound heals 2*________contracture
2. cobblestone appearance

**Differences between split skin graft and full thickness skin graft**

<table>
<thead>
<tr>
<th>Full thickness graft</th>
<th>Split skin graft</th>
</tr>
</thead>
<tbody>
<tr>
<td>1-Consists of epidermis and Full thickness of dermis</td>
<td>Thickness consists of epidermis and variable thickness of dermis</td>
</tr>
<tr>
<td>2-Instruments: Slide 31 (electric dermatome and humbey’s knife)</td>
<td>Slide 31 (electric dermatome and humbey’s knife)</td>
</tr>
<tr>
<td>3-Donor areas: Slide 13 (see image above)</td>
<td>Slide 13 (see image above)</td>
</tr>
<tr>
<td>4-Donor area healing</td>
<td></td>
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<tr>
<td>5-Recipient area:</td>
<td></td>
</tr>
<tr>
<td>6-Graft contraction</td>
<td></td>
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<td>7-Colour change</td>
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<td>8-Resistance to trauma:</td>
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<tr>
<td>9-Hair growth</td>
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</tbody>
</table>

[See the slideshow for the images it contains.]