

WOUND HEALING:

- Wound Healing can be Accomplished in one of the following two ways:
- Healing by 1st intention (primary union)
 - Healing by second intention (secondary union)

HEALING BY FIRST INTENTION (PRIMARY UNION)

defined as the healing of a wound which has the following characteristics:

- (i) clean & uninfected
- (ii) without much loss of cell & tissue of
- (iii) surgically incised
- (iv) edges of wound are approximated by surgical sutures.

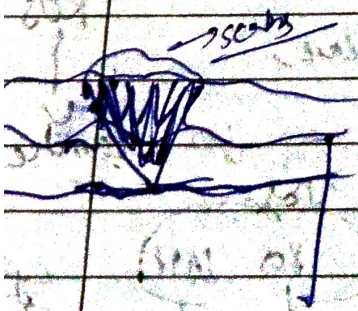
EVENTS:

1) Initial haemorrhage → immediately after injury in the space b/w the incised wound is filled with blood which the clots & seals against infection.

2) Acute inflammatory Response → occurs within 24 hours with appearance of polymorphs in the margin of infection.

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By 3rd day polymorphs are replaced by macrophages

3) Epithelial changes → As well approximated wound is covered by epithelial ingrowths in the dermis.



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Form scabs which is cast off.

The basal cell continue to divide

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By 5th day new epidermis is formed.

4) Organisation → By 3rd fibroblast also invade.

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5th day collagen start dominating in healing.

- 5) Suture & braces → filling the space with haemorrhage, some inflammatory cell reaction, epithelial cell proliferation along the suture track or fibroblast proliferation & formation of Young collagen.

2nd INTENTION: ← Scar

- (i) open with a large tissue defect
 - (ii) having extensive loss of all of tissues.
 - (iii) The wound is not surgically approximated - left open.
- slow & Result is large scar.

EVENT:

- 1) Initial haemorrhage → The wound space is filled with blood & fibrin clot which dries.
- 2) Inflammatory phase → macrophage consume debris (more cells than 1°)
- 3) Epithelial changes → epithelial spreads till they meet in the middle & Reepithelization. The gap completely is the dermis.
↓
sub formed & cast off → epidermis.
- 4) Granulation tissue: Histhe. main bulk - Granulation s.
↳ It is formed by proliferation of fibroblast & neovascularisation from the Arteries viable elements.
It deep Red granular.
with time they become pale due to their collagen.
- 5) wound contraction: imp feature of secondary healing (only seen here)
Due to Action of myofibroblasts, which contract cells to $\frac{1}{3}$ and to $\frac{1}{4}$ of its original size.
- 6) Presence of infection → Bc contamination of an open wound delays the process of healing due to Release of toxin.

COMPLICATIONS:

- Infection
- Displacement cyst → due to growth of epithelial cell in new wound
- Pigmentation
- Scar formation
- Keloid formation
- keloid formation → At times the scar formed is excessive / ugly & painful. Excessive formation of collagen in healing may result in keloid (claw hand like formation)

