

WOUNDS

Trauma to any of the tissues of the body
,especially that caused by physical means
and with interruption of continuity

A surgical incision

Classification of wound

Tidy wound

Incised

Healthy tissues

Seldom tissue loss

rare fracture

Untidy wound

Crushed or avulsed Clean

Contaminated

Devitalised tissues

Often tissue loss

fracture common

TIDY & UNTIDY TYPES

TIDY WOUND – PRIMARY SUTURING



UNTIDY WOUND—SUTURING AFTER
EXCISION&CLEANING



Types of wound according to mode of damage

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Incised wounds

Abrasions •

Crush injuries •

Degloving injury •

† Gunshot wounds •

Burns •

Incised Wound

Caused by a sharp instrument •

Common causes are knives and •
glass

Lacerated wound : associated •
with tissue tearing

Incised wound



Abrasion

Damage to the body surface resulting from •
friction

Characterized by superficial bruising and •
loss of varying thickness of skin and underlying
tissue

Dirt and foreign bodies are frequently •
embedded in the tissues



Crush Injuries

- Due to severe pressure
- Massive tissue destruction although the skin is not breached
- Often accompanied by degloving and compartment syndrome



Degloving Injury

Result from shearing forces that causes •
parallel tissue planes to move against each
other

I.e a hand caught in rollers or moving •
machinery

Large areas of apparently intact skin may be •
deprived of blood supply because rupture of
feeding vessel

Degloving injury



Gunshot wound

Low velocity (shotguns)
or high velocity
(military rifles)
cause massive tissue
destructions after skin
penetration

Gun shot injury



Haematoma and contusion

Others

Bites •

† Puncture wounds or avulsions •

Small animal bites •

† children •

Human bites •

† ear, tips of nose and lower lip injuries •

Bites wounds highly virulent •

Puncture wounds •

Sharp objects i.e needle stick injuries •

Wound Healing

Restoration of integrity to •
injured tissues by replacement of
dead tissue with viable tissue

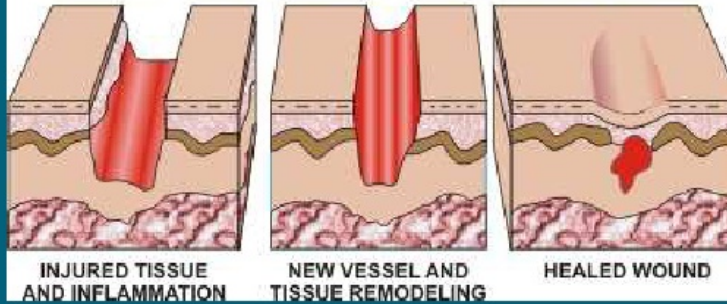
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Factors influencing wound healing

- Site of the wound
- Structures involved
- Mechanism of wounding
- Contamination
- Loss of tissue
- Other local factors
- Vascular insufficiency ,previous radiation, pressure
- systemic factors malnutrition or vitamin and minarals
- Diseases (diabetes mellitus)

- Immune deficiency
- Medication (steroid)
- Immune deficiency (chemotherapy ,AIDS)
- Smoking

Natural Phases of Wound Healing



Phases of Wound Healing

- Lag phase (2-3 days) •
- Inflammatory response •
- Incremental/Proliferative phase (3 months) •
 - Fibroblast migration •
 - Capillary in growth (granulation tissue) •
 - Collagen synthesis with rapid gain in tensile strength •
 - Wound contraction •
- Plateau/Maturation phase (6 months) •
 - Organization of scar •
 - Slow final gain in tensile strength (80% or original strength) •

Lag Phase

inflammatory phase

- Characterized by inflammatory response
- Capillary permeability increase
- protein rich exudate accumulates
- Collagen synthesized
- inflammatory cells migration to the area
- dead tissue removed by macrophages
- capillaries at the wound edges begin to proliferate

Proliferative Phase

- Progressive collagen synthesis by fibroblast •
- increase in tensile strength •
- Increased collagen turnover in areas remote from •
the wound
- systemic stimulus for fibroblastic activity •
- Collagen synthesis increase in 3 weeks •
- gain in tensile strength accelerates •
- Old collagen undergoes lysis •
- new collagen laid down •

Maturation phase

- Gain in tensile strength levels off •
- Excess collagen removed during process •
- Number of fibroblasts and inflammatory cells • declines
- Orientation of collagen fibrin the direction of local • mechanical forces
- increase tensile strength for 6 months •
- Skin & fascia recover only 80% of their original • strength

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Classification of Wound Healing

Primary Intention •

Secondary Intention •

Tertiary Intention •

Primary intension

Primary Intention

Most surgical wounds

Wound edges opposed

directly next to one another and

little tissue loss

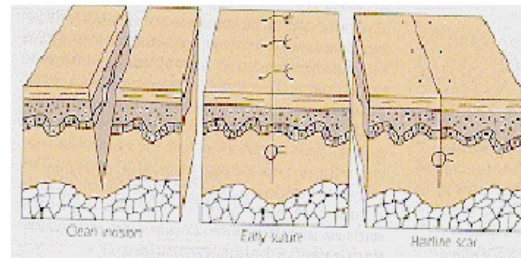
Normal healing

Minimal scarring occurs

Wound closure

sutures, staples, or adhesive

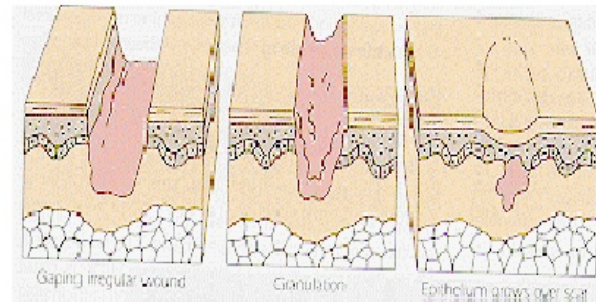
Primary intension



Secondary Intention

- Wound left open
- heals by granulation, contraction and epithelialisation
- Results in a broader & poorer scar
- Wound may pack with gauze or use drainage system
- Wound care must be performed daily to encourage wound debris removal to allow for granulation tissue formation

Secondary intention



Tertiary Intention

Also called delayed primary intention •

Wound initially left open •

edges opposed later when healing conditions •
favourable

For wound in which primary intention was •

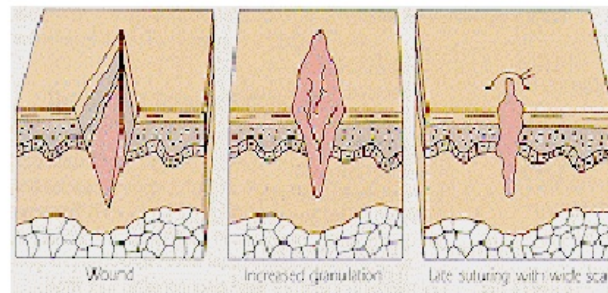
.preferred but not possible due to contamination

Delay in primary closure to allow clear infection, •

.wound contracture and create granulation base

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Tertiary intension



Thank you

