Scrapes, Cuts, & Punctures- Wound Healing

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AUDUBON CENTER FOR BIRDS OF PREY

How wounds occur

- Physical injury to skin
- Sharp impact
  - Abrasions & Lacerations
- Penetrating impact
  - Bites or Gunshots
- Infection
- Pressure
- Tissue breakdown
- Stricture

Wound Management

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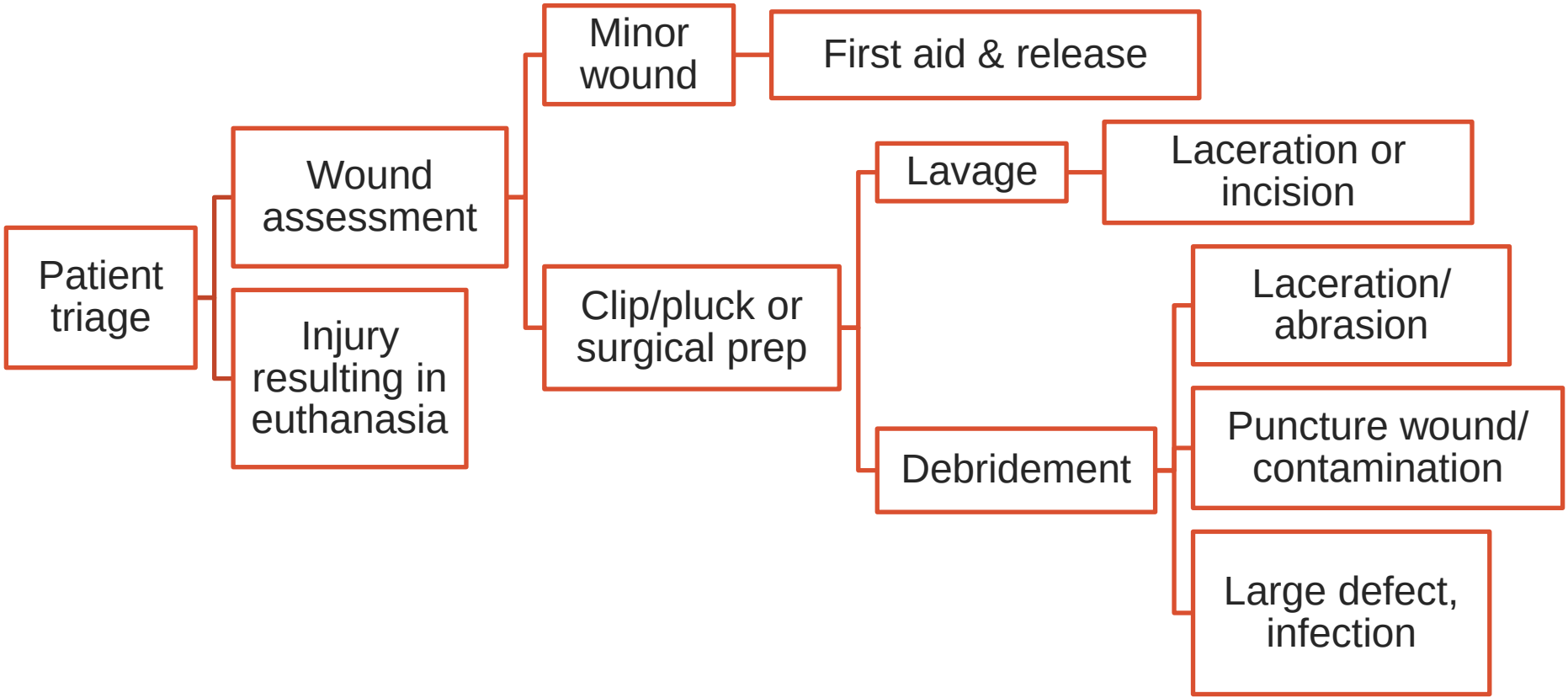

Assessing the wound

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Underlying cause

- Gunshot
- Hit by car
- Bite
- Electrocution

- Also, asses' issues that could cause delay in overall healing

Assessing the wound

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Size & Location

- Large, deep wounds could become:
- Infected
- Become dry
- Have nerve or vessel damage
- Watch area over joint
  - Can have pressure or tension

Assessing the wound

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Depth

- Superficial
- Abrasions
- Partial thickness
- Lacerations
- Full thickness
- Exposed muscle, degloving
- Deep
- Punctures into muscle

Assessing the wound- Age

- **Acute**
  - Recent, fresh edges

- **Chronic**
  - Dry tissue, older or not healing, infected

Assessing the wound

- Color
  - Black
  - Necrotic tissue
- Yellow(ish)
  - Moist necrotic tissue, puss drainage
- Red
  - Bleeding or granulation
- Green

Assessing the wound

- Tissue Viability
- Will vary with overall condition of animal
- Understand how skin needs to move when healed to assess how wound will need to heal

Stages of Healing= How the body reacts

Healing starts immediately after initial insult or injury

- Hemostasis
- Inflammation-debridement
- Proliferation- repair
- Maturation- contraction

Hemostasis – all but last step <1hr

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- Bleeding
- platelets control bleeding
- cells and fluid to the wound
- “provisional extracellular matrix” (clot)
- barrier forms against infection
- Clot dries and forms a scab

Inflammation- hours to weeks

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- Vessels more permeable: WBCs & Fibrin, attracts neutrophils
- Neutrophils eat bacteria and debris
- Dying neutrophils, form pus attracting monocytes
- Monocytes breakdown dead tissue
- Acute inflammation subsides
- Vascular permeability is restored
- Cell movement decreases, clot dries and forms scab

Inflammation- hours to weeks

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- VESSELS PERMEABLE: WBCS & FIBRIN ENTER
- FIBRIN TO FIBRINOGEN ATTRACTING NEUTROPHILS
- NEUTROPHILS EAT BACTERIA
- DYING NEUTROPHILS & DEBRIS FORM PUS
- MONOCYTES BREAKDOWN DEAD TISSUE

Proliferation – Days to weeks

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- Fibroblasts arrive
- Granulation tissue forms a matrix for migration of epithelial cells
- Fibroblasts produce collagen & strengthens wound bed
- Fibroblasts undergo cell death and granulation ceases