



• Wounds are seen on a day-to-day basis in small animal practice. There are many options for dressing types and wound management. This lecture will go through some of the options and indications for their use by providing case examples in an interactive format with i-clickers. This will provide attendees with a good foundation of knowledge in this area.

• Wound healing is a complex processes. It is important to understand the healing process when managing patients so we are able to assess change over time, and to select appropriate therapies as the healing progresses. Critical assessment of the wound site is important in determining when the treatment protocols should be changed.

Structure

- Common wound types
- Management of open wounds
- Dressing the wound (primary contact layer)
 - Basics of wet-to-dry
 - Hyperosmolar Dressings
 - Sugar
 - Hypertonic saline (20%)
 - Honey
 - Hydrophilic (Moisture-Retentive) Dressings
 - Calcium alginate
 - Hydrocolloid dressings
 - Hydrogels

Common Open Wound Types

- Dog bite wounds
- Punctures
- Lacerations
- Abrasions
- Traumatic wounds

Management of Open Wounds

- Close primarily
 - Sustained recently
 - Appears clean
 - Minimal bruising
- Delayed primary closure
 - Contaminated
 - Infected
 - Tissue appears traumatized or necrotic
- Second intention
 - Not sufficient skin for closure

Dressing the Wound

- Primary (Contact) Layer:
 - Wet-to-Dry
 - Hyperosmolar dressings
 - Hydrophilic (Moisture-Retentive) dressings

Wet-to-Dry

- Early wound management
- Nonselective mechanical debridement
- Contact layer (sterile gauze soaked in saline, LRS, or 0.05% chlorhexidine diacetate solution)
- Secondary layer of dry gauze
- Should not be applied to healthy granulation tissue
- Bandage changed daily
- Sedation and analgesics may be needed

Hyperosmolar Dressings

- Sugar
- Hypertonic saline (20%)
- Honey

- Draw exudate, antimicrobial effects
- Indications: Inflammatory stage, infected wounds, edematous wounds

Sugar

- Indicated: Open wounds, contaminated
- Advantages: rapid antibacterial action, enhanced tissue formation, accelerated wound healing, mechanically debrides, inexpensive

Dressing Technique- Sugar

- Lavage +/- surgically debride necrotic tissue
- Granulated sugar is poured into the wound (at least 1 cm thick)
- Secondary layer- sterile absorbent pads, lap sponges, or gauze
- Bandage changed daily
- Discontinue once a healthy granulation bed has formed

Hypertonic Saline (20% NaCl)

- Osmotic effect draws fluid from wound into dressing
- Decreases interstitial edema → increases perfusion
- Desiccates bacteria
- Indications: Infected, necrotic, contaminated wounds
- Nonselective mechanical debridement
- Bandage changed daily

Honey

- Advantages: Anti-bacterial, debridement, enhance granulation tissue formation and epithelialization. Easier to use than sugar
- Method of action: Production of hydrogen peroxide, stimulates angiogenesis. Low pH accelerates wound healing and enhances antimicrobial effects
- Indications: Open wounds, contaminated, infected, burns
- Bandage changed daily
- MUST USE UNPASTURIZED
- Manuka honey preferred

Dressing Technique- Honey

- Place honey directly into wound, gauze, ADAPTIC®
- Secondary layer- sterile gauze, lap sponges
- Discontinue treatment with healthy granulation bed present

Hydrophilic (Moisture-Retentive) Dressings

- Principles of moist wound therapy is to create and maintain optimal moist conditions so that cells can grow, divide and migrate at an increased rate to optimize the formation of new tissue.
 - Calcium alginate
 - Hydrocolloids
 - Hydrogels

Calcium Alginates

- Derived from seaweed
- Indicated for highly exudative wounds
- Stimulate the inflammatory cascade, release of endogenous growth factors, formation of granulation tissue
- Bandage may stay in place 3-5 days
- Secondary layer: vapor permeable polyurethane film, absorptive dressing
- Not for contaminated, infected, necrotic wounds

Hydrocolloids

- Polyurethane foam
- Indicated for moderately exudative wounds, with healthy, mature granulation beds
- To promote epithelialization
- May stay on for several days

Hydrogels

- Indicated for dry to minimally exudative wounds
- Covers and traps moisture on wound surface
- Facilitate autolytic debridement, good for eschars
- Must conform to shape of wound bed
- May be left in place for several days
