

Bandaging Techniques

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1



Bandage Function

- To facilitate wound healing
 - Wound debridement
 - Application of pressure to reduce hemorrhage, dead space or edema
- Support or Protect deeper body parts
 - Reduction of pain
 - Immobilization



Wound Dressing Material

- Three Layers to a Bandage
 - Contact (Primary) Layer
 - Adherent bandage for inflammatory stage of healing
 - Non-Adherent for repair stage
 - Intermediate (Secondary) Layer
 - Bulky for absorbency and padding
 - Outer (Tertiary) Layer
 - Holding strength



Contact Layer-Adherent

● Adherent Materials

- Wide mesh openings
- Entraps necrotic tissue and foreign material
- Exudates penetrates dressing, dries and is removed when bandage changes
- For incomplete surgical debridement
- Dry-to-Dry or Wet-to-Dry



Dry-to-Dry

- Dry material to wound, covered by absorbent middle layer and porous outer
- Stays in place until contact and intermediate layers have absorbed fluid
- Removal of bandage also removes necrotic tissue
- Changed as needed (twice daily to every few days)



Wet-to-Dry

- Wide-mesh gauze, wetted in sterile saline or 1:40 dilution chlorhexidene
 - Wetting solution dilutes exudates
- Intermediate layer is dry and absorbent
- Outer layer porous
- As bandage dries, exudates removed



Advantages/Disadvantages

● Advantages

- Debridement of contaminated or infected wounds

● Disadvantages

- Painful to remove and may remove viable cells
- Desiccation or too wet destroys healthy tissue
- Outer layer gets wet= bacteria enters wound



Non-Adhesive Layer

- Semi-occlusive because they retain moisture and promote re-epithelialization
- For use during repair stage
 - Granulation tissue is formed
- Examples: Telfa pads, Adaptic bandage



Technique

- Three layers as before
- Remain in place for 2-3 days
- Check for wound seepage at edges



Advantages/Disadvantages

● Advantages

- Bandage removal does not interfere with wound healing
- Some non-adherent bandages pre-loaded with antibiotics

● Disadvantages

- Some wounds heal slower due to lack of oxygenation



Non-Adherent Occlusive

- Hydrocolloids- gel in contact with wound
- Help maintain hydration of wound
- Fairly expensive for routine wound care
- Left in place 2-3 days
- Repair stage of healing



Intermediate Layer

- Primarily absorptive
 - Absorption helps draw bacteria away from wound
- Protective padding
- Retards movement



Outer Layer

- Serves to hold other layers in place
- Should be porous to allow evaporation
- Applied by rolling material, NOT stretching
- On draining wounds, changed daily
- Porosity of layer can also allow water and infection to enter bandage



Principles

- A well padded bandage is almost always comfortable to wearer
- External splint depends on compressive and tensile properties of soft tissue for healing
- Fracture reduction and alignment
- Joint above and below immobilized



Protection/Support Bandages

- Secondary and tertiary layers have added importance
- Controlled, even pressure by applying elastic gauze and tape layers over padded intermediate layer
- With/without splint material



External Coaptation

- Uses of External Fixation
 - Temporary support or first aid
 - Secondary support after surgery
 - Primary support and stabilization for selected fractures
- Proper knowledge of wound and fracture biology helpful



Avian Bandaging

Feet

- Ball Bandage
- Interdigitating Bandage

Lower leg

- Robert Jones

Wing

- Figure of 8



Ball Bandage

- Treatments of plantar surface or tarsal joint injury
- Minimize weight bearing pressure
- Technique
 - Stack of gauze to separate toes and lift foot
 - Wrap with elastic gauze (Vet Wrap)



Interdigitating Bandage

- Protects plantar surface
- Allows toes to move/Animal to perch
- Does NOT immobilize toes or tarsus



Robert Jones Bandage

- Best for stabilization at or below the stifle or elbow joints
- Bulk and mild compression provide support for minimally displaced fractures
- From toes to mid-humerus or mid-femur



Technique

- Tape stirrups placed on lateral and medial from above carpus/tarsus to mid-radius/ulna or mid-tibia
- Cotton padding added starting at toes, overlapping by 50% on each revolution, 2-3 layers
- Elastic gauze applied with loose even pressure



Complications

- Too tight- vascular compromise and necrosis
 - Leave toes visible for swelling
- Too loose- non-healing fractures due to movement
 - Able to slip fingers into bandage, snug.
- Wet bandage
 - Acute moist dermatitis




Figure-of-8 Bandage

● Indications

- Wing fractures distal to the elbow
- Elbow or carpal luxations
- Soft tissue injuries requiring immobilization

● Examples

- Closed well-aligned ulna/radial fractures
- Fractures close to joint (non-surgical)
- Non-releasable birds



Technique

- Start on outside of carpus-
cranio ventral direction
- Keep light weight
- Too tight- the secondary
and primaries feathers
criss-cross, are not parallel
- (A body wrap can be
incorporated for humeral
fracture)- prognosis poor