

Orthopedic Bandaging

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Bandaging

Function

- Immobilization and Support
- Restriction of Use
- Prevention or Inhibition of Swelling
- Protection from Contamination
- Prevention of Self Mutilation

Bandaging

- **Step 1**
Define the Function of the Bandage
- **Step 2**
Apply the Appropriate Bandage
- **Step 3**
Properly Manage the Bandage



Bandaging

- **Cover the Wound**
Nonadherent Pad
Wet-to-Dry Dressing



Bandaging

- **“If You Do No Good
- Do No Harm”**



Bandaging

- **Avoid Bandages that
Encircle a Small
Section of A Leg**



Bandaging

- Start Bandage Material at the Toes and Work Towards the Trunk



Bandaging

- Overlap the Bandage Material 50%



Bandaging

- Apply the Bandage Material to the Leg with the Leg in the Position that You Intend to Leave the Leg In



Bandaging

- Leave the Tip of the Toes Visible to Allow Inspection for Swelling of the Toes



Bandaging

- Keep the Bandage Dry and Clean

Bandaging is an Art



Robert Jones Bandage

Indications

- Temporary Fracture or Luxation Support - Below Elbow or Stifle
- Prevent or Reduce Swelling
- Soft Tissue Wound Support

Robert Jones Bandage

- Apply Stirrups to Foot
- Stirrups Help Hold Bandages in Place



Robert Jones Bandage

- Roll Cotton
- Divide into One-Half or One-Third
- Can Use Cast Padding for Smaller Animals



Robert Jones Bandage

- Use Generous Amount of Cotton
- Apply Evenly so Bandage Has Stove Pipe Appearance



Robert Jones Bandage

- Apply Elastic Gauze as Tightly As Possible
- Apply Elastic Gauze with Even Pressure



Robert Jones Bandage

- Apply Outer Tape Covering
- Apply Tape Tightly



Soft Padded Bandage

Soft Padded Bandage - Indications

- Support Limb Below Stifle or Elbow After Surgery
- Reduce or Prevent Swelling of a Limb
- Incorporate Under Splint for Limb Immobilization
- Protect Open or Closed Wounds

Soft Padded Bandage - Materials Needed for Application

- 1" Medical Tape
- Cast Padding or Roll Cotton
- Elastic Gauze
- Elastic Tape



Soft Padded Bandage - Application

- Apply Stirrups
- Apply Cast Padding Starting at Toes and Going Up the Leg as Far as Needed
- Apply Additional Layers Until Desired Thickness Reached



Soft Padded Bandage - Application

- Apply Elastic Gauze Snuggly Starting at Toes. Do Not Go Beyond Cast Padding
- Apply Outer Tape Layer



Splints

Splints

- Fracture Stabilization - Below Elbow or Stifle
- Joint Stabilization - Below Elbow or Stifle
- Support Tendon or Ligament Repairs

Splint Material

- Fiberglass Casting Tape
- Hexalite
- Aluminum Rod
- Thermal Moldable Plastics
- Others - Preformed Plastic

Splint Material

- Fiberglass Casting Tape
- Hexalite



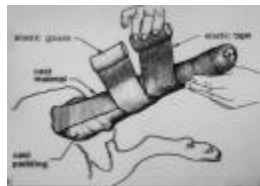
Splint Material

- Aluminum Rod
- Preformed Plastics - "Spoon Splints"



Splint Application

- Position the Limb in a Functional Position
- Apply a Soft Padded Bandage
- Conform the Splint Material to the Limb
- Incorporate the Splint Material into a Soft Padded Bandage



Splint Application

- Conform the Splint Material to the Limb and Attach with Elastic Gauze
- Apply Outer Elastic Tape Layer



Spicca Splint

- Used to Immobilize Elbow, Stifle, Shoulder and Hip
- Incorporates Trunk of Patient into the Bandage



Spicca Splints



Ehmer Sling

Ehmer Sling

Indications:

- Prevent Weight-Bearing of Rear Leg
- After Closed or Open Reduction of Hip Luxations
- After Repair of Pelvic Fractures

Ehmer Sling - Application

- Materials - Tape and Cast Padding
- Apply To Leg in Figure-8 Fashion



Ehmer Sling - Application



Ehmer Sling - Application

- Apply Tape from Metatarsus to Belly Band so that the Leg is Abducted and Internally Rotated



Ehmer Sling

Owner Management

- Check Toes for Swelling and Warmth
- Watch for Tape Cutting or Irritating the Skin
- Restricted Activity until Sling Removed

90-90 Sling

- Prevent Stifle Stiffness After Repair of Salter Harris Type I and II Fractures
- Maintains Stifle and Hock at 90 Degree Angles
- Change Every 2-3 Days and Evaluate Stifle ROM



Robinson Sling

Indications

- Prevent Weight-Bearing of Rear Leg After Joint Surgery or Fracture Repair

Robinson Sling - Application

- Apply Metatarsal Pad and Belly Band

- Measure Out Length of Tape 4 Times Distance from Foot to Spine



Robinson Sling - Application

- Attach Midpoint of Tape to Metatarsus

- Attach Ends of Tape to Belly Band with Foot Off of the Ground



Casting Techniques

General Considerations

- To Stabilize a Fracture, The Joint Above and Below the Fracture Must Be Immobilized
- Only Fractures Below the Stifle and elbow Can Be Properly Stabilized with a Cast



Casts - Indications

- Greenstick or Minimally Displaced Fractures
- Complete Fractures that Can Be Closed Reduced
- To Supplement Internal Fixation (Arthrodesis)
- Stabilization of a Joint After Luxation or Tendon and Ligament Repair

Casts - Contraindications

- Open Wounds
- Soft Tissue Swelling
- Fractures Above Elbow or Stifle
- Chondrodystrophic Breeds
- Non-Compliant Owners
- Uncontrollable Animals
- Comminuted or Long Oblique Fractures

Casts - Fracture Reduction

- At Least 50% Overlap of the Fracture Ends Should Be Achieved
- Closed Reduction Should Be Used to Align the Fracture Ends
- Transverse and Simple Fractures that Interdigitate



Casts - Limb Condition

- Wait to Cast the Leg until the Edema and Swelling is Gone
- The Limb Should Be Dry and Clean
- Mats of Hair and Debris Should Be Removed Along with Excess Hair Length



Casting Materials

- Medical Tape
- Stockinette
- Cast Padding
- Casting Tape



Casting Tape

- Fiberglass
- Plaster of Paris

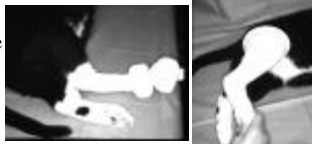


Cast Application

- Apply Stirrups



- Apply Stockinette



Cast Application

- Apply Cast Padding
Starting from the Toes
and Overlapping 50%
- Apply Cast Padding
Snugly
- Apply 2-4 Layers
Over the Leg and at
Least 6 Layers Over
Pressure Points



Cast Application - Casting Tape

- Submerge in Room
Temperature Water
and Do Not Squeeze
the Excess Out
- Start at the Base of
Nails 3 & 4 and Work
Up the Limb



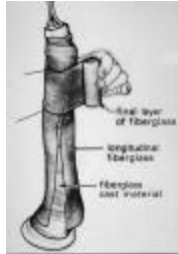
Cast Application - Casting Tape

- Apply Casting Tape
Snuggly While
Overlapping the
Casting Tape 50%
- Incorporate the
Stockinette and
Stirrups in the Last
Layer of Casting Tape



Cast Application - Casting Tape

- Fiberglass Casting Tape - Apply 4-6 Layers
- Plaster of Paris - Apply 6-8 Layers
- Allow to Set Before Weight Bearing
- Setting Time
- Curing Time



Cast Application - Casting Tape

- Wellington Boot Effect
- Avoid too Much Cast Padding



Cast Complications

- Pressure Sores
- Rub Sores
- Dermatitis
- Swelling and Circulation Compromise
- Broken Casts
- Joint Stiffness and Muscle Atrophy



Cast Care - Owner Instructions

- Enforce Restricted Activity - No Running, Jumping, Playing
- Leash Activity When Outside
- Keep Animal in a Warm Dry Environment
- Keep Cast Dry and Clean - Place an Empty IV Bag or Plastic Bag Over Foot When Outside if Wet Conditions are Present



Cast Care - Owners Instructions

- Check the Toes at Twice a Day
- Check for Swelling by Looking at the 2 Center Toes. If Swelling is Present the Toes Will Spread Apart
- If Swelling is Present, The Patient Should Be Examined as Soon as Possible
- Check for Odor from the Cast

Cast Care

- Recheck the Patient in 1 Week and Every 2-3 Weeks Thereafter
- Young Animals Should Be Checked Every 5-7 Days if Actively Growing
- Xray Every 3-4 Weeks Until Healed

