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
Robert Jones Bandage

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

**Application Steps**
- Apply Stirrups to Foot
- Stirrups Help Hold Bandages in Place
- Roll Cotton
- Divide into One-Half or One-Third
- Can Use Cast Padding for Smaller Animals
- Use Generous Amount of Cotton
- Apply Evenly so Bandage Has Stove Pipe Appearance
- Apply Elastic Gauze as Tightly As Possible
- Apply Elastic Gauze with Even Pressure
- Apply Outer Tape Covering
- Apply Tape Tightly
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

Materials Needed for Application
- 1" Medical Tape
- Cast Padding or Roll Cotton
- Elastic Gauze
- Elastic Tape

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
- 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 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 Material
- Aluminum Rod
- Preformed Plastics - “Spoon Splints”

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

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**
- 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
- 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