Acute Splinting of Fractures

Orthopaedic Trauma

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Disclosure Statement

We have no financial interest/arrangement or affiliation with one or more organizations that could be perceived as a real or apparent conflict of interest in the context of the subject of this presentation.
Splinting Basics

• Padding
  • Bony Prominences
  • Thermal burns
Splinting Basics- Bony Prominences

Splinting Basics- Thermal Burns

http://www.consultant360.com/content/thermal-burns-plaster-splints

http://pikdit.com/i/a-friend-of-mine-broke-her-leg-on-a-cruise-the-plaster-from-her-cast-burned-her-leg/
Upper Extremity Splints

- Coaptation
- Long Arm
- Sugar Tong
- Volar Wrist
Upper Extremity Splints- Coaptation

• Humerus Shaft Fx
  ➢ Elbow at 90°
  ➢ Splint up to neck

http://www.medicalmultimediagroup.com/media-gallery/detail/32/86
Upper Extremity Splints - Long Arm

- Distal Humerus Fx
- Elbow Fx

- Elbow at 90°
- Splint up to axilla
Upper Extremity Splints- Long Arm Arm

Long Arm Splint

http://www.fpnotebook.com/_media/OrthoWristLongArmSplint.png
Upper Extremity Splints- Sugar Tong

• Forearm Fx
• Distal Radius Fx

- Elbow at 90°
- Splint not past knuckles
- Splint not past distal palmar crease
Upper Extremity Splints - Sugar Tong

Dorsal Knuckles

Distal Palmar Crease


http://www.giltechltd.com/Splinting.htm
Upper Extremity Splints- Volar Wrist

• Stable Distal Radius Fx
  ➢ Splint not past distal palmar crease
Upper Extremity Splints- Volar Wrist

Volar Wrist Splint

http://www.fpnotebook.com/_media/OrthoWristVolarSplint.png
Lower Extremity Splints- Long Leg

- Femur Shaft fx
- Distal Femur Fx
- “Knee” Fx
- Proximal Tibia Fx
- Tibia Shaft Fx
Lower Extremity Splints- Long Leg

- Splint up to buttock crease
- Foot at 90°

http://www.joinusa.us/new%20page%204.htm
Lower Extremity Splints- Long Leg

https://www2.aofoundation.org/wps/portal/!ut/p/c0/04_SB8K8xLLM9MSSzPy8x8z9CP0os3hng78ARydDRwN3QwMDA08TzdvvxBjlwN_I_2CbEdFA DiM_QM1/?basicTechnique=Fracture%20management%20with%20limited%20resources&segment=Shaft&bone=Tibia&showPage=redfix
Lower Extremity Splints- Short Leg +/- Stirrup

• Distal Tibia Fx
• Ankle Fx
• Foot Fx
Lower Extremity Splints - Short Leg +/- Stirrup

Foot at 90°

http://www.joinusa.us/new%20page%204.htm
Lower Extremity Splints- Short Leg +/- Stirrup

Foot at 90°

http://www.joinusa.us/new%20page%204.htm
Lower Extremity Splints- Traction

- Thomas Splint
- Sager Splint
- Hare Traction
- Buck’s Traction

Femur Fxs
Lower Extremity Splints - Thomas Splint

https://www2.aofoundation.org/wps/portal/lut/p/c1/04_SB8K8xLLM9M5SzPy8xBz9CP0os3hng7BARydDRwN3Q1dDA08XN59Qz8AAQwMDA6B8JJK8haGFgYFnqKezn7GTH1DahlBuP4_83FT9SP0oc5yq3E31I3NS0xOTKLcPK8x0VFQFC2~G/dl2/d1/L0JSlkna21BL0IakFBRXIBQkVSQOpB1eEvWUZOOTF0STUwLTVGd0EhI5S3X0MwVIFBQjFBMEcxRTEwSURGTFVJUVAxMEc1LzRVc01BOTYyOTAwMTM/?sho
wPage=redfix&bone=Femur&segment=Shaft&classification=32-A1&treatment=Non+operative&method=Temporary+Thomas+splint&implanttype=
Lower Extremity Splints- Sager Splint

**Indications and contraindications** for the use of traction splints on femoral fractures. Sager Splints are indicated for use on proximal third and midshaft femoral fractures.

**Contraindications for traction splints:** All traction splints of any kind are contraindicated in the case of fractured Pelvises unless the Medical Consultant indicates otherwise, or a MAST Trouser has been applied – in which case a Sager Splint can be applied over the MAST Trousers. Supracondylar fractures of the Knee and Ankle fractures are also contraindicated. The contraindications listed above are only intended as a basic reference tool. Please defer to federal, state, and/or local protocol for definitive analysis and guidelines.

http://www.sagersplints.com/pages/model-s301-FormIII.asp
Lower Extremity Splints- Hare Traction

http://www.haretractionsplint.com/
Lower Extremity Splints- Buck’s Traction

http://www.supportsusa.com/corflex/Products/Hip/ultra_bucks_hip_traction_splint.htm

http://www.mizuhosi.com/products/over-bed-traction/traction-components-accessories/bucks-traction/
Pelvic Binder

- Signs and symptoms of a pelvic:
  - Elevated Pulse Rate
  - Elevated Breathing Rate
  - Point tenderness in the pelvis
  - Rectal bleeding

- Treatment:
  - Bind the pelvis
  - Administer whole blood or fluids if blood is not available.
  - **Hypotensive resuscitation** has shown to be a life saver for pelvic fractures

- Pelvic fractures can bleed up to three L into the pelvic cavity. Aggressive treatment is required especially in remote areas. Bind the pelvis before moving or rolling the patient.