

## TRACTION SPLINTING

**NOTE:** A traction splint is the splint of choice and is to be used only for a painful, swollen, deformed mid-thigh injury with NO lower leg injury.

**NOTE:** The information included below is designed to be used as a guide for an "Ischial" type traction splint. There are several different types of commercially made traction splints available. This information may differ for the device that you use.  
As with all equipment, you must follow the manufacturer's guidelines and instructions for proper application of the device you use.

Contraindications for the use of traction splint:

- ✓ Injury is close to the knee
  - ✓ Injury to the knee
  - ✓ Injury to the hip
  - ✓ Injury to the pelvis
  - ✓ Partial amputation or avulsion with bone separation, distal limb is connected only by marginal tissue.
  - ✓ Lower leg or ankle injury
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- Take appropriate body substance isolation precautions.
  - Apply manual stabilization  
Rescuer #1 should apply manual stabilization to the leg above and below the injury site. This is designed to stabilize the bone ends and reduce further injury.
  - Explain the procedure to the patient  
The patient may be very anxious about this procedure. You need to properly communicate to the patient what you will be doing.
  - Remove clothing from the area  
Rescuer #2 should remove the clothing to expose the entire leg. Rescuer #2 then removes the shoe and sock from the effected extremity.
  - Assess pulse, motor, and sensory  
Assess the pulse, motor function, and sensory function distal to the injury and compare to the opposite (non-injured) extremity.
  - Apply the ankle hitch  
Rescuer #2 applies the ankle hitch. After the ankle hitch is in place, rescuer #2 takes over manual stabilization via the ankle hitch and elevates the leg while supporting the ankle. ***If the Sager splint or the Kendrick's Traction Device is used, elevation of the leg and manual traction is not necessary.***

- Measure the traction splint
 

Rescuer #1 adjusts the traction splint to the proper length. The non-injured leg should be used to measure the length of the traction splint. The traction splint should be adjusted to 12 inches longer than the non-injured leg.
- Apply the traction splint
 

Rescuer #1 slides the traction splint under the patient's injured leg, as rescuer #2 elevates the leg and continues manual traction via the ankle hitch. The ischial ring of the traction splint must be against the bony prominence of the buttocks (ischial tuberosity). If equipped with a kickstand at the end of the traction splint, extend it once the traction splint is in place. Pad the groin and gently, but securely apply the ischial strap. You should be able to fit two fingers between the ischial strap and the patient's thigh to prevent over tightening. *This step may be different for some commercially made traction splint devices.*
- Apply mechanical traction
 

Rescuer #1 attaches the mechanical traction device to the ankle hitch while rescuer #2 is continuing to maintain manual traction via the ankle hitch. Rescuer #1 begins to apply the mechanical traction. Rescuer #2 may release manual traction when he/she feels the mechanical traction has taken over. Sufficient mechanical traction is used when it equals the amount of manual traction that was maintained. Avoid using too much traction, which may overstretch the leg, but use enough traction to maintain limb alignment. Many patients will have reduced pain and muscle spasms once adequate mechanical traction is applied. *Some commercially made devices use body weight to calculate the amount of traction needed.*
- Secure the leg to the traction splint
 

Rescuer #2 stabilizes the injured leg by positioning his/her hands on top of the lower leg to prevent movement. Rescuer #1 fastens the support straps. One strap should be just above the ankle hitch, one strap just below the knee, one strap just above the knee, and one strap at the top of the thigh just below the ischial strap. *Do not fasten a strap directly over the injury site.* Excess straps should be secured underneath the splint to provide additional support. *Some commercially made devices allow a strap to be secured directly over the injury site. Some commercially made devices, such as the Sager, allow a strap to be secured over the knee.* Recheck the ischial strap to assure that it has not loosened.
- Reassess distal pulses, motor, and sensory.
 

Assess the pulse, motor function, and sensory function distal to the injury site and compare to the opposite (non-injured) extremity.
- Prepare the patient for transport
 

The patient should now be secured to a long backboard to provide further immobilization of the hip. The traction splint should be secured to the long backboard to prevent excessive movement.