The Application of a Thomas Splint

**USE**—The emergency treatment of a patient with a fractured Femur. Also can be used for a longer period of time for initial treatment of same.

**AIM**—To relieve muscle spasm at the fracture site and to immobilize the limb, also relieves pain. The mechanics are skin traction and support of the limb via the splint. The forces used are muscle tone, traction cord and ring pressure. Both traction and countertraction are accomplished in this ‘fixed traction’.

**METHOD**

Assemble supplies: different sizes of Thomas Splints, Skin Traction Kit (Adult or Child), Friar’s Balsam, razor, slings to support the leg (flannel or green towels etc *do not use stockinette, it stretches and is not appropriate*), safety pins, measuring tape and padding

Apply Manual Traction: The assistant does this and maintains it *constantly* throughout the procedure. A firm two handed grip and pull is required on the foot and ankle.

Skin Traction Tapes are applied as directed. (See earlier instructions)

Measure the *unaffected* leg, length and circumference (at groin level). Add 6-9 inches to the length and 1-2 inches in the circumference, then choose the correct Thomas Splint. Note that the lateral side iron is bent proximally to accommodate the greater trochanter.

Slide the splint up the fractured leg, and press firmly at groin. *Manual traction is continued during this part*. The assistant accommodates the movements by hand position.

Tie the traction cords. The lateral cord is placed over the side bar and the medial one under. The cords are pulled very tightly to take over the traction pull, and tied well at the end of the splint.

A tight sling, with possible padding is applied under the fracture site using safety pins. Other slings are applied to support the rest of the leg in its normal contours. The knee should be slightly flexed and the foot entirely free to move.

Check the tension in the traction cord. If adequate, *the assistant may slowly discontinue manual traction*. Occasionally a windlass is used, but too much traction can cause distraction of the fracture.

The end of the Thomas Splint will now be taped securely to the end of the patient’s bed, usually elevated on the foot end piece of a Balkan Beam. Further countertraction may be obtained by the gatch mechanism at the foot end of the bed, to relieve ring pressure, and to keep the patient’s foot off the mattress. The bed may be placed in trendelenburg for the same purpose. The foot end piece may be made higher by longer IV posts. Traction, with weights, may also be instituted according to the surgeon’s orders.