



Clinical Practice Procedures: Trauma/Orthopaedic splinting – CT-EMS femoral traction

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Date	January, 2019
Purpose	To ensure a consistent procedural approach to orthopaedic splinting – CT-EMS femoral traction.
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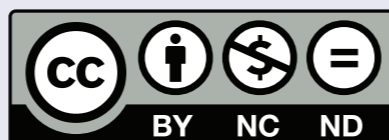
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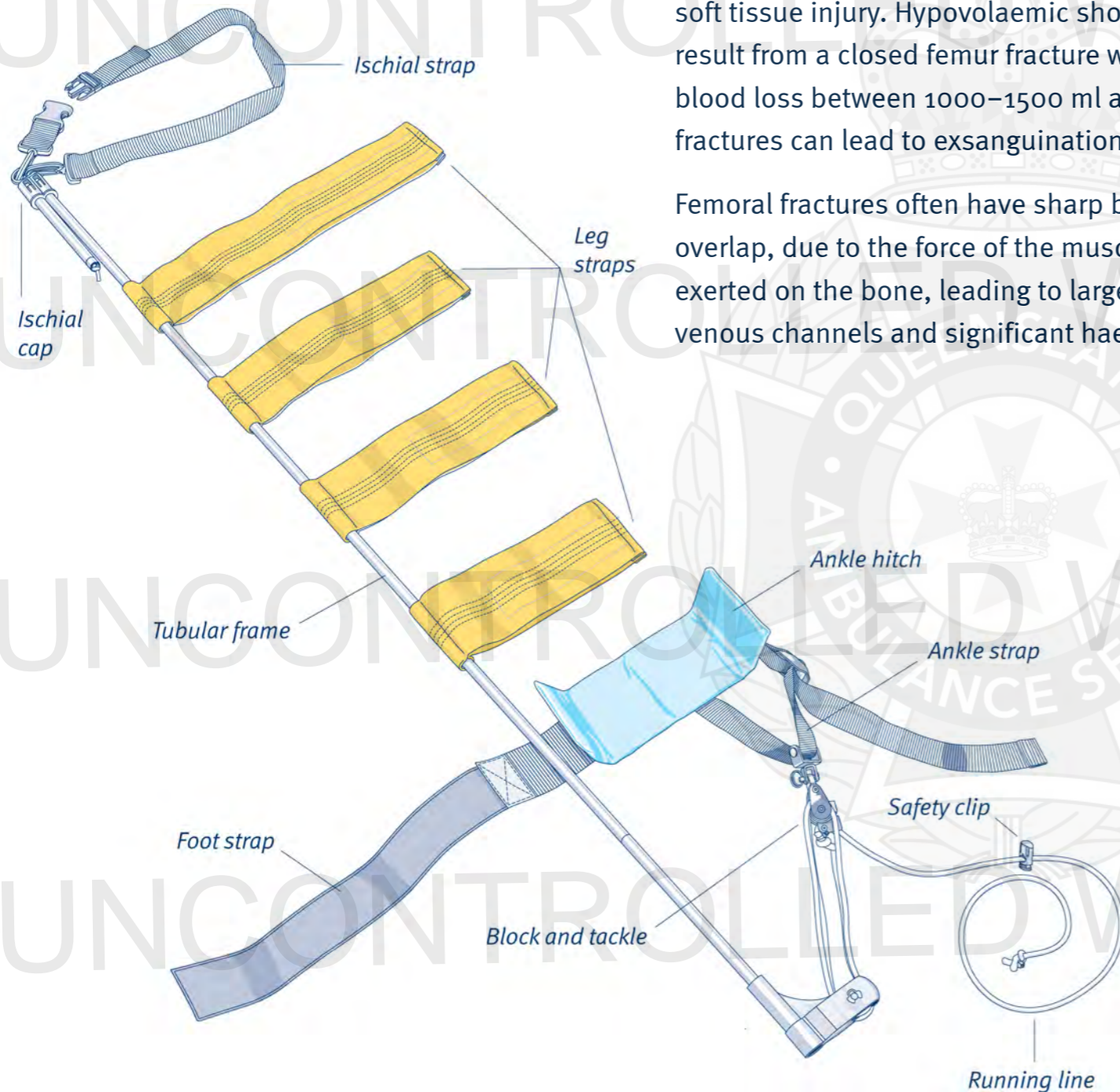
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Orthopaedic splinting – CT-EMS femoral traction

January, 2019

Carbon Traction Emergency Medical Services (CT-EMS) Traction Splint



Femur fractures are associated with significant morbidity and mortality due to haemorrhage, nerve damage, fat embolism and associated soft tissue injury. Hypovolaemic shock can result from a closed femur fracture with blood loss between 1000–1500 ml and open fractures can lead to exsanguination.^[1-2]

Femoral fractures often have sharp bony overlap, due to the force of the muscles exerted on the bone, leading to large open venous channels and significant haemorrhage.

The application of a correctly applied traction splint reduces haemorrhage, muscle spasms and immobilises the limb preventing further damage to the surrounding tissue and anatomical structures. This leads to a reduction in pain but appropriate analgesia is required prior to and following the application of the splint.^[1]

The CT-EMS is a lightweight traction splint that aligns and immobilises femoral fractures. It can be used on adult, paediatric patients, bilateral femoral fractures and on patients with a pelvic binder in-situ.

Indications

- Mid shaft femoral fractures

Contraindications

- Fracture/dislocation of the knee
- Ankle injury

Complications

- Iatrogenic injury due to poor application technique

1. Assess the injury

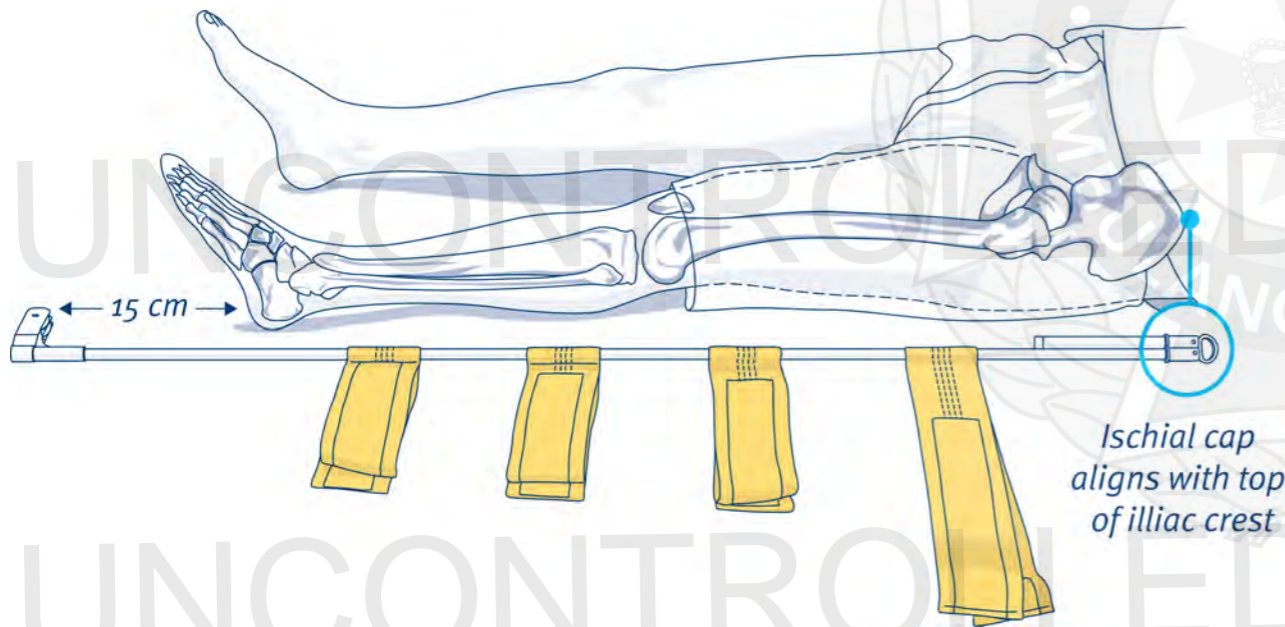
- Expose the affected limb.
- Assess the limb for distal perfusion.
- Irrigate and dress open fractures as required.

2. Assembly

- As the splint is removed from the bag, hold it at shoulder height and shake it up and down allowing tubes to hang and intersect. Manually connect any unlinked sections.

3. Sizing

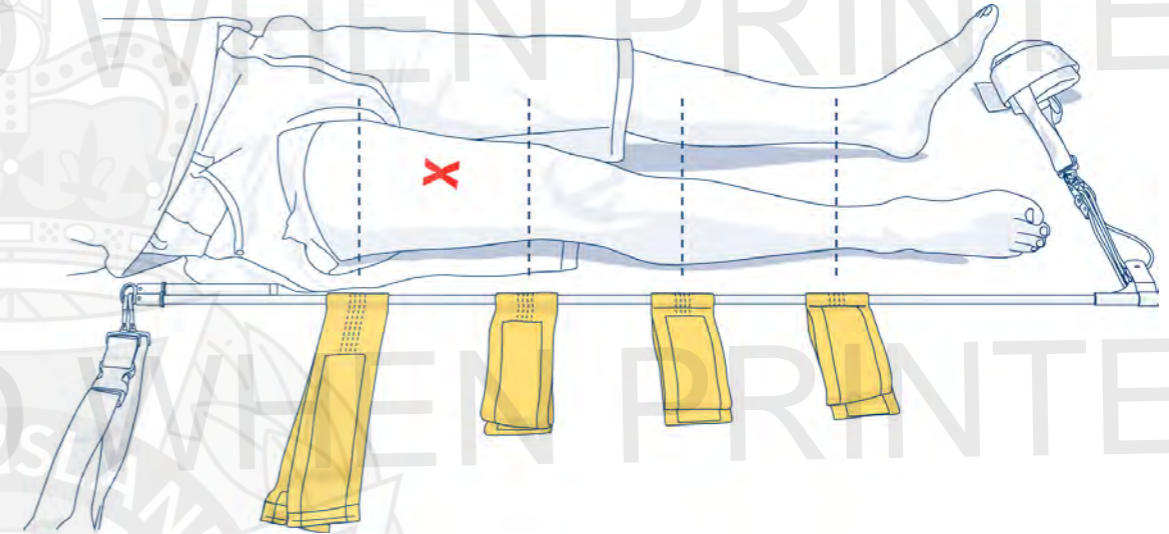
- To gauge the correct length, place the unit alongside the uninjured leg. The ischial cap should align with the top of the iliac crest, with the ankle hitch end approximately 15cm beyond the bottom of the patient's foot.



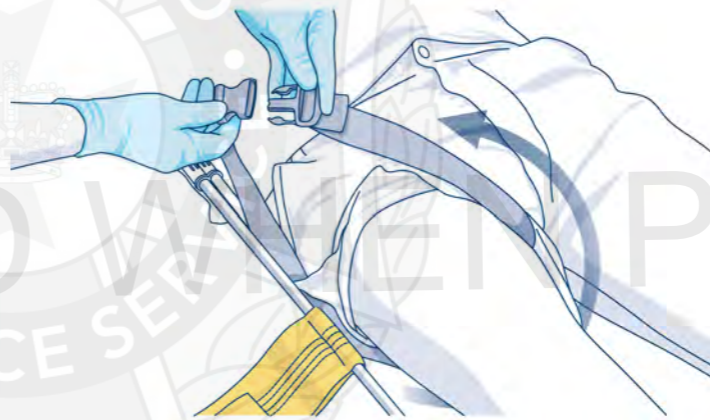
- If the splint appears to be too short or too long, tube sections should be added or removed as necessary for correct sizing. Secure any disconnected sections with the ischial cap.

4. Attach strap

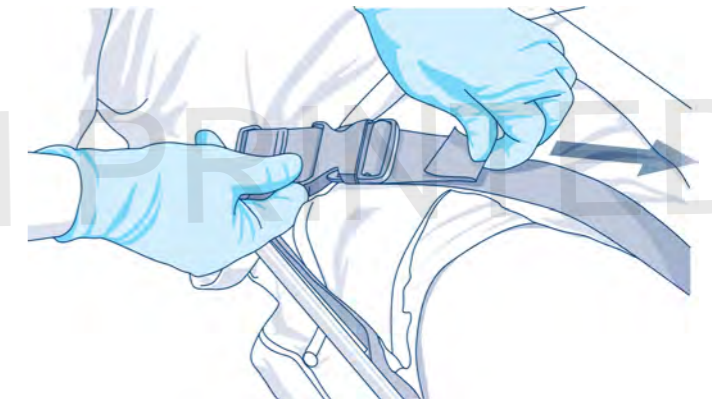
- Move the splint alongside the injured leg. Align two straps above the knee, and two straps below the knee, taking care not to strap over the injury or over the knee.



- Unclip one end of the strap from the ischial cap and gently feed the strap under the patient's thigh (consider using padding) before reattaching.

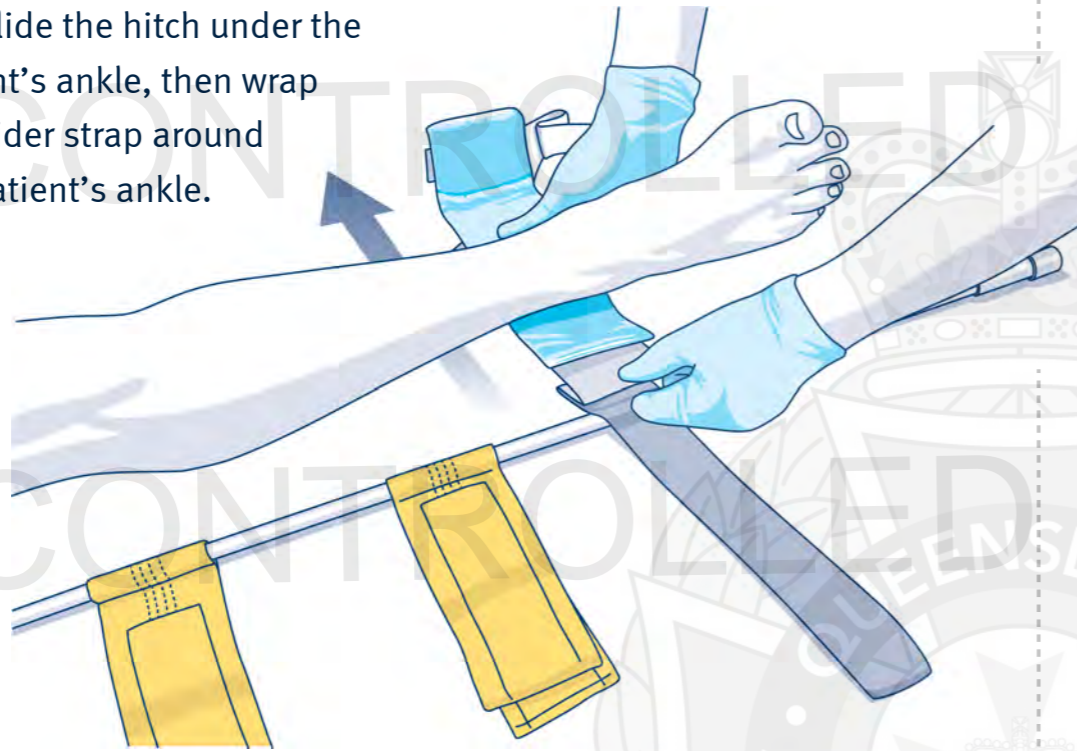


- Ensure the buckle is on top of the patient's thigh so adjustments can be made, then tighten the buckle strap.

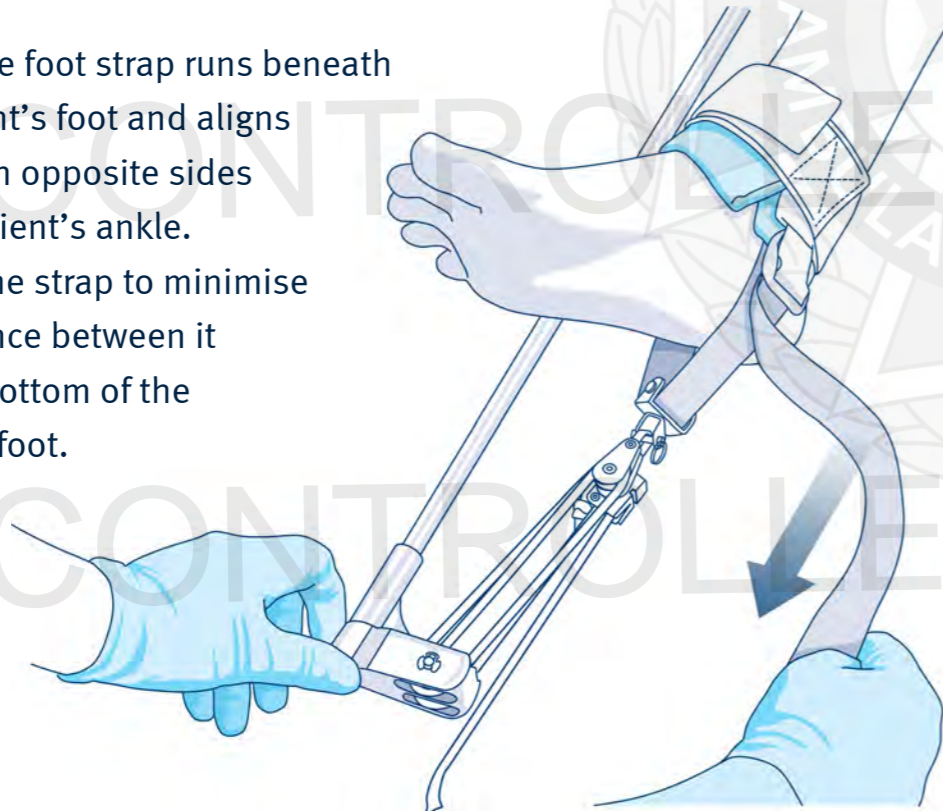


5. Attach ankle hitch

- Gently lift the patient's foot and slide the hitch under the patient's ankle, then wrap the wider strap around the patient's ankle.

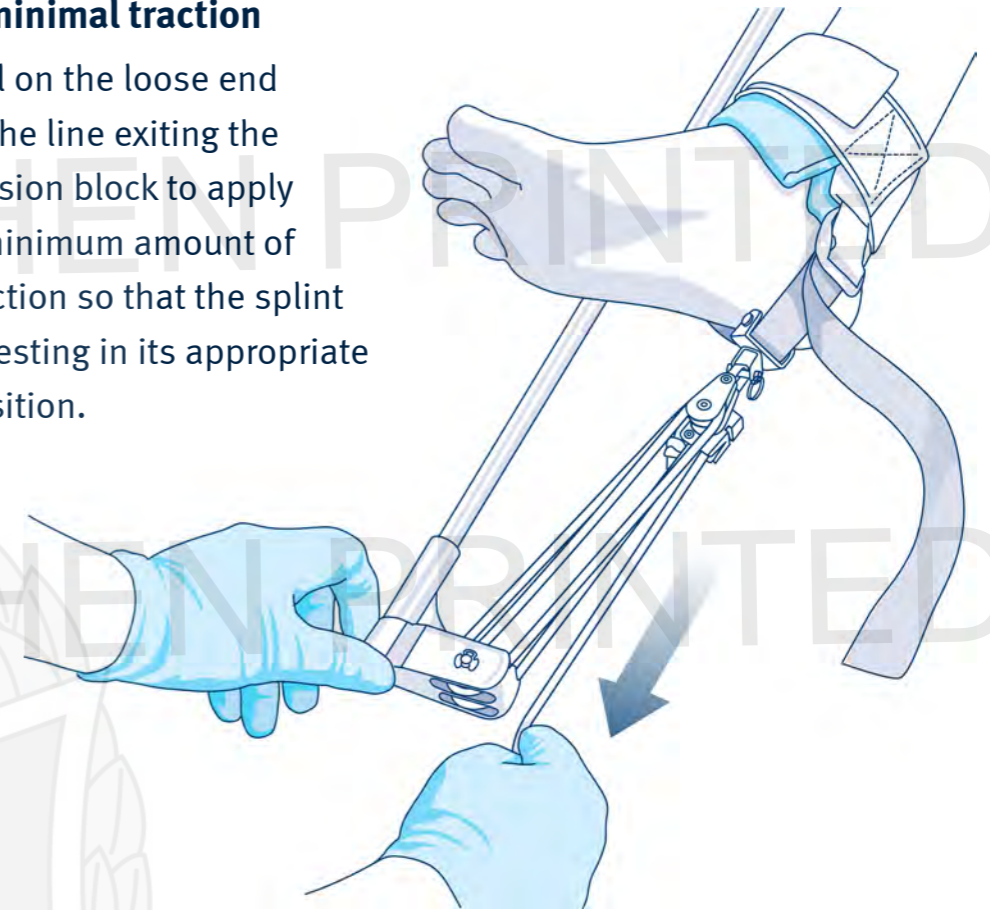


- Ensure the foot strap runs beneath the patient's foot and aligns equally on opposite sides of the patient's ankle. Tighten the strap to minimise the distance between it and the bottom of the patient's foot.



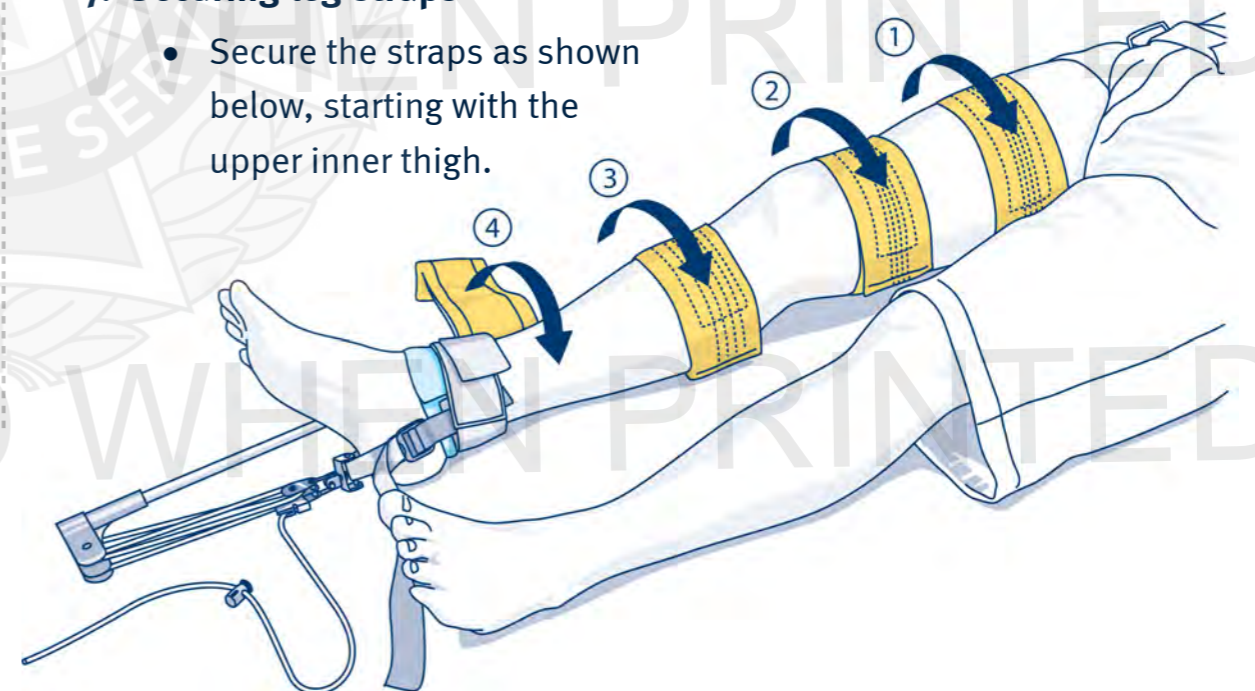
6. Apply minimal traction

- Pull on the loose end of the line exiting the tension block to apply a minimum amount of traction so that the splint is resting in its appropriate position.



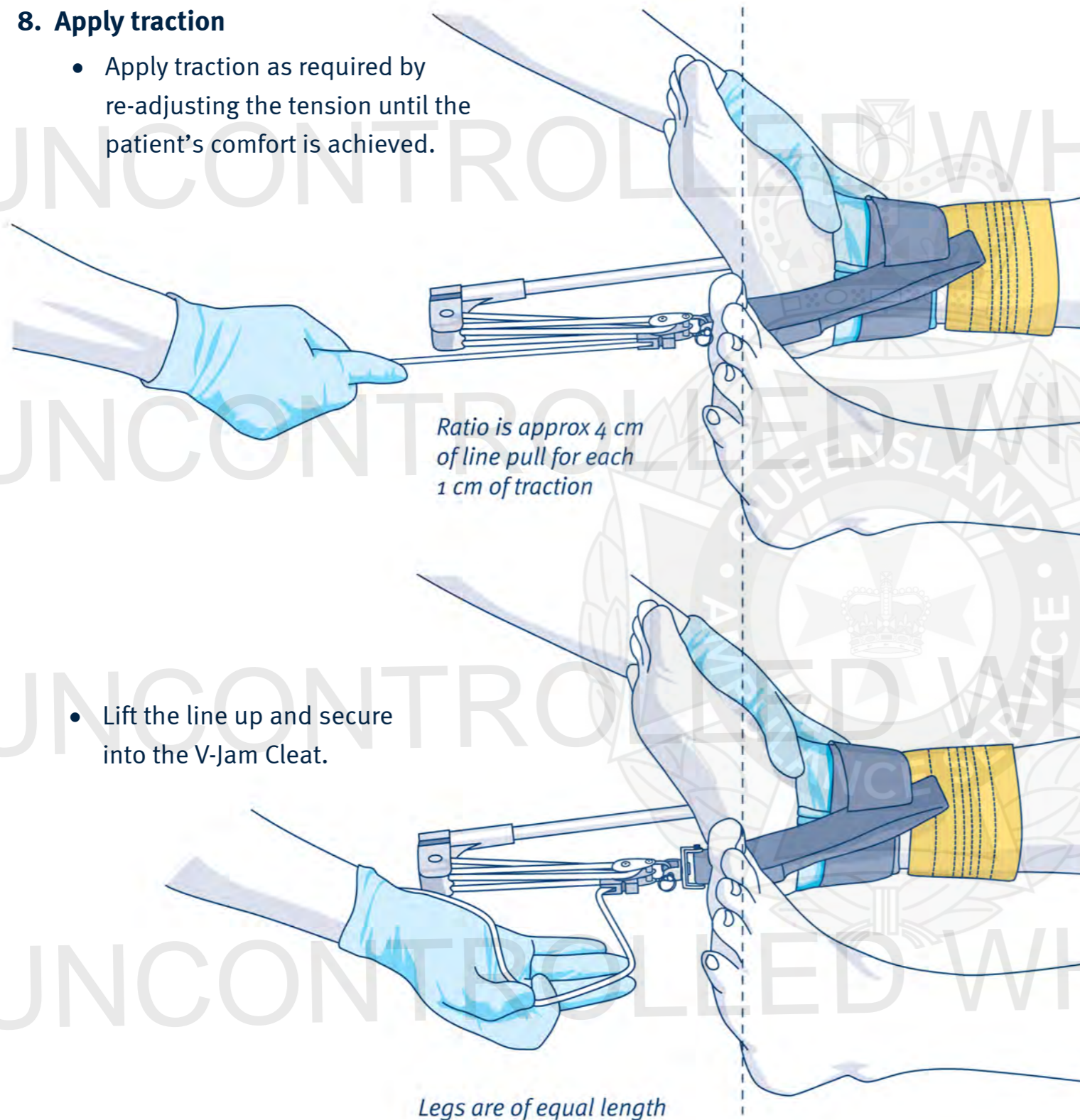
7. Securing leg straps

- Secure the straps as shown below, starting with the upper inner thigh.



8. Apply traction

- Apply traction as required by re-adjusting the tension until the patient's comfort is achieved.



- Lift the line up and secure into the V-Jam Cleat.

+ Additional information

- This policy has been superseded by *CPP: Orthopaedic Splinting – Slishman Femoral Traction*. However, it will remain active concurrently until current stocks of CT-EMS femoral traction splint have been depleted.
- In the setting of a potential pelvic injury, the pelvic binder is to be applied first, followed by the CT-EMS traction splint.
- Prior to the application of the traction splint, open fractures need to be washed out with a large quantity of normal saline (minimum 2 litres) to remove gross contamination from the wound.^[1]
- The active management and treatment of life threatening conditions take precedence over fracture management.
- The patient should be transported to the most appropriate facility with respect to the *CPG: Trauma By-pass Policy*.

Final adjustments

- Tuck any excess line under the leg strap and check that the splint is correctly in place and achieving the desired results. Adjust as necessary.

