



Clinical Practice Procedures:

Trauma/Orthopaedic splinting – Slishman femoral traction

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Date	July, 2022
Purpose	To ensure a consistent procedural approach to the Slishman femoral traction splint.
Scope	Applies to Queensland Ambulance Service (QAS) clinical staff.
Health care setting	Pre-hospital assessment and treatment.
Population	Applies to all ages unless stated otherwise.
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Author	Clinical Quality & Patient Safety Unit, QAS
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Orthopaedic splinting – Slishman femoral traction

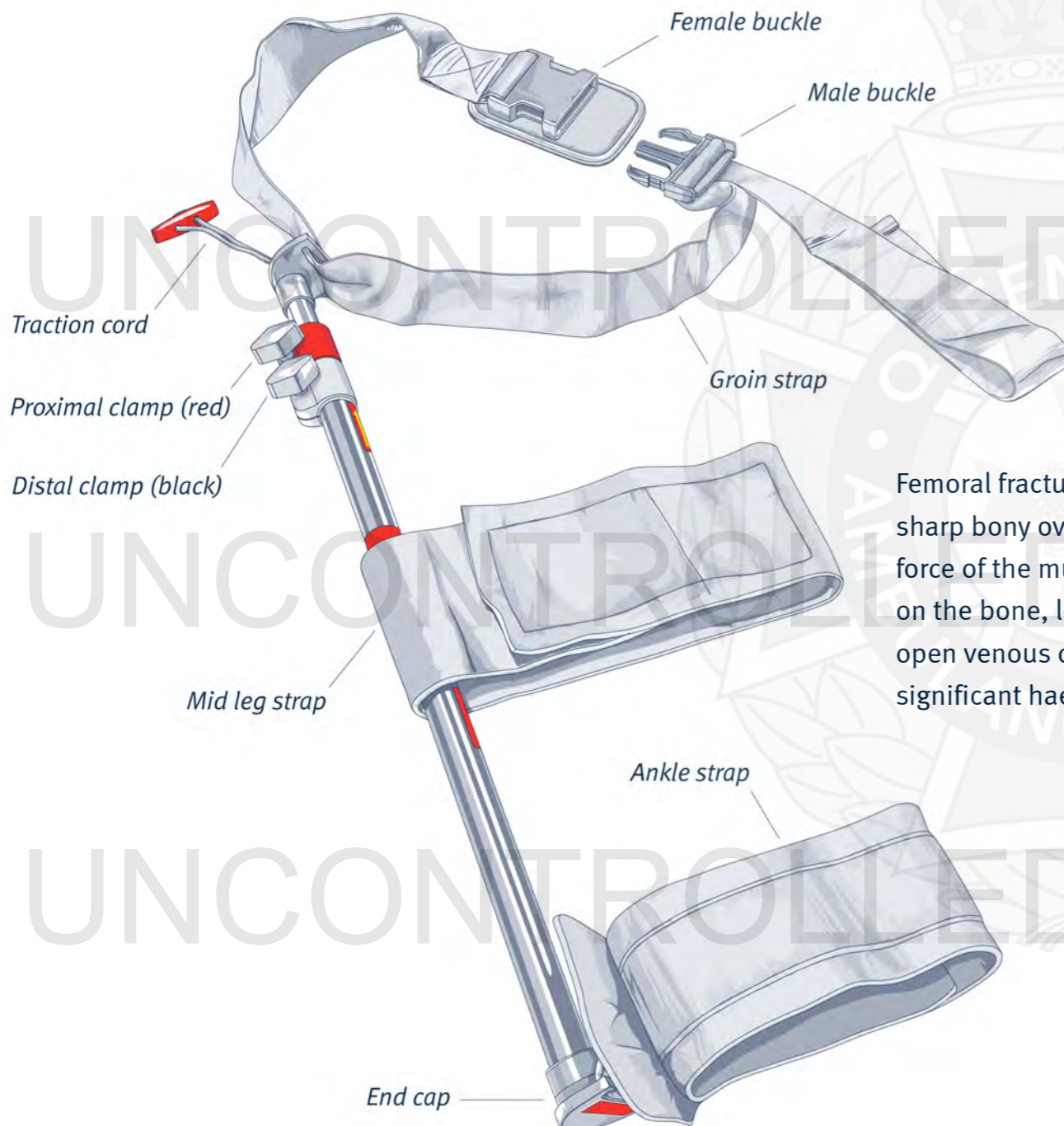
July, 2022

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 of 1000–1500 mL and open fractures can lead to exsanguination.^[1]

The application of a correctly applied traction splint reduces haemorrhage & muscle spasms and immobilizes 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.

The Slishman is a lightweight yet effective traction splint of simple design that can be quickly and easily applied to immobilise femoral fractures.

It can be used for bilateral femoral fractures and paediatric patients, and on patients with a pelvic binder in-situ.



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.

Indications

- Femoral fractures involving the shaft

Contraindications

- Fracture/dislocation of the knee
- Ankle injury

Complications

- Iatrogenic injury due to poor application technique

Procedure – Orthopaedic splinting – Slishman femoral traction [2]

1. Assess the injury

- remove all clothing;
- assess distal neurovascular status; and
- irrigate and dress open wounds as required.

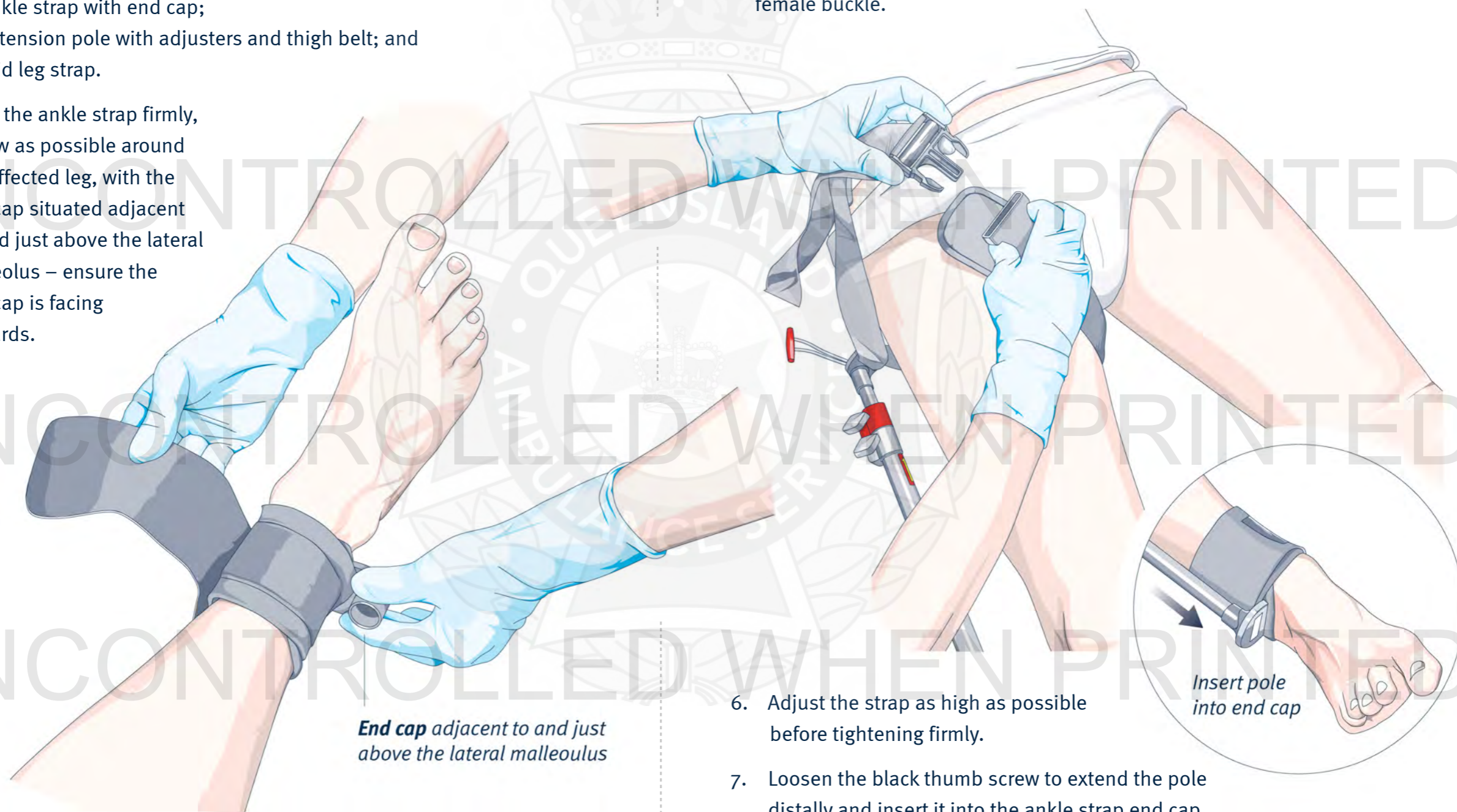
2. Identify the *three* main parts of the splint as per the preceding diagram:

- ankle strap with end cap;
- extension pole with adjusters and thigh belt; and
- mid leg strap.

3. Wrap the ankle strap firmly,

as low as possible around the affected leg, with the end cap situated adjacent to and just above the lateral malleolus – ensure the end cap is facing upwards.

- ### 4. Place the pole adjacent to the top of the lateral thigh and pass the female side of the buckle under the thigh and around the top of the groin with the padding tab against the patient, ensuring that the belt is not twisted.
- ### 5. Pass the male side of the buckle over the thigh and connect it into the female buckle.



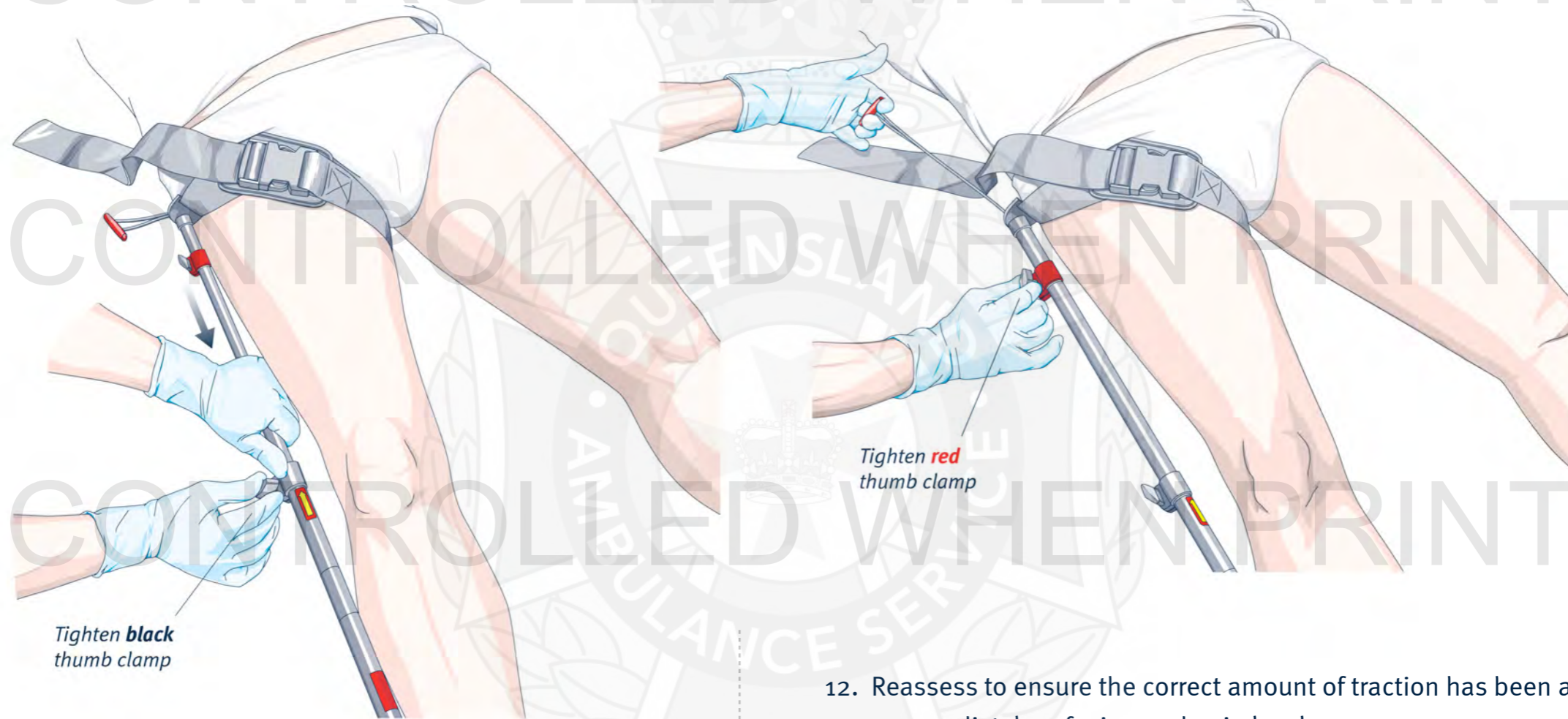
End cap adjacent to and just above the lateral malleolus

- ### 6. Adjust the strap as high as possible before tightening firmly.
- ### 7. Loosen the black thumb screw to extend the pole distally and insert it into the ankle strap end cap.

Insert pole into end cap

Procedure – Orthopaedic splinting – Slishman femoral traction

8. Ensure the black and red thumb clamps are rotated so that the smooth, rounded side of each clamp is facing the patient to prevent injury. Apply enough extension to the pole to achieve the desired length and a small amount of traction to remove excess play, then tighten the black thumb clamp while holding the pole in position.



9. Take hold of the pull cord and loosen the red thumb clamp ensuring gentle traction is maintained.
10. Apply gentle cord traction until patient comfort is achieved or limb lengths are equal. If necessary, a second ambulance clinician may apply concurrent traction from the distal end of the splint to assist in achieving appropriate traction.

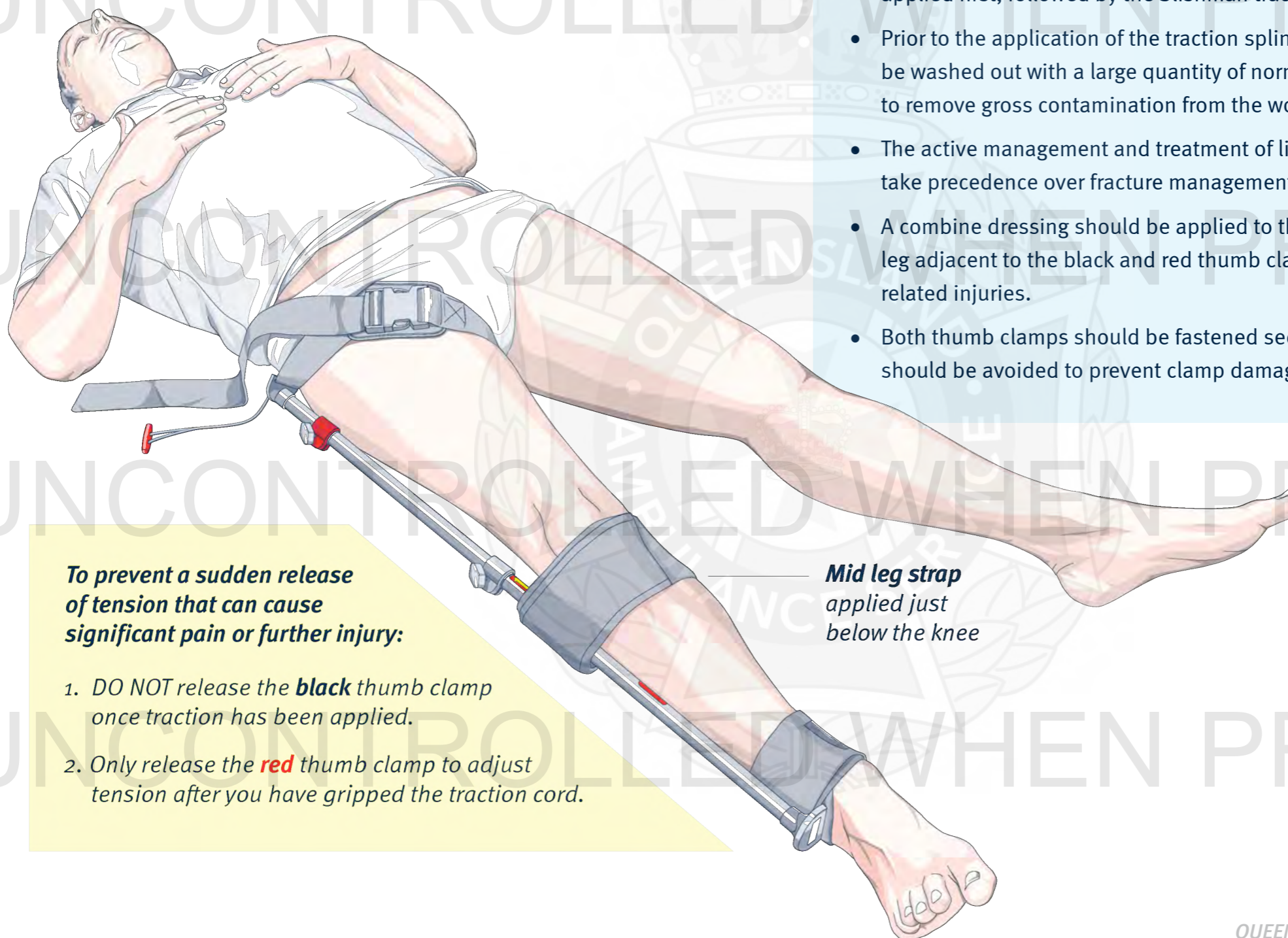
11. While still holding traction on the cord, tighten the red thumb clamp. Do not release the cord until the red thumb clamp has been tightened.

12. Reassess to ensure the correct amount of traction has been applied, assess distal perfusion and pain level.
13. If further adjustment is required, ensure you apply appropriate pull cord traction prior to loosening the red thumb clamp to prevent sudden release of traction. Adjust as necessary and retighten the clamp while still holding the cord.

14. Once correct adjustment is achieved, apply the mid leg strap just below the knee with the correct side facing the patient as labelled and secure firmly.

+ Additional information

- In the setting of a potential pelvic injury, the pelvic binder must be applied first, followed by the Slishman 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.
- A combine dressing should be applied to the areas of the patient's leg adjacent to the black and red thumb clamps to prevent pressure related injuries.
- Both thumb clamps should be fastened securely but over-tightening should be avoided to prevent clamp damage.



To prevent a sudden release of tension that can cause significant pain or further injury:

1. **DO NOT** release the **black** thumb clamp once traction has been applied.
2. Only release the **red** thumb clamp to adjust tension after you have gripped the traction cord.

Mid leg strap
applied just
below the knee