Application of CT-6 Traction Splint

1. Purpose

This CWI provides guidance on applying the CT-6 Traction Splint for specific leg fractures.

SCOPE OF PRACTICE				
MICA ☒	ALS ☒	BLS ☒	CERT/ACO ☒	Patient Transport ☒

Indications

- Middle third femur fractures, including compound.
- Upper two-third tibia fractures, including compound.

Contraindications

- Knee or ankle/foot trauma: May increase pain and worsen other injuries.

Clinical Precautions

- Pelvic trauma: Pelvic splinting is a higher clinical priority than splinting of limb factures. Traction splints may apply pressure on the pelvis in order to achieve traction, potentially worsening an injury. Legs should be realigned as part of open book fracture management. Splinting can still be used in pelvic trauma/fracture though anatomical splinting may be better depending on pelvic injury and severity.
- Realign long bone fractures in as close to normal position as possible.
- Open fractures with exposed bone should be irrigated with a sterile isotonic solution prior to realignment and splinting.

Equipment Required

- CT-6 Traction Splint.

Health, Safety and Welfare

- Apply standard precautions.
- Modify as informed by the dynamic risk assessment.
- It is recommended paramedics wear gloves at a minimum.

2. Instructions

KEY POINTS	EXPLANATORY NOTE	Y/N
Prepare patient 1. Ensure patient has appropriate analgesia prior to and during splinting of fracture. 2. Reassure and inform patient of the traction splint procedure. 3. Ensure all pockets are carefully checked and objects removed to avoid pressure areas. **Note:** be aware of potential needle stick injury when searching pockets.		
Prepare limb 4. Expose and align the patient's leg whilst maintaining support. 5. Remove footwear. 6. Dress all wounds. If the patient has an open fracture, irrigate thoroughly with sterile water or normal saline prior to dressing wound. 7. Palpate distal pulse and mark its location. 8. Check capillary refill, colour, warmth, movement and sensation. 9. When resources allow, manual traction should be applied to the injured leg until the CT-6 is fully applied.	 Align leg and remove footwear  Check colour and movement	
Prepare CT-6 traction splint 10. Undo both elastic cinch straps. 11. Remove splint from bag, grasping the adjusting block. 12. As the splint is removed from the bag, hold it at shoulder height and shake gently, allowing the tubes to hang and intersect. 13. Manually connect any unlinked sections. 14. Straighten any straps as required.	 Hold the splint and shake gently	

Sizing

The CT-6 can be adjusted to suit a wide variety of patients, including children. When treating small children, it will be dependent upon Paramedic clinical judgment to determine if device is the best available option or if another method of splinting is required.

15. To estimate the correct length required for CT-6, place the assembled unit alongside patient's uninjured leg.
16. The ischial cap should be level with the top of patient's iliac crest.
17. The adjusting block and ankle hitch should be approximately 15 cm beyond the bottom of patient's foot (each section of tubing is 15cm long).
18. Adjust the length of device as required.

Note: If the splint is too long, remove the ischial cap and unlink a section of tubing. Fold this section of tubing over alongside the device, and replace the ischial cap. If the splint is too short, remove the ischial cap, add a section of tubing and replace the ischial cap.

Place unit alongside patient

Check the correct length required

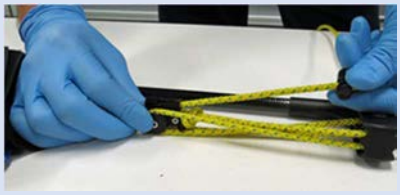
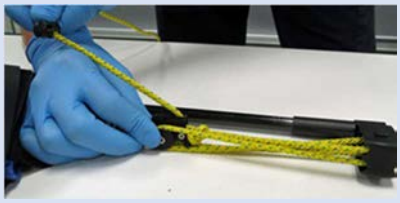
Adjust device if necessary

A small section of tubing must remain folded over to ensure the attachment of the ischial cap.

Place splint

19. Place splint beside the injured leg.
20. Move velcro straps along the pole so there are two straps above the knee and two straps below the knee.
21. Avoid placing a strap directly over the injury or the knee.

Move the straps along pole

Apply the ischial strap 22. Unclip one end of the ischial strap and pass it under the patient's upper thigh. 23. Ensure this strap is not twisted and the buckle is accessible on the top of patient's thigh. 24. Re-clip buckle to the ischial strap and tighten firmly.	 Reclip the buckle and tighten	
Attach the ankle hitch 25. Undo velcro straps and align the hitch with the patient's foot. 26. Gently lift the patient's foot and slide the thicker strap under the heel and up to position beneath ankle. 27. The thinner strap should sit evenly on either side of the patient's heel. If this strap is uneven, slide the loose end along the ankle strap to align. 28. Fasten the thicker strap over patient's ankle. 29. Tighten the thinner strap, minimizing the distance between the patient's foot and the pulley mechanism.	 Undo velcro and align hitch with foot  Slide thicker strap under heel	
Initial traction 30. Pull the loose single rope line exiting the pulley mechanism to apply a minimum amount of traction, aligning the splint into its appropriate position. 31. To secure tension, lift the line into the V-jam cleat.	 Pull the loose single rope  Lift the line into the V-jam cleat	

Securing the splint

32. The leg splint straps must now be wrapped around the patient's leg. To minimise patient's movement, a second person (where available), should apply gentle traction and elevate the injured limb by grasping the heel area.
33. The first (longest) strap is placed around the patient's upper thigh, ideally proximal to the fracture.
34. The second strap is placed above the knee, ideally distal to the fracture.
35. The third strap is placed distal to the knee.
36. The fourth strap is placed directly proximal to the ankle hitch.

Note: A velcro extension strap is included with the kit to lengthen the upper thigh strap where required in larger patients. For lower leg fractures, the third and fourth straps will bracket the site of injury instead of the first and second as described.

Wrap the splint straps around leg

Applying traction

37. Assume a position at the foot of patient's enabling a view along patient's leg to their face.
38. Apply traction as needed by pulling the single rope line exiting the pulley system.
39. The amount of traction required can be gauged by assessing the patient's leg length and pain levels.
40. Equal leg lengths and a reduction in the patient's pain levels suggest adequate traction.
41. Lift the rope up and relock into the V-jam cleat.
42. Slide the toggle at the end of rope towards the V-jam cleat for extra safety to ensure rope does not accidentally slip from V-jam cleat after traction has been applied.
43. Tuck the excess rope into the leg strap to prevent tangling.

Lift rope and relock into V-jam cleat

Final checks

44. Check the splint is in place correctly and make adjustments as required.
45. Check the limb by reassessing capillary refill, colour, warmth, movement and sensation of the foot of injured leg.

Check splint and adjust if necessary

Check limb colour and movement

Repacking after use 46. Cleaning of the splint should be conducted prior to repacking (WIN/OPS/008). 47. Slide the leg straps to the foot end of splint, taking care to avoid areas where the tubes join. 48. Pull apart each tube section and fold each on top of the other in a concertina fashion. 49. Fold the ankle hitch and ischial strap alongside the folded tube sections. 50. Roll the splint up tightly with leg straps. 51. Place the splint back into the bag, ankle hitch first.	 Proper repacking of the CT-6 enables faster and easier set-up on the next use.	

3. Assessment

Candidate's name and date	Comments

Instructor's name	Satisfactory	
	☐ Yes	☐ No

DOCUMENT CONTROL

Document name	**APPLICATION OF CT-6 TRACTION SPLINT CLINICAL WORK INSTRUCTION**
Applies to	☒ MICA ☒ ALS ☒ Patient Transport ☒ BLS ☒ CERT/ACO
Document no.	CWI/OPS/156 **Stored:** CM: CWI/OPS/156
Version:	2.0 **Review:** ☐ Annual ☒ 3-Yearly
Division	Medical Directorate
Responsible Executive	Medical Director
Responsible Manager	Manager, Clinical Practice Guidelines — 9840 3980
Review date	By **28 August 2022**, or as required for accuracy.
Relevant National Safety and Quality Health Service Standards	**To be completed by the National Standards Accreditation Lead:** ☐ 1. Clinical governance ☒ 2. Partnering with consumers ☒ 3. Healthcare-associated infection ☐ 4. Medication safety ☒ 5. Comprehensive care ☐ 6. Communicating for safety ☐ 7. Blood management ☐ 8. Recognising and responding to acute deterioration ☐ NSQHS standards are NOT applicable
Material related documents	• N/A

Version control and change history

Version	Date approved	Date superseded	Amendment
1.0	18 October 2013	28 August 2019	• Application of revised CWI template • Update contraindications in line with CPG • Addition of clinical precautions
2.0	28 August 2019	Current	