Managing the temporary splinting & stabilisation of patients with fractured shaft of femur.

University Hospitals of Leicester NHS
NHS Trust

Trust ref: B12/2017

1. Introduction and who guideline applies to

1.1 These Guidelines have been introduced since the Trauma Musculo- Skeletal (Head of Service) decided as part of a MDT approach to change the management of shaft of femur injuries & discontinue the use of Thomas Splints.

1.2 Following advice by Emergency Department (ED) trauma consultant it is to be stressed that these patients have a significant/high energy injury and need the for ATLS/appropriate clinical management techniques.

1.3 Ensure the correct & safe transportation of patients with fracture Shaft of Femur.

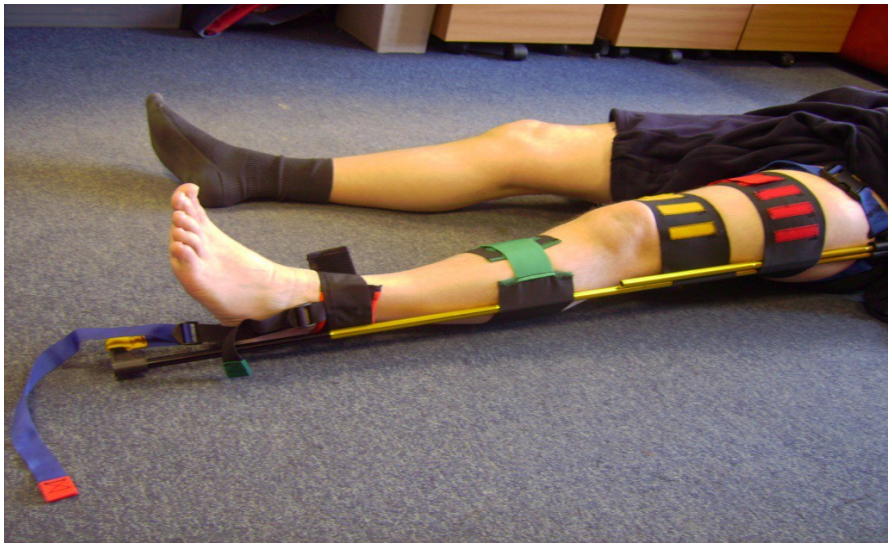
1.4 Medical & nursing staff has guidance in the correct management of a shaft of femur fracture Patient from admission to hospital – theatre.

1.5 These Guidelines apply to ED staff in giving guidance to the initial management of a shaft of femur fracture Patient & how to safely transport them around the Department & to have other investigations done.

1.6 They apply to ward nursing staff in the management of the Patient / injury whilst awaiting fixation of the fracture in theatre.

2. Guideline Standards & Procedures

Image of Kendrick splint.



Procedure / Process for A&E management of a shaft of femur fracture.	
No.	**Action**
1.	If the Patient has Arrived with the fracture immobilised with a Kendrick splint, this should remain in situ till the Patient has been transferred to the ward.
2.	The Kendrick splint will keep the fracture immobilised through the imaging of the Patient & transportation of the patient.
3.	The splint will also help with pain management; however the ED staff may want to supplement this with pharmacological methods of pain management. They should consider including a Femoral nerve block/ iliofascial nerve block in the same manner as currently used with Fracture Neck of Femur Patients).
4.	Once the Patient has been accepted by the orthopaedic medical team & been allocated an orthopaedic bed, the ED staff should expedite the transfer of the patient to an inpatient Bed, to allow the splint to be removed at the Earliest opportunity on the ward & to be replaced with Skin traction (if deemed medically as appropriate).
5.	The use of the Thomas splint has now been discontinued after agreement with the MUSCULO SKELETAL trauma Head of Service (HOS). It was deemed to increase the risk of Pressure sores to the Patient & was very difficult to nursing manage on the wards. It was also identified as a delay in the process of getting the Patient from ED to base wards.
6.	If Patient arrives to ED without any Immobilisation splinting in-situ we would consider the Application of a Kendrick splint to immobilise the fracture & allow for safe Patient assessment & transportation to occur.

Procedure / Process for Ward management of a shaft of femur fracture.	
No.	**Action**
1.	Upon a Patient entering the ward with a Kendrick splint in situ immobilising a Fracture shaft of femur- nursing staff should refer to the medical plan in the medical notes & clarify that it is safe to remove the immobilisation splinting & to apply skin traction.
2.	Once medical clarity has been obtained the nursing staff can remove the Kendrick splint & Apply skin traction (clarifying with medical staff amount of weight to apply to the traction). Before removal of Kendrick splint, ensure all Equipment is in place & ready to apply the skin traction.
3.	Skin traction is to be Reapplied Daily, to allow for Skin inspection & Ensuring its re- applied & maintains its traction (ensuring no slippage has occurred in the bandaging).
4.	Whilst the patient has either a Kendrick splint in situ or the skin traction applied then the nursing staff will be expected to perform Neurovascular observations a minimum of twice a day (once per shift)
5.	The Orthopaedic Medical Teams will need to ensure this Patient is medically fit for surgery at the earliest opportunity. The ideal time frame would be to get them into theatre within 36hrs from admission. Therefore reducing the risk of pre- operative complications & allowing the therapists to commence mobilisation at the earliest opportunity.

Procedure for Nursing staff to apply Skin Traction to a SHAFT OF FEMUR Patient (including removal of Kendrick Splint).	
No.	**Action**
1.	Nursing staff to liaise with the orthopaedic medical teams to ensure they are happy with the stability of the fracture for the Kendrick splint to Be Removed & Skin traction to be Applied.
2.	Ensure the nurse has All Equipment Ready before starting the procedure & has the correct weights.
3.	It is Best practice that it is a 2 person procedure (1 Ortho Doctor - CT grade or above to hold leg in position & 1 nurse Applying Skin Traction).
4.	Explain to Patient the Procedure & Reasons for the change of the splinting & the benefits to them.
5.	Apply Soft Wadding bandage around the bony areas (such as Heal & Ankle).
6.	Apply skin Traction Parallel up the leg (leaving a fist gap at the bottom End – to allow ankle flexion).
7.	Using a crepe bandage apply a Figure of 8 bandaging technique to secure the skin traction.
8.	DO NOT bandage over the knee (as this allows space for skin inspection)
9.	Clarify from the orthopaedic team (Registrar or Consultant) if they want the skin traction above Knee (depends on the site of the shaft of femur fracture).
10.	If a 2nd bandage is required ensure there is Adequate overlapping of bandages to keep the traction secure. Tape the bandaging to secure.
11.	Ensure traction Bar & pulley is attached to the end of the bed & then place the skin traction cords over the pulley & secure the desired weights to the end of it.
12.	Ensure traction Bar & pulley is attached to the end of the bed & then place the skin traction cords over the pulley & secure the desired weights to the end of it.
13.	Ensure Weight is not touching the floor & you can slightly tilt the bed back to create counter traction & to prevent the patient being pulled down the bed by the weights.
14.	Ensure Patients heel is clear of the bed surface (minimising Pressure damage risk).

Nursing care of skin traction
• Monitoring for Friction & Rubbing- Daily Review of high risk areas.
• Loss of Skin traction Integrity- Daily review of skin traction & Re- applying traction.
• Check bandages / Skin traction daily for Creases.
• Deep vein thrombosis- Follow the Thromboprohylaxis policy.
• Neurovascular compromise- follows the neurovascular observations guide
• Ensure Patient has adequate pain management; review with Patient every 2-4 Hourly
• Ensure there is a clear medical plan for surgery at the earliest opportunity.
• Close monitoring Patients EWS & escalate any scores to the medical teams (as Patient at risk of hypovolemic shock).
• Review traction every 2-4 hours (monitoring correct positioning & traction pull / alignment).
• Review patients BESTSHOT every 2-4 hours (as Patient high risk of developing a HAPU).
• Review patients Neurovascular status every 4 hours

3. Education and Training

3.1 No New skill are required to implement these guidelines, ED staff already apply Kendrick splints & most patients will have immobilised SHAFT OF FEMUR fractures' from the Ambulance service.

3.2 The raising of awareness across orthopaedics & other depts. That processes have changed in the management of fracture SHAFT OF FEMUR patients.

3.3 All Orthopaedic bleep holder nurses have the skills in the application of skin traction & can support the clinical areas if junior staff requires guidance & training.

4. Monitoring and Audit Criteria

What will be measured to monitor compliance.	Lead	Method	Frequency	Reporting arrangements
Applied Skin Traction to shaft of femur Patients when entering base wards.	MSK Head of Service	Reviewing Patient documentation	monthly	Report to matron
Amount of new acquired pressure sores, related to the skin traction.	MSK Head of Service	Reviewing HAPU data	monthly	Report to matron
Time to theatre	MSK Head of Service	Reviewing theatre scheduler data.	monthly	Report to matron

5. Supporting References

- This Guideline sits alongside the standard (Trust reference B15/2013) Completion of Neuro-vascular chart/obs.

6. Key Words.

Shaft of Femur,

Skin Traction,

Orthopaedic.

CONTACT AND REVIEW DETAILS	
Guideline Lead: Nigel Emery (MSK liaison Nurse)	Executive lead: Andrew Furlong, Medical Director.
Details of Changes made during review:- 13/3/19- No Changes in the content of the Guideline document. Positive implementation of guideline, which has now been imbedded into routine practice & monitoring- indicates compliance & improved standard of Patient care. May 2019- changes in the layout of the document to follow the Policy of policies Guideline template (appendix 2). December 2021- No changes to current Guidelines. 14/2/22- following advice from the P&G committee these amendments have been made-	

- Title changed to - **Managing the temporary splinting & stabilisation of patients with fractured shaft of femur.**
- Adding in a statement - (1.2) Following advice by Emergency department trauma consultant it is to be stressed that these patients have a significant/high energy injury and need the for ATLS/appropriate clinical management techniques.