Quick Guide: Looking after a Child with a Femoral Shaft Fracture in a Thomas Splint
Target Audience: Orthopaedic Junior/Middle Grade/Trauma Liaison
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Date: August 2022

All children over the age of 18 months/12kgs with a diaphyseal femoral fracture should be initially managed in a Thomas Splint. The Thomas Splint is a device that provides traction to a long bone fracture. In some cases this will be the definitive management of the child and often will be in situ for a few days or weeks until a different management technique is used. If the child is less than 18 months or weighs less than 12kgs then Gallows traction is required.

Before Leaving ED

- Thomas splint should be applied. Do not be tempted to leave on any pre-hospital splints e.g. the black Kendricks splint. This results in pressure ulceration and is designed for pre-hospital only
- Adequate analgesia. Ideally, all children with a femoral fracture should have a femoral nerve block in ED prior to the application of the splint
- Contact Ward 20. The traction bed is required and is helpful to give ward 20 as much notice as possible

After Arriving on the Ward

- **Application of suspended traction.** This is required and not optional. It is your responsibility to do this in a timely fashion, ideally within 4 hours and no longer than 12 hours. There is a step by step guide entitled "How to Apply Suspended Traction to a Thomas Splint" available on the orthopaedic R drive, and also the Ward 19&20 shared folders. With the splint applied in ED all you need is traction cord, the pulley and the weights. The pulley is kept in the Charge Nurse's Office in Ward 20.
- Should the traction bed not be available then the alternative is to apply longitudinal traction using the swan neck. A trough or a pillow is needed to ensure the heel is off the bed. A step by step guide "How to Apply Longitudinal Traction to a Thomas Splint" is also available if required. The Swan neck is available in the trauma hub and should be signed out when used.
- The appropriate weight can vary depending on the size of the child. If you are unsure then a 1lb or 0.5kg should be applied and can be reviewed on the ward round. The bed should also have a head down tilt which helps prevent the child sliding down the bed.
- **Adequate Analgesia** prescribed. Please ensure that the patient is prescribed simple analgesia as well as something stronger e.g. oramorph for more severe pain
- **Diazepam.** Small doses of diazepam are often required in the first 24-48 hours for spasm. This should be prescribed at a dose of 0.1mg/kg 6 – 8 hourly (as per RHC Pain Protocol).
- **DVT prophylaxis**. This should be considered in an adolescent with any other risk factor. These include BMI > 30, co-morbidities, oral contraceptive use, and family history. It is not routine for all children but should be considered

Resources: If you are unsure/require advice or help please ask your senior.
R:/Clinical/Orthopaedics/PAN LANARKSHIRE ORTHPODS/Paediatric Orthopaedics/Paediatric Femoral Folder
There are also printed copies in the hub, ward 20 and ED.

- "Immediate Management of Femoral Fractures in UWH" - overview of management
- "How to Apply A Thomas Splint and Suspended Traction " – step by step guide to application
- "How To Apply Suspended Traction to a Thomas Splint" – step by step guide
- "How to Apply Longitudinal Traction to a Thomas Splint" – step by step guide
- "Guide to Thomas Splints for Orthopaedic Staff" – written guide for medical staff
- "Guide to Thomas Splint for Nursing Staff" – written guide for nursing staff
- "Equipment to Apply Balanced Traction"
- "Equipment to Apply Longitudinal Traction"
- Video of Teaching Session on how to apply the Thomas Splint and Suspended Traction