

## Scenario: Mid-Shaft Femoral Fracture

**Setting:** ED Resus

**Clinical Focus:** Pedestrian Vs Car - Isolated Femoral Injury

**Situational Factors:** Absence of the Trauma Team

**Learning Objectives:**

- Demonstrate A-E assessment
- Recognise Femoral # - Apply splint/ x-match
- Indications for CT in trauma

**Stage/ Design/ Props/ Technical Setup**

Simman, Kendrick Splint

**Briefing to Participants: Scene**

Red Call - 35 year old, crossing the road and hit by car. ETA 2 mins.

**Presentation**

**Expected Response**

**Actors Notes**

**Examination:**

**A:** Patent

**B:** Bilat air ent, normal sats. RR 18

**C:** HR 113, BP 116/52, Abdo Soft

**D:** GCS 15, Pearl

**E:** Normothermic, tender left thigh. N&V intact

Painful thigh - screams when palpated.

A: nil

M: nil

P: nil

L: Breakfast - cheerios and milk

E: full recollection, can remember crossing road and being hit. No LOC

**Progress Improves:**

Recognises femoral fracture

Gives Analgesia and Splint  
HR Normalises

**Progress Deteriorates:**

No treatment for femoral fracture

HR increases, blood pressure drops.

**Debrief**

**Clinical**

**CRM**

As identified in scenario

Kendrick Application

Adapted from EMAS application guideline:

[www.emas.nhs.uk/EasySiteWeb/GatewayLink.aspx?allid=61205](http://www.emas.nhs.uk/EasySiteWeb/GatewayLink.aspx?allid=61205)

## Clinical Considerations

Distal neurovascular function must be assessed both before and after application of any splint. These assessments must be clearly documented on any paperwork and handed over to the receiving team in the Emergency Department.

It is paramount that the patient's analgesia needs are addressed prior to potentially painful movements or manipulations of a fractured limb.

Open fractures should be irrigated prior to splinting and have a dressing applied.

## 7 STEP Application of the Kendrick Traction Splint

1. Apply Ankle Hitch. And tighten stirrup.
2. Apply Upper Thigh System in crotch area.
3. Snap out Traction Pole and ensure correctly seated.
4. Place pole against leg. Ensure length extends 8 inches past the foot. Place pole into receptacle in Upper Thigh System.
5. Secure elastic strap around knee.
6. Place Yellow tab over dart end. Apply traction by pulling Red tab.
7. Finally, apply Thigh and Anklestraps

## Reference / Standard

- Kendrick Traction Device Application Instructions
- Ross and Wilson Anatomy and Physiology in Health and Illness
- JRCALC 2013
- UKHEMS Guidelines Splinting Limbs and practice available at <http://www.ukhems.co.uk/Splintage%20-%20Limbs%20and%20Pelvis.pdf> last accessed 22<sup>nd</sup> July 2015.

## Manufacturers Training Video Link

[https://www.youtube.com/watch?feature=player\\_embedded&x-yt-cl=84503534&x-yt-ts=1421914688&v=01EwxclwrMM](https://www.youtube.com/watch?feature=player_embedded&x-yt-cl=84503534&x-yt-ts=1421914688&v=01EwxclwrMM)

VBG



## Measurement report

Serial number : 19241  
 Instrument ID : A&E 1  
 Operator ID : blood

St. Elsewhere Emergency Dept

Pat. ID S1234567  
 Last name Man  
 First name Sim

Blood type Venous  
 FIO<sub>2</sub> 0.21

pH 7.36 (-) [ 7.350 - 7.450 ]  
 PCO<sub>2</sub> 5.2 kPa [ 4.27 - 6.40 ]  
 PO<sub>2</sub> 16 kPa (-- ) [ 11.07 - 14.40 ]

BE 1 mmol/L  
 cHCO<sub>3</sub><sup>-</sup> 22 mmol/L

Na<sup>+</sup> 135 mmol/L [ 136.0 - 145.0 ]  
 K<sup>+</sup> 4.2 mmol/L [ 3.50 - 5.10 ]  
 Ca<sup>2+</sup> 1.5 mmol/L [ 1.150 - 1.330 ]  
 Cl<sup>-</sup> 99 mmol/L [ 98.0 - 107.0 ]

Glu 5.2 mmol/L [ 3.5 - 5.3 ]  
 Lac 1.4 mmol/L [ 0.4 - 0.8 ]  
 Urea 5.7 mmol/L [ 2.5 - 6.4 ]

AG 18 mmol/L  
 Osm 282 mOsm/kg

Hct 45 % (-- ) [ 36.0 - 53.0 ]  
 Hct(c) 45 %

tHb 126 g/L [ 115.0 - 178.0 ]  
 SO<sub>2</sub> 76 % [ 94.0 - 98.0 ]  
 COHb 0.5 % [ 0.0 - 3.0 ]  
 MetHb 1.4 % [ 0.0 - 1.5 ]  
 HHb 2.5 % [ 0.0 - 2.9 ]  
 O<sub>2</sub>Hb 15 % [ 94.0 - 98.0 ]

Bili Out of range (-) [ 51 - 850 ]

Sample No.: S1234567  
Patient ID:  
Name:  
Comments:

Rack:  
Ward:

Tube: 12:34:35  
Dr.:  
Birth: Sex:  
Inst.ID:XS-800i^65614

WBC	13.3	[10 <sup>9</sup> /L]	
RBC	2.08	[10 <sup>12</sup> /L]	
HGB	126	[g/L]	
HCT	0.184	[Ratio]	
MCV	88.0	[fL]	
MCH	29.8	[pg]	
MCHC	339	[g/L]	
PLT	176	[10 <sup>9</sup> /L]	
RDW-SD	42.4	[fL]	
RDW-CV	14.0	[%]	
PDW	11.3	[fL]	
MPV	10.5	[fL]	
P-LCR	27.7	[%]	
PCT	0.18	[%]	
NEUT	5.2	[10 <sup>9</sup> /L]	65.5
LYMPH	2.75	[10 <sup>9</sup> /L]	15.6 *
MONO	1.58	[10 <sup>9</sup> /L]	9.0 *
EO	0.04	[10 <sup>9</sup> /L]	0.2 *
BASO	0.03	[10 <sup>9</sup> /L]	0.2

#### Actions required

- Normal
- Abnormal but no immediate danger
- Significantly abnormal results -  
**\*patient in imminent danger\***

document STAT actions taken

NPT samples  
processed by

NPT results

Images courtesy of Dr Benoudina Samir,  
<http://radiopaedia.org/cases/femoral-shaft-fracture-2>

