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# MAINTENANCE OF BALANCED TRACTION CARE CHART TO MINIMIZE COMPLICATIONS OF FEMORAL FRACTURE IN CHILDREN

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**F**emoral shaft fractures are among the most common diaphyseal fractures in children and traction is a method of initial stabilization before definite treatment. Birmingham Children's Hospital uses a balanced traction care chart introduced locally to monitor traction care and this study is to assess traction care chart and whether or not this reduces traction related complications. A total of 10 patients over 8 months were audited in terms of average duration of traction, neurovascular status and pressure areas check, incidence and treatment of pressure sores, documentation of pain score, documentation of type of stool, regular check of skin traction and suspension, check x-ray and action needed depending on score.

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Categories	
Age	1 to 14 years
Average duration of traction	10.7 days
Average duration of traction in hip Spica	12.6 days
Traction daily check documentation	10
Neuro-vascular status check	10
Pressure area check documentation	10
Incidence of pressure sore	04
Any treatment for pressure sore	03
Traction check list used	10
Position of patients checked daily	10
Daily Documentation of pain score	10
Documentation of type of stool	10
Skin traction bandage, foot clearance and traction cords tension checked regularly	10
Suspensions-knots and weights checked regularly	10
Check x-ray done < 3 days	08
Action needed depending on score	04

Categories	Previous	current
Skin traction and suspension check daily	1/13(08%)	10/10(100%)

**Table: Data record for traction care chart**

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### Balanced Traction Daily Care Chart

A. Patient	Score 0	Score 1	Score 2	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/
<b>a. Position</b>																			
1. Side to side and Top to bottom	Normal	Not Central	Matched rotation																
II. Rotation	Normal	Mild rotation	Matched rotation																
III. Abduction	Abduction 20	10-20 or > 30	< 10 or > 40																
<b>b. Peroneal Vascular status</b>	Normal	Boggy but intact	absent																
<b>c. Pressure areas</b>																			
I. Proximal ring																			
1. Medial (Groin)	Normal	High redness	Blister/breaking																
2. Posterior (Gluteal)	Normal	High redness	Blister/breaking																
3. Lateral (Gr. Troch./Pelvis)	Normal	High redness	Blister/breaking																
II. Head of Fibula	Normal	High redness	Blister/breaking																
III. Medial Malleolus	Normal	High redness	Blister/breaking																
IV. Lateral Malleolus	Normal	High redness	Blister/breaking																
V. Tendo Achilles	Normal	High redness	Blister/breaking																
VI. Heel	Normal	High redness	Blister/breaking																
<b>d. Pain</b>	< 3/10	4-6 / 10	> 6/10																
<b>e. Castigation</b>	Type 1-4	Type 2	Type 3																
<b>B. Skin traction</b>																			
a. Bandage	Well applied	Minor adjustment	Too loose / too tight																
b. foot clearance	Yes	5-10 cm	< 5 cm or > 10 cm																
c. traction cords tension	Good	Distraction with stretch	Band reapplication																
<b>C. Suspension</b>																			
a. Knots :																			
I. Secure	Yes		No																
II. Clear from pulleys	> 25 cm	10-25 cm	< 10 cm																
b. Weights																			
I. Clearance from ground	> 25 cm	10-25 cm	< 10 cm																
I. calculation	As calculated	0.5 - 1.0 kg after	> 1 kg after or Weight A < 1.2 kg																
<b>D. Check X-Ray</b>																			
a. Last check X-ray	< 7 days	8-14 days	> 14 days / None yet																
<b>Action needed</b>	No Action needed	Minor adjust done	1. Inform IVL 2. Inform Doctor 3. Needs to Reapply																
Any intervention due to high score should be documented in the notes and both pre / post intervention scores are recorded in the chart e.g: 2 X 0 / 1 X 0 / 2 X 1																			

Figure: Balanced Traction Daily Care Chart