Abstract Title: Maintenance of Balanced Traction Care Chart to Minimise Complications of Femoral Fracture in Children.

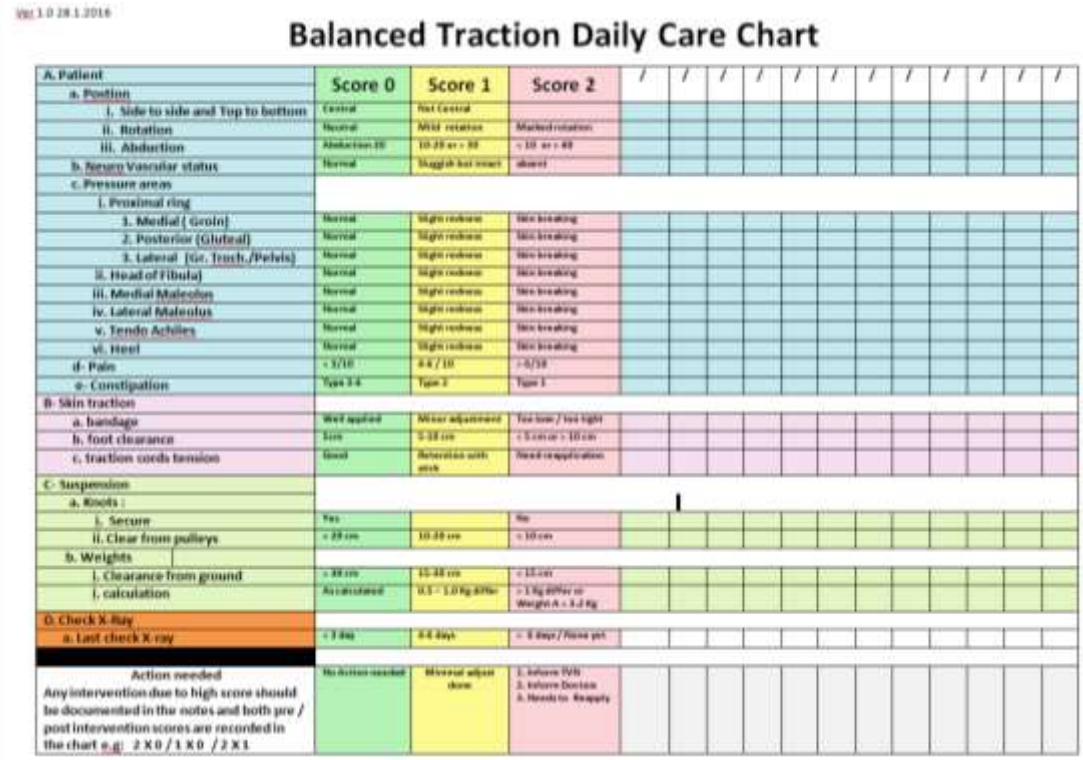
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Femoral shaft fractures are among the most common diaphyseal fractures in children and traction is a method of initial stabilization before definite treatment. Birmingham Children's Hospital uses a balanced traction care chart introduced locally to 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. The average duration of traction was 10.7 days. There is significant improvement in categories such as neurovascular and pressure areas check, as those were checked in all cases (100%) in comparison with the previous data. Moreover, the frequency (40%) and severity of pressure sore decreased compared with the previous data (62%) after introduction of traction care chart. Of those pressure sores, 2 were blisters, 1 was slight redness and 1 case had breakage of skin. Lack of adjustment was the reason for all pressure sores and pressure sores were treated with dressing and re adjustment of the splint. Introduction of the balanced traction daily care chart improves the outcome of patients with traction and minimises the risk of traction related complications, therefore it can be used in other paediatric hospitals.



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Balanced Traction Daily Care Chart

A. Patient	Score 0	Score 1	Score 2	/	/	/	/	/	/	/	/	/	/	/	/
a. Postion															
i. Side to side and Top to bottom	Central	Not Central													
ii. Rotation	Neutral	Mild rotation	Marked rotation												
iii. Abduction	Abduction 30	10-20 or < 30	< 10 or > 40												
b. Neuro Vascular status	Normal	Sluggish but intact	absent												
c. Pressure areas															
i. Proximal ring															
1. Medial (Groin)	Normal	Slight redness	Skin breaking												
2. Posterior (Gluteal)	Normal	Slight redness	Skin breaking												
3. Lateral (Gr. Troch./Pelvis)	Normal	Slight redness	Skin breaking												
ii. Head of Fibula)	Normal	Slight redness	Skin breaking												
iii. Medial Malleolus	Normal	Slight redness	Skin breaking												
iv. Lateral Malleolus	Normal	Slight redness	Skin breaking												
v. Tendo Achilles	Normal	Slight redness	Skin breaking												
vi. Heel	Normal	Slight redness	Skin breaking												
d- Pain	< 3/10	4-6 / 10	> 6/10												
e- Constipation	Type 3-4	Type 2	Type 1												
B- Skin traction															
a. bandage	Well applied	Minor adjustment	Too loose / too tight												
b. foot clearance	2cm	1-10 cm	< 5 cm or > 10 cm												
c. traction cords tension	Good	Retension with stick	Need reapplication												
C- Suspension															
a. Knots :															
i. Secure	Yes		No												
ii. Clear from pulleys	> 20 cm	10-20 cm	< 10 cm												
b. Weights															
i. Clearance from ground	> 30 cm	15-30 cm	< 15 cm												
i. calculation	As calculated	0.5 – 1.0 Kg differ	> 1 Kg differ or Weight A + 1.2 Kg												
D. Check X-Ray															
a. Last check X-ray	< 3 day	4-6 days	> 6 days / None yet												
Action needed 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	No Action needed	Minimal adjust done	1. Inform SVN 2. Inform Doctor 3. Needs to Reapply												

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%)

Neurovascular status checked daily	09/13(70%)	10/10(100%)
Pressure areas checked daily	09/13(70%)	10/10(100%)
Evidence of pressure sore	08/13(62%)	4/10(40%)
Action needed depending on the score	5/8(62%)	4/4(100%)

Keywords: Fracture Femur, Paediatric Trauma and Orthopaedics, Pressure sore, Traction care chart.

Biography:

Dr Sowrav Barman has completed his MBBS from Chittagong Medical College, Bangladesh. He moved to United Kingdom in 2015. He has done core surgical training in different surgical specialities and passed MRCS from Royal college of Surgeons of England. He is currently working as a Speciality Registrar in General Surgery at Blackpool Victoria Hospital in United Kingdom.



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