

Paediatric Neuroprotection Checklist

Adapted from QCH PICU "Standard Approach for TBI" Version 1.3

Airway/Breathing

- SpO2 target 96-98%
- Co2 target 35-40mmHg
- pH target 7.4-7.45

Circulation

- Ensure adequate SBP or MAP > 50th centile for age (as per table)
 - Vasopressors may be required
- Consider arterial line placement for invasive BP monitoring

C-Spine

- Protect C-spine
 - Preferably sandbags

Brain

- Good pain control and sedation
- Head up at 30 degrees
- Head midline
- Loosen endotracheal tube ties if present
- Aggressively manage seizures

Temperature Control

- Aim for normal temperature ~36 degrees
- Avoid HYPERthermia

Fluid/Metabolics

- 3-5mL/kg 3% Saline
 - Aiming for Na of 140-155
- BSL 6-10mmol/L- Treat hypoglycaemia with 2mls/kg 10% dextrose

Infection Cover

- Are IV antibiotics required?

Any signs of raised ICP?

- **Blown Pupil?**
 - 5mL/kg 3% Saline bolus
 - Optimise sedation- consider bolus of infusions
 - Hyperventilate with FiO2 1.0 to CO2 of 30-35mmHg or reversal of pupil dilation
 - Urgent CT + Surgical involvement

MAP Centiles Age	50	75	95
0-3 m	55	63	77
3-6 m	61	69	86
6-9 m	66	74	93
9-12 m	69	78	97
12-18 m	70	79	99
18-24 m	70	80	98
2-3 y	71	80	98
3-4 y	72	81	98
4-6 y	73	82	99
6-8 y	75	84	101
8-12 y	76	86	103
12-15 y	78	88	105
15-18 y	78	88	104

Adapted from: Eytan, Goodwin, Greer, Guerguerian, Lauren (2017). "Heart rate and blood pressure centime curves and distributions by age of hospitalised critically ill children" *Front Pediatr*: 17:5:52

Any intervention should not delay patient transfer to neuroimaging once the child is safe to attend with an escort.

