

Assessing trauma severity

A clear and concise communication between the pre-hospital system and the hospital center is essential. This communication should be both simple and as detailed as possible in describing the patient's state. The **Pediatric Glasgow Coma Scale (GCS)** and the **Pediatric Trauma Scale (PTS)** meet these criteria. Their use will improve quality of care services and reduce the delay between the time of the evaluation, the investigation and the interventions. The Trauma Programs of the Montreal Children's Hospital endorses the use of the GCS and the PTS.

The Pediatric Glasgow Coma Scale

Although developed many years ago, the GCS remains an important scale. Its use has been recommended by the MSSS in the 2005 Ministry report pertaining to trauma care. The GCS can be used to monitor the child's level of consciousness during both the pre-hospital and hospital care. The score ranges from 3 to 15. A higher score represents a higher level of consciousness. It is preferable to give the score on each measure of response, rather than just giving the total score.

LEVEL OF CONSCIOUSNESS – PEDIATRIC GLASGOW COMA SCALE: (GCS range: 3 to 15)											
EYE OPENING				VERBAL RESPONSE				MOTOR RESPONSE			
Age : > 2yrs		≤ 2 yrs		Age : > 2 yrs		≤ 2 yrs		Age : > 2 yrs		≤ 2 yrs	
Spontaneous	4	Spontaneous		Oriented	5	Coos, babbles		Obeys commands	6	Normal, spontaneous	
To voice	3	To speech		Confused	4	Irritable, cries		Localizes pain	5	Withdraws to touch	
To pain	2	To pain		Inappropriate	3	Cries to pain		Withdraws to pain	4	Withdraws to pain	
None	1	None		Incomprehensible	2	Moans to pain		Flexion to pain	3	Abnormal flexion	
				None	1	None		Extension to pain	2	Abnormal extension	
								None	1	None	
Eye opening = _____			Verbal = _____			Motor = _____					
TOTAL = _____ / 15											

The Pediatric Trauma Score

The PTS was developed to reflect the children's vulnerability to traumatic injury. It emphasizes the importance of the child's weight and airway. Several studies have confirmed that the PTS is a valid tool in predicting mortality of a traumatically injured child. Mortality is estimated at 9% with a PTS > 8, and at 100% with a PTS ≤ 0. There is a linear relationship between the decrease in PTS and the mortality risk (i.e. the lower the PTS, the higher the mortality risk). The minimal score is -6 and the maximum score is +12.

Pediatric Trauma Score (PTS)	+2	+1	-1
Weight	> 20 kg (44 lbs.)	10-20 kg (22-44 lbs.)	< 10 kg (22 lbs.)
Airway	Patent	Maintainable	Unmaintainable
Systolic B/P	> 90 mm Hg	50-90 mm Hg	< 50 mm Hg
CNS	Awake	+ LOC	Unresponsive
Fractures	None	Closed or suspected	Multiple closed or open
Wounds	None	Minor	Major, penetrating or burns