

# Paediatric Trauma Score: A Quick Mass Casualty Scenario Assessment Tool?

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## Abstract

**Aims:** The objective of this study was to evaluate the association of the Pediatric Trauma Score (PTS) polytrauma in relation to emergency department (ED) disposition in pediatric trauma patients.

**Materials and Methods:** PTS was deduced from data drawn from a mass casualty scenario that arrived at the ER of MGM Hospital which comprised of triaged- 5 red cases, 15 yellow cases and 19 green cases

**Results:** Our assessment shows that early and swift assessment of this prognostic criterion helped in better management of triaged patients and reduced both in hospital stay and post trauma rehabilitation.

**Conclusion:** Patients who had lesser scores PTS correlated with poorer outcomes underling the importance of need for simple and handy tools of assessment and trauma evaluation which would in return contribute to enhanced performance validation of PTS.

## Introduction

The quantitative evaluation of the severity of the injuries using a trauma score is intended, on the one hand, to facilitate the necessary triage, and treatment-related decision-making; and In view of the anatomic and physiologic peculiarities of the child, special pediatric scoring systems, such as the Pediatric Trauma Score (PTS), are being propagated for use in addition to the numerous trauma scores that are in general use. For the quantification of multiple injuries in children, a range of different trauma scores are available, the actual prognostic value of which has, however, not so far been investigated and compared in a group of patients, but there is no widely accepted trauma scoring criteria for the rapid triage of acute injuries in children.

A mass casualty incident describes an incident in which emergency medical services resources, such as personnel and equipment, are overwhelmed by the number and severity of casualties.

Challenges faced- balance between under triage or over triage, transfer of child to specific trauma centres, difficult application of GCS(Glasgow coma score) and other assessments, communications of children not

developed that delays the detection of injury.

Pediatric trauma score is unique trauma scale initially developed for pre—hospital triage and takes into account anatomic and physiological variables.

It is suggested that PTS would be adequately associated with these outcomes.

Pediatric Trauma Score (PTS)			
Component	Score		
	+2	+1	-1
Weight	>20 kg	10 - 20 kg	< 10 kg
Airway	Normal	Oral or nasal airway	Intubated or tracheostomy
Systolic BP	>90 mm Hg	50 - 90 mm Hg	<50 mm Hg
Level of Consciousness	Awake	Obtunded or any loss of consciousness	Comatose
Open Wounds	None	Minor	Major or penetrating
Fractures	None	Minor	Open or multiple
<b>Total Score</b>			
	9 - 12 Minor Trauma		
	6 - 8 Potentially life threatening		
	0 - 5 Life threatening		
	< 0 Usually fatal		

Figure 1: PEDIATRIC TRAUMA SCORE

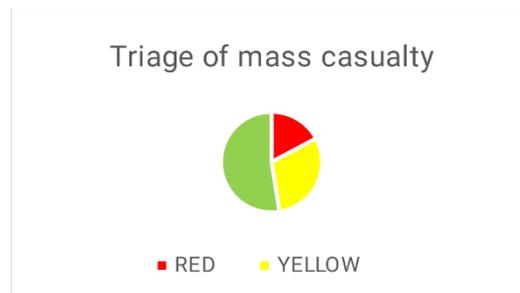


Figure2 :piechart showing the percentage of the cases on triage

### Clinical summary

Alleged history of a school bus that lost its balance on a turn and toppled over- it flipped towards the left side. Received total 39 pediatric + 2 adult patients.

### Triage of mass casualty by PTS

Patients triaged on the basis of Airway patency (vocalizing), level of consciousness, hemodynamic status and wounds.

### Outcome

(pediatric trauma score)

Red cases- PTS- 6-8(potentially life threatening)

Yellow cases PTS- 9-12(minor trauma)

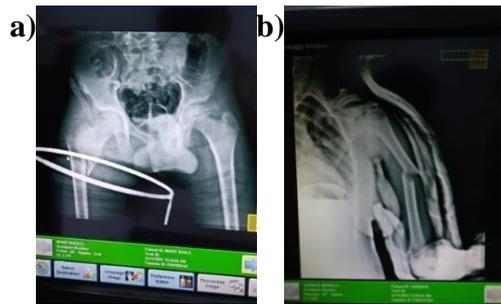
Green cases- PTS- 12( minor trauma)

It is suggested that PTS would be adequately associated with these outcomes.

### Discussion

This observation will aim to establish the correlation between ED presentation of pediatric polytrauma and its ability to predict outcome and prognostic variables. Drawing inference that the various level of

triage would allow us to predict efficacy of this trauma scoring tool in accurately assessing injury severity while taking into account the clinical and hemodynamic status, radiographic findings and prognosis at time of discharge or in hospital stay. The leading prognostic target criterion of most trauma scores is mortality, whereas such aspects as the burden on the economy, the duration of treatment, reintegration into the labor force/school life, and quality of life or the extent of permanent disability, which are of pre-eminent importance in paediatric trauma.



**Figure 3:**

- a) right proximal femur fracture  
b) left mid-shaft humerus fracture - FRACTURE-closed-+1score



**Figure 4: image showing open wound Major penetrating open wound- +2 score**

### Conclusion

Patients who had higher scores PTS correlated with better outcomes underling the importance of need for simple and handy tools for triage and trauma evaluation which would in turn contribute to enhanced performance validation of PTS.

### References

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