1. Date and time first call received by EMS: (24 hr clock)  Unknown
2. Date and time of EMS dispatch: (24 hr clock)  Unknown
3. EMS dispatch priority:  High acuity  Moderate acuity  Unknown  Other
4. Type of EMS vehicle:  Ground  Air  Other  Unknown
5. Date and time of EMS arrival at scene: (24 hr clock)  Unknown
6. Date and time of EMS departure from scene: (24 hr clock)  Unknown
7. Highest level of EMS service:  BLS  ALS  Paramedic  Flight nurse  MD  Unknown
8. Was a pre-hospital neurologic impairment screen documented by EMS personnel?

Yes  No  Unknown

1. Associated injury

No Yes Unknown

**On arrival to study centre:**

1. Was patient intubated on arrival

No Yes Unknown

1. Was patient on paralytics

No Yes Unknown

1. Was patient sedated

No Yes Unknown

1. Did patient/participant experience a hypotensive episode (systolic BP <90 mm Hg for longer than 5 minutes)? (Choose one)

Yes

No

Suspected

Unknown

1. Did patient/participant experience a hypoxic episode [oxygen saturation (SpO2) less than 90% for >5 min]? (Choose one)

Yes

No

Suspected

Unknown

## Glasgow Coma Scale (18 years and older)

1. Date and time of GCS:
2. Best Eye Response Score

Best Eye Response (Choose one):

1  2  3  4

1-No eye opening

2-Eye opening to pain

3-Eye opening to verbal command

4-Eyes open spontaneously

1. Best Verbal Response Score

1  2  3  4  5

1-No verbal response

2-Incomprehensible sounds

3-Inappropriate words

4-Confused

5-Oriented

1. Best Motor Response Score

1  2  3  4  5  6

1-No motor response

2-Extension to pain

3-Flexion to pain

4-Withdrawal from pain

5-Localizing pain

6-Obeys commands

1. Total Glasgow Score: (3–15; calculated field)

## Abbreviated Injury Scale

1. 6 Body Regions – Head & Neck:

Minor (1)

Moderate (2)

Serious (3)

Severe (4)

Critical (5)

Unsurvivable (6)

1. 6 Body Regions – Face:

Minor (1)

Moderate (2)

Serious (3)

Severe (4)

Critical (5)

Unsurvivable (6)

1. 6 Body Regions – Chest:

Minor (1)

Moderate (2)

Serious (3)

Severe (4)

Critical (5)

Unsurvivable (6)

1. 6 Body Regions –Abdomen:

Minor (1)

Moderate (2)

Serious (3)

Severe (4)

Critical (5)

Unsurvivable (6)

1. 6 Body Regions – Extremity:

Minor (1)

Moderate (2)

Serious (3)

Severe (4)

Critical (5)

Unsurvivable (6)

1. 6 Body Regions – External:

Minor (1)

Moderate (2)

Serious (3)

Severe (4)

Critical (5)

Unsurvivable (6)

1. 9 Body Regions – Head:

Minor (1)

Moderate (2)

Serious (3)

Severe (4)

Critical (5)

Unsurvivable (6)

1. 9 Body Regions – Neck:

Minor (1)

Moderate (2)

Serious (3)

Severe (4)

Critical (5)

Unsurvivable (6)

1. 9 Body Regions –Face:

Minor (1)

Moderate (2)

Serious (3)

Severe (4)

Critical (5)

Unsurvivable (6)

1. 9 Body Regions – Chest/Thorax:

Minor (1)

Moderate (2)

Serious (3)

Severe (4)

Critical (5)

Unsurvivable (6)

1. 9 Body Regions – Abdomen:

Minor (1)

Moderate (2)

Serious (3)

Severe (4)

Critical (5)

Unsurvivable (6)

1. 9 Body Regions – Spine:

Minor (1)

Moderate (2)

Serious (3)

Severe (4)

Critical (5)

Unsurvivable (6)

1. 9 Body Regions – Upper Extremity:

Minor (1)

Moderate (2)

Serious (3)

Severe (4)

Critical (5)

Unsurvivable (6)

1. 9 Body Regions – Lower Extremity:

Minor (1)

Moderate (2)

Serious (3)

Severe (4)

Critical (5)

Unsurvivable (6)

1. 9 Body Regions – External and Other:

Minor (1)

Moderate (2)

Serious (3)

Severe (4)

Critical (5)

Unsurvivable (6)

1. Injury Severity Score (ISS): (between 0–75)

**Additional Pediatric-Specific Elements**

These elements are recommended for pediatric studies.

1. Did the participant/subject experience hypotensive episode for longer than 5 minutes? (Choose one):

Hypotensive episode defined as:

Systolic BP <60 mm Hg for term neonates (0-28 days old)

Systolic BP <70 mm Hg for infants (1 month – 12 months old)

Systolic BP <70 mm Hg + (2X age in years) in children 1 year to 10 years

Systolic BP <90 mm Hg in children ≥ 10 years

Yes

No

Suspected

Unknown

1. Did the participant/subject experience cardiac arrest? (Choose one)

Yes

No

Suspected

Unknown

**Pediatric Glasgow Coma Scale** (recommended for children < 18 years)

1. Date and time of PGCS:
2. Best eye response score (Choose one):

1  2  3  4

1-No eye opening

2-Eye opening to pain

3-Eye opening to speech

4-Eyes open spontaneously

1. Best verbal response score (Choose one):

1  2  3  4  5

1-No vocal response

2-Inconsolable, agitated

3-Inconsistently consolable, moaning

4-Cries, but is consolable, inappropriate interactions

5-Smiles, orients to sounds, follows objects, interacts

1. Best motor response score (Choose one):

1  2  3  4  5  6

1-No motor response

2-Extension to pain

3-Flexion to pain

4-Withdrawal from pain

5-Localizing pain

6-Obeys commands

1. Total Glasgow Score (3-15; calculated field)
2. Was a protective device used in the vehicle? (Choose one)

Yes

No

Unknown

1. What type of protective device was used? (Choose one)

Helmet

Child safety restraint

Seat belt

Air bag

Other, specify:

1. If child safety restraint used, indicate what type: (Choose one)

Rear-facing seat

Forward-facing seat

Booster seat

1. If seat belt used, indicate what type (Choose one)

Lap belt

Three-point restraint

Five-point restraint

Not applicable

Unknown

1. What was the position in the vehicle (Choose one)

Front seat

Back seat

Other

1. Type of transport to the hospital:

Ground ambulance with physician

Ground ambulance no physician

Private transportation/taxi/other from home/scene

By foot

Helicopter

Other, specify

1. For children 0–5 years, was backboard modified for transport?

Cut-out to recess occiput:

Yes

No

Unknown

Double mattress pad to raise chest/trunk:

Yes

No

Unknown

## General Instructions

This case report form (CRF) contains data elements related to pre hospital assessment for spinal cord injury.

Important note: None of the data elements included on this CRF Module is considered Core (i.e., strongly recommended for all spinal cord injury clinical studies to collect). Rather, all of the data elements are Supplemental and should only be collected if the research team considers them appropriate for their study.

## Specific Instructions

The Glasgow Coma Scale (GCS) was developed to overcome the misunderstandings and confusion about comatose patients. The GCS is also used to assess neurological trauma as well as to document and predict neurological changes. It is considered the gold standard in this regard and is widely used. Three questions must be answered in regards to unconsciousness and coma with the first addressing eye opening, the second motor function and the third verbal response. Scores range from 3–15 total points with higher scores indicating patients in comatose.

The **Pediatric Glasgow Coma Scale (PGCS)** is a modified form of the GCS and is also comprised of three tests: eye, verbal and motor responses.

The **Abbreviated Injury Scale (AIS)** is an anatomical scoring system first introduced in 1969. Since this time it has been revised and updated against survival so that it now provides a reasonably accurate ranking of the severity of injury. The latest incarnation of the AIS score is the 1998 revision. The AIS is monitored by a scaling committee of the Association for the Advancement of Automotive Medicine.

Injuries are ranked on a scale of 1 to 6, with 1 being minor, 5 severe, and 6 a nonsurvivable injury. This represents the 'threat to life' associated with an injury and is not meant to represent a comprehensive measure of severity. The AIS is not an injury scale, in that the difference between AIS1 and AIS2 is not the same as that between AIS4 and AIS5. There are many similarities between the AIS scale and the Organ Injury Scales of the American Association for the Surgery of Trauma (AAST).

**Injury** **AIS Score**

Minor 1

Moderate 2

Serious 3

Severe 4

Critical 5

Unsurvivable 6

Coding for the AIS 1-6 is based on a coding manual, which should be used (see reference below).

The **Injury Severity Score** is an anatomical scoring system that provides an overall score for patients with multiple injuries. Each injury is assigned an [Abbreviated Injury Scale](http://www.aaam.org/about-ais.html) (AIS) score and is allocated to one of six body regions (Head, Face, Chest, Abdomen, Extremities (including Pelvis), External). Only the highest AIS score in each body region is used. The 3 most severely injured body regions have their score squared and added together to produce the ISS score. The ISS score takes values from 0 to 75. If an injury is assigned an AIS of 6 (unsurvivable injury), the ISS score is automatically assigned to 75.

**Position in Vehicle**: If “other” is chosen, please state where child was sitting (e.g., trunk of hatch backs; station wagons; back of pick-up trucks, etc.).

**References**

**Glasgow Coma Scale:**

Teasdale G, Jennett B. Assessment of coma and impaired consciousness. A practical scale. Lancet. 1974;2(7872):81–84.

**Abbreviated Injury Scale:**

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**Injury Severity Score:**

Baker SP et al. The Injury Severity Score: a method for describing patients with multiple injuries and evaluating emergency care. J Trauma. 1974;14:187–196.

**Pediatric-specific References:**

Haque IU, Zaritsky AL. Analysis of the evidence for the lower limit of systolic and mean arterial pressure in children. Pediatr Crit Care Med. 2007;8(2):138–144.

Herzenberg JE, Hensinger RN, Dedrick DK, Phillips WA. Emergency transport and positioning of young children who have an injury of the cervical spine. The standard backboard may be hazardous. J Bone Joint Surg Am. 1989;71(1):15–22.

Kirkham FJ, Newton CR, Whitehouse W. Paediatric coma scales. Dev Med Child Neurol. 2008;50(4):267–274.

Zubrow AB, Hulman S, Kushner H, Falkner B. Determinants of blood pressure in infants admitted to neonatal intensive care units: a prospective multicenter study. Philadelphia Neonatal Blood Pressure Study Group. J Perinatol. 1995;15(6):470–479.