Approved by: Trauma Services

DEPARTMENT: Emergency Department	POLICY TITLE: Trauma Assessment and Resuscitation
Page 1 of 3	REPLACES POLICY DATED: 3/07, 10/10, 8/13
EFFECTIVE DATE: 8/16	REFERENCE NUMBER: 780-204

PURPOSE:
To establish a standardized and systematic approach for the initial assessment of the trauma patient, thereby ensuring efficient, organized and optimal care for the trauma patient.

POLICY:
When report of a trauma patient's arrival to the Emergency Department is received, the Trauma Team should be activated using the group pager. See Trauma Team Activation policy for process and roles/ responsibilities of the team members.

In order to maintain the efficient and organized plan of care for the patient, the following processes are initiated by the Trauma Team.

Trauma patient assessment and resuscitation will be initiated by members of the trauma team upon arrival of the patient in the Emergency Department. The patient should be assessed and resuscitated using a systematic approach to Primary and Secondary Assessments which are referenced in the Trauma Nurse Core Curriculum, Emergency Nurse Pediatric Curriculum, and Advanced Trauma Life Support.

PROCEDURE:
Assessment and care must always be individualized to the specific situation and needs of each patient. Below is a general framework that may help guide such management. The processes are arranged numerically, but are often carried out simultaneously by the members of the Trauma Team. These processes also include ongoing reassessment of patient status and success of any interventions initiated.

I. **Primary Survey –** including initiation of procedures for life threatening conditions
   A. Airway **with** simultaneous immobilization of cervical spine
   B. Breathing
   C. Circulation
   D. Disability – Glasgow Coma Score (GCS) and patient's responsiveness utilizing AVPU scale

Special Note: Digital chest and pelvis radiographs are obtained as part of the primary survey and prior to other diagnostics, such as CT. Any warranted interventions identified by the chest or pelvis radiographs should be considered prior to conducting the secondary survey or leaving the trauma bay for CT. For example, chest tube placement for a pneumothorax or pelvic binder placement for an unstable pelvis fracture.

II. Secondary Survey – occurs **only** after all lifesaving interventions of the primary survey have been addressed
   A. History – including mechanism of injury, pre-hospital treatment, and past medical history
   B. Head to Toe Assessment (including posterior surfaces) – ensure patient is completely undressed to allow for complete visualization of actual and potential injuries. The spinal immobilization board is removed by the physician or extender during the posterior survey. Extremity plain films are completed after CT, unless the ED physician or extender determines the patient's condition allows otherwise.

III. Transport
   A. All level 1 patients are monitored and accompanied by an RN to radiology.
   B. All level 2 and 3 patients are monitored and accompanied by an RN to radiology unless

cleared by the ED physician or trauma surgeon.

IV. Documentation

A. All patients meeting trauma activation criteria should have a trauma flow sheet initiated on arrival to the Emergency Department.

B. All incoming trauma-related transfers should be documented on a trauma flowsheet whether the trauma team is activated or not.

C. All patients meeting trauma activation criteria should be triaged as an ESI Level 2/Emergent or higher acuity as applicable to the patient presentation.

D. Documentation of the initial resuscitation and the primary and secondary survey, located on pages 1 and 2 of the flowsheet, should be completed by either the primary nurse or designated nurse recorder on arrival of the patient to the Emergency Department.

E. All procedures, changes in condition, repeat assessments, and admission/transfer/discharge should be charted in chronological order on the subsequent pages of the Trauma Flow Sheet. The following are items that should be documented on all patients when applicable to their clinical presentation:

- Transport destination and time to and from the Emergency Department
- Physician times called and arrived at the bedside.
- Vital Signs, Neuro Checks, Neurovascular Checks.
- Temperature will be reassessed during their ED course to assess the effectiveness of warming measures instituted.
- Procedures .
- Intake and output totals.
- Narrative assessments.
- Interventions and medications .
- Response to IV bolus or blood products.
- Responses to interventions and medications.
- Disposition time and place.

F. A complete set of vital signs should be documented on arrival. These include blood pressure, pulse, respirations, temperature, oxygen saturation, GCS, RTS, and weight in kilograms.

G. Repeat vital signs (pulse, respirations, BP, and GCS) every 15 minutes until stable and then at least hourly. Vital signs may be documented more frequently as patient condition dictates.

H. “Abnormal” vital signs refers to any vital signs which are out of the normal OR have changed 10% from the patient’s documented baseline. Vital signs may be altered by fear, pain, anxiety, chronic medical problems, and physiological problems such as hyperthermia, hypoxia, and hypovolemia. When interpreting vital signs all of these factors should be considered. “Abnormal” vital signs should be reported to the physician. Documentation should reflect the abnormal VS, physician notification and any intervention taken.

I. Alert physician immediately for abnormal adult vital signs; suggested guidelines include:

1. Age 0-9: Systolic BP less than 70 + 2x age.
2. Age 10 to 64: Systolic BP< 90.
3. Age ≥ 65: Systolic < 100.
3. Age < 65: Heartrate > 130.
4. Age ≥ 65: Heartrate > 120.
5. Respiratory rate < 10 or >30.

4. Irregular pulse, or arrhythmia or EKG on monitor
6. Temperature ≤ 96.8.
7. GCS < 13 or change by 2 points

J. Suggested guidelines for **normal** pediatric vital signs are in chart below. Alert the physician for pediatric vital signs which are out of the normal range OR have changed 10% from the patient's documented baseline.

K. Documentation should reflect the abnormal VS, physician notification and any interventions.

L. Reassessments should be documented at least hourly and more frequently as patient condition dictates. Documentation should include such items as level of pain, level of consciousness, ongoing injury specific status and neurovascular checks for extremity trauma.

M. Response to interventions and medications should be documented at least 30 minutes following performance or administration.

N. Psychosocial support such as presence of family members and clergy and at the bedside should be documented.

Pediatric Vital Signs Reference

AGE	WEIGHT (KG)	PULSE	RESP	SYST BP	DIAST BP
Premature	1	145	< 40	42+/- 10	21 +/- 8
Premature	1-2	135	---	50 +/- 10	28 +/- 8
Newborn	2-3	125	---	60 +/- 10	37 +/- 8
1 mo	4	120	24-35	80 +/- 16	46 +/- 16
6 mo	7	130	---	89 +/- 29	60 +/- 10
1 year	10	120	20-30	96 +/- 30	66 +/- 25
2-3 yrs	12-14	115	---	99 +/- 20	64 +/- 25
4-5 yrs	16-18	100	---	99 +/- 20	6 +/- 20
6-9 yrs	20-26	100	12-25	100 +/- 20	65 +/- 15
10-12 yrs	32-42	75	---	112 +/- 20	68 +/- 15
Over 14 yrs	> 50	70	12-18	120 +/-20	75 +/- 15

Reference:
Jorden RC: "Multiple Trauma" in Emergency Medicine-Concepts and Clinical Pratice 3rd ed.; Rosen P, Barkin R et al. (eds). 1982 Mosby-Year Book, Inc. p281-282.

Trauma Nursing Core Course, 7th ed. Emergency Nurses Association. 2014.