

Section: Division of Nursing

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\* **PROTOCOL** \*  
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HACKETTSTOWN REGIONAL MEDICAL CENTER

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ED  
(Scope)

**TITLE: INITIAL ASSESSMENT OF THE MULTIPLE TRAUMA PATIENT PROTOCOL**

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**PURPOSE:** To guide the RN in the systematic process of initial assessment of the multiple trauma patient.

**SUPPORTIVE DATA:**

A coordinated approach to the management of the multiple trauma patient requires a team effort where many assessments and interventions are performed concomitantly. Attention to steps in the primary survey involve resuscitative measures before undertaking the more in depth secondary survey, focused survey and definitive management. Viability of the patient is enhanced when the steps outlined are followed. The R.N. should have a heightened index of suspicion of types of injuries based on the mechanism of injury.

Some injuries are predictable based on specific mechanisms of injury (the mechanical dynamics of a trauma and its resultant body damage). Mechanisms are usually complex, and injuries are the result of more than direct impact or contact. **Motor vehicle accidents** are the most complex. The seriousness of injuries is dependent on the type of collision (see table below); type and size of vehicle; speed on impact; whether the victim was the driver, passenger, or a pedestrian; and whether seat belts were worn. When properly worn (below the iliac spines), seat belts can reduce the extent of injury. However, when they are worn high on the abdomen, they can cause intra-abdominal or spinal injuries. Shoulder straps help to prevent spinal injuries but can cause shoulder injuries.

**Falls or jumps** cause injuries from direct impact and internal organ impact, including compressing fractures of the spine, head injuries, lower extremity injuries, and internal chest and abdominal injuries.

There are three mechanisms of injury involved in **gunshot wounds**: (1) Direct tearing of tissues occurs in the path of the bullet, which is not necessarily a straight line, as the bullet follows the path of least resistance. (2) Cavity formation occurs as energy is released from the bullet and injures remote tissues. The cavity acts like a vacuum and sucks in debris and atmospheric contaminants. Heavier, higher-speed bullets do the most damage. (3) Internal combustion burns result from gunpowder, especially from close-range shotgun wounds.

**Stab wounds** have a more direct mechanism of injury, with damage to underlying tissues

**EQUIPMENT:**

- |                                     |                           |
|-------------------------------------|---------------------------|
| 1. Resuscitative equipment          | 5. Large bore IV's        |
| 2. Stethoscope                      | 6. Trauma Lab tubes       |
| 3. Pen light                        | 7. Pressure bags/IV Pumps |
| 4. C-spine immobilization equipment |                           |
- \*Stabilize and consider transfer to Level I trauma Center

**PRIMARY  
SURVEY**

CONTENT:

KEY POINTS:

1. Airway  
C Spine precaution - sandbags, tape, stiff neck collar. Assess for presence of foreign body/fluid/edema for stridor/drooling soft tissue trauma.  
  
Perform jaw thrust/chin lift. Remove debris; suction oral/nasal airway. Assist with intubation. CPR/ACLS/PALS as indicated. Assist with cricothyroidotomy.
2. Breathing  
Assess chest for inspiration/expiration and symmetry. Rate/depth of breathing. Assess LOC/color. Assess use of accessory muscles tracheal deviation chest wounds auscultate breath sounds.  
  
100% O<sub>2</sub> via NRBM or BVM. Assist with intubation. Positive pressure ventilation. Apply occlusive dressings (sucking chest wound). Insert needle thoracostomy (tension pneumothorax). Assist with chest tube (hemothorax). Assist with mechanical ventilation (flail chest).
3. Circulation  
Palpate carotid pulse.  
  
Observe uncontrolled external bleeding. Apply direct pressure and elevation if appropriate. Pressure dressings as indicated.  
  
Observe color/temperature/capillary refill. Insert two large bore IV's (14-16 gauge) with lactated ringers or 0.9 NS on pump or pressure bags.  
  
Diaphoresis/skin temperature. Capillary refill > 2 seconds.
4. Neuro Exam  
Assess eye opening. Administer Narcan where indicated and as ordered by physician.  
  
Response to verbal stimuli. IV 50% Dextrose where indicated and as ordered by physician.  
  
Motor response. Thiamine where indicated and as ordered by physician.  
  
Pupillary response.
5. Expose  
Remove clothing by cutting and with-out removing cervical stabilization. Provide warm blanket. Assess for burns – flush with water and cover with DSD Rectal T, BP, Apical pulse, R and pulse ox.  
General skin survey.
6. Vital Signs  
Obtain complete set of vital signs.

**SECONDARY  
SURVEY**

7. Head and Face  
Maintain C-spine precautions.  
  
Gross visual acuity.  
  
Check for Otorrhea/rhinorrhea/edema  
  
Observe for soft tissue injury. Palpate for crepitus, bleeding from back of skull to face. Observe for impaled objects. Assess for facial asymmetry. Palpate for crepitus deformities.  
  
Check for eye movement. Ask if patient can see you. Check for abnormal extra ocular movements after C-spine is cleared.
8. Neck  
Assess for surface/penetrating impaled objects, ecchymosis, edema.  
  
Ask patient about pain/tenderness on swallowing. Palpate for subcutaneous emphysema. Assess for tracheal deviation/distended neck veins. Ask about pain on swallowing.
9. Chest  
Observe for surface/penetrating/impaled object.  
  
Sucking chest wounds.  
  
Assess chest excursion/retraction, ecchymosis.  
  
Auscultate heart sounds. Auscultate breath sounds.  
  
Palpate for pain/tenderness.  
  
Crepitus, subcutaneous emphysema
10. Abdomen  
Assess for surface trauma, penetrating/impaled objects, distension, ecchymosis or scars.  
  
Auscultate bowel sounds in all four quadrants.  
  
Palpate lightly for pain, tenderness, rigidity. Insert NG tube as ordered. Assist with diagnostic peritoneal lavage.
11. Pelvis/Genitalia  
Assess for soft tissue edema, hematomas, blood at urinary meatus.  
  
Ask about pain, tenderness. Feel lightly for pain/pelvic instability. Palpate for suprapubic mass. Palpate for femoral pulses. Insert foley catheter if no blood at meatus as ordered. If female patient of child bearing age, determine pregnancy status.
12. Extremities  
Assess for surface trauma, edema/ecchymosis. Assess for deformity.  
  
Palpate for pain sensation, crepitus, instability, check color/temperature. Help stabilize injured extremity. Check for paresthesia. Assess for pulses distal to site of trauma.
13. Posterior  
Maintain C-spine immobilization. Support fracture before log rolling.  
  
Need at least three people. Log roll to side. Observe for surface trauma, pain, tenderness, muscle tone. The person maintaining manual c-spine immobilization will direct log rolling on the count of "3."

<u>POTENTIAL INJURIES</u>	<u>TYPE OF ACCIDENT</u>	
	Head-on collision	Femur and/or hip fractures Head trauma Hip and/or knee dislocations Cervical spine injuries Rib fractures Sternal fractures Cardiac contusion Intra-abdominal injuries
	Rear-end collision	Cervical spine, whiplash injuries
	Lateral impact collision	Chest injuries Fractured humerus Pelvic fractures Femur fractures Contralateral neck injuries
	Deceleration accidents	Head injuries Ruptured aorta Major organ injury
	Compression forces	Cardiac contusion Ruptured air passages Ruptured diaphragm Ruptured abdominal organs
	Motorcycle accidents	Femur fractures Crushing injuries Open fractures Head and spine injuries Straddle (genital) injuries
	Pedestrian hit by car	Waddell's triad: sternal and rib fractures, patellar and femur fractures, head and shoulder injuries Pelvic, femur, knee and lower leg fractures
	Falls from height > than patients own height	Possible axial loading and heel fracture; maintain pelvic stability.