Management of Cervical Spine Injuries in Urgent Care

For patients with concern for C-Spine injury that do not require rapid transfer/911.

Is exam unreliable?
- Altered mental status
- Age < 24 months or developmental concerns
- Distracting injury

Is there weakness or paresthesia?

No → Assess for midline cervical tenderness

Yes → Place in Collar and Transfer to the ED

Assess for midline cervical tenderness

No Pain → Clinically clear and document exam

Pain →
- Apply Collar
- Administer NSAID (or Tylenol if contraindicated)
- Cervical Radiographs
  - o <5yrs: AP, Lateral (2v)
  - o >5yrs: AP, Lateral, Odontoid

Normal X-Ray → Reassess 1 hour post-NSAID for isolated midline cervical tenderness

No Pain → Clinically clear and document exam

Pain →

Discharge home in C-Collar

Patient/Family Education:
- Application and fit with extra set of pads
- Skin care and daily pad changes
- Signs and symptoms of spinal cord injury
- NSAID (or Tylenol if contraindicated)

Families to call for an appointment to follow up with Trauma Services in 5-7 days 513- 636-8556

Abnormal X-Ray →

Consult Neurosurgery
- Maintain collar
- Treatment as indicated
- Follow Neurosurgery recommendations (likely transfer to Base)

This is a guideline only and has been developed by Cincinnati Children's Hospital Medical Center Urgent Care within the Division of Emergency Medicine. The Medical Resuscitation Committee within the Department of Emergency Medicine and Trauma Services within the Division of Pediatric Surgery have reviewed and endorse is use as a guideline. 12/2018

Consider evaluation for Cervical Spine injuries for patients with the following:
- Chief complaint of neck injury or neck pain
- Torticollis

Specific mechanism of injury:
- Fall > 3ft or down 5+ stairs
- Sustained axial load to head
- Bike/MVC accident

Neurological Symptoms:
- Paresthesia of extremities

Consider Rapid Transfer/911:
- Diving injury
- ATV accident
- Altered mental status
- Focal neurological deficit
- Patient who meets trauma activation criteria

Trauma Activation Criteria

Trauma Stat:

- Any penetrating injury to head, neck or trunk
- Respiratory difficulty as evidenced by one or more of the following:
  - Significant increase or decrease in respiratory rate
  - Significant retractions or grunting
  - Patient intubated prior to arrival
  - Unable to maintain or difficult airway
- Tachycardia and / or poor perfusion or unexplained tachycardia (no significant pain or crying as a source)
- Hypotension
- Blood given prior to the patient's arrival
- 40 mL/kg bolus given prior to arrival
- Glasgow Coma Score (GCS) ≤8
- GCS deterioration by 2

OR Resuscitation:

- Full arrest with pre-hospital signs of life following a non-cranial, penetrating chest or abdominal injury
- Penetrating injury unresponsive to 40 mL/kg fluid administration
- At the discretion of the ED and surgical attending

Trauma Alert:

- Evidence of abdominal injury
  - Without hemodynamic compromise
  - Distended and / or tender abdomen
  - Abdominal bruising or seatbelt mark
- GCS 9 – 13
- Spinal cord injury with neurologic deficit
- Two or more proximal long bone fractures
- Ejection from automobile
- Partial or full thickness burn of >15% TBSA
- Significant vascular injury including amputation of limb proximal to wrist or ankle
- Emergency Department discretion

Normal Vital Signs Table

Age	Pulse Beats/min	Respirations Breaths/min	Avg. Systolic BP
Premature	120 – 170	40 – 70	55 – 75
0 – 3 months	100 – 150	35 – 55	65 – 85
3 – 6 months	90 – 120	30 – 45	70 – 90
6 – 12 months	90 – 120	25 – 40	80 – 100
1 – 3 years	70 – 110	20 – 30	90 – 105
3 – 6 years	65 – 110	20 – 25	95 – 110
6 – 12 years	60 – 95	14 – 22	100 – 120
12+ years	55 – 85	12 – 18	110 – 135

Behman, RE, Kliegman, RM & Jenson, HB. (2003). *Nelson Textbook of Pediatrics.* Saunders

Trauma Evaluation

- Motor vehicle collision
- Struck or run over by motor vehicle (pedestrian or bike)
- Fall greater than 10 feet
- Any mechanism deemed to place the patient at risk for multi-system injury
- Any patient immobilized with a backboard and/or cervical collar
- Partial or full thickness burn between 5% and 14% TBSA
- Any burn less than 5% requiring immediate pain management
- GSW (non-BB) to an extremity
- Tourniquet application prior to arrival and hemodynamically stable

*****The trauma team should be activated for any patient who meets criteria regardless of prior evaluation at an outside facility*****

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