# Cervical Collar Clearance Protocol

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**Oversight:**
Spine Center Physicians (Orthopedic/Neurosurgery Spine)
Trauma Program Operational Process Performance (03/29/2017)
Multidisciplinary Trauma Conference (03/29/2017)

Vanderbilt University Medical Center
Division of Trauma, Emergency Surgery, and Surgical Critical Care

*Last Revised: December 9, 2020*
Definitions

Hyperreflexia, defined by any of the following:
1. Positive Babinski sign
2. > 2 beats of clonus
3. Positive Hoffman’s reflex
   • Upper motor neuron lesion from cord compression
   • Is elicited by flipping either the volar or dorsal surfaces of the middle finger & observing the reflex contraction of the thumb and index finger

NEXUS (National Emergency X-Radiography Utilization Study) Criteria, defined by any of the following:
1. Midline C-spine tenderness to palpation
2. Altered mental status
3. Intoxicated
4. Abnormal neurologic exam
5. Distracting injury

Abbreviations

AS, Ankylosing Spondylitis
C-collar, Cervical Collar
C-spine, Cervical Spine
DISH, Diffuse idiopathic skeletal hyperostosis
ED, Emergency Department
NP, Nurse Practitioner
**VUMC C-Collar Clearance: ED patients and Inpatients**

**Neurologically Normal Patient**

- **WITHOUT HYPERREFLEXIA**
  - Does patient have Any of the following:
    - Unable to flex/extend?
    - Unable to rotate?
    - ≥1 NEXUS criteria?

  - **NO**
    - Remove C-collar
  - **YES**
    - Obtain CT C-spine without contrast

**WITH HYPERREFLEXIA**

- Consult Spine

**Consult Spine**

- **NO**
  - Remove C-collar
  - No acute abnormality
  - Normal alignment, No fracture
  - No evidence of AS or DISH

  - **Remain in C-collar**
  - Repeat Uprights (2 weeks)
  - NP Spine Clinic (2 weeks)

- **YES**
  - Obtain & Label Upright AP/Lateral X-rays of the C-spine (including T1) while in C-collar

**Obtain & Label Upright**

- Normal
  - UPRIGHT NORMAL

- Abnormal
  - UPRIGHT ABNORMAL
**VUMC C-Collar Clearance**: Intubated Patients

**Intubated patient without planned extubation in 48 hours**

1. **Obtain CT C-spine without contrast**
   - **No acute abnormality**
     - Normal alignment, No fracture
     - No evidence of AS or DISH
   - **No acute abnormality**
     - Normal alignment, No fracture
     - Evidence of AS or DISH
   - **Acute abnormality**
     - (Positive fracture and/or abnormal alignment)
     - Unclear findings
   - **Consult Spine**

2. **Does patient have Any of the following:**
   - Cannot move all extremities antigravity?
   - Asymmetrical extremity strength?
   - Hyperreflexia?
   - No rectal tone?

3. **Remove C-collar**
   - **NO**
   - **YES**

4. **Obtain MRI C-spine without contrast**
   - **No MRI acute abnormality**
     - Normal MRI alignment
     - No fracture on MRI
Placing NP Spine Clinic Appointments in WizOrder:

- Type in “Central appointment”
- Click “1. f/u appointment, post dc (using central appointment scheduling)
- Fill out the form with the following:
  - Clinic name: Neurosurgery
  - Provider name: NP spine clinic
  - Timeframe: 2 weeks
  - Diagnosis: C-collar clearance, hospital follow-up
  - Comments: Prior to appointment, Patient needs AP/lateral X-Rays of the cervical spine in collar
  - CAS can reach team with questions at: 615-875-5100

Note: For outpatient NP Spine Clinic appointments, all Trauma Patients will be seen with or without prior inpatient Spine consultation (i.e., cervical collar patients cannot be refused outpatient spine appointments)

Note: For Emergency Department patients, the Emergency Department Case Manager can assist with this scheduling
Key References:

