

Cervical Collar Clearance Protocol

| Revision Team | Specialty |
|-----------------------------------|--------------------|
| Joseph M. Aulino, MD | Radiology |
| Tyler W. Barrett, MD, MSCI | Emergency Medicine |
| L. Taylor Davis, MD | Radiology |
| Angela L. Hatchett, RN, MSN, ACNP | Spine Center |
| Colin D. McKnight, MD | Radiology |
| Jacob P. Schwarz, MD | Neurosurgery Spine |
| Rebecca A. Reynolds, MD | Neurosurgery Spine |
| Mayur B. Patel, MD, MPH | Trauma |
| Austin Smith, MD | Emergency Medicine |

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: April 20, 2017



VANDERBILT
UNIVERSITY
MEDICAL
CENTER

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

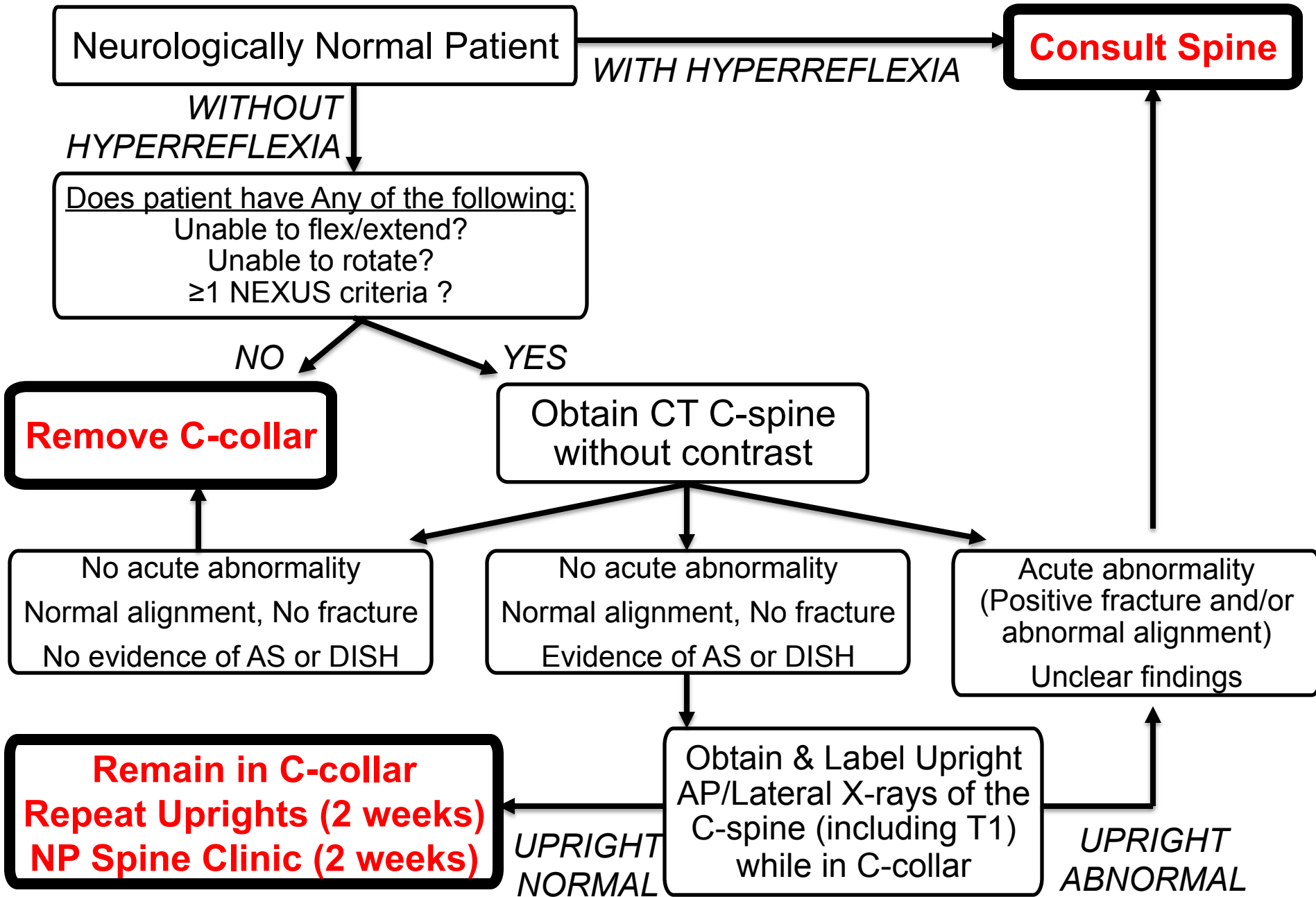
DISH, Diffuse idiopathic skeletal hyperostosis

ED, Emergency Department

NP, Nurse Practitioner



VUMC C-Collar Clearance: ED patients and Inpatients



VUMC C-Collar Clearance: Intubated Patients

Intubated patient without planned extubation in 48 hours

Obtain CT C-spine
without contrast

Consult Spine

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

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

NO

YES

Remove C-collar

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:

- Patel MB, Humble SS, Cullinane DC, Day MA, Jawa RS, Devin CJ, Delozier MS, Smith LM, Smith MA, Capella JM, Long AM, Cheng JS, Leath TC, Falck-Ytter Y, Haut ER, Como JJ. Cervical Spine Collar Clearance in the Adult Obtunded Trauma Patient: A Practice Management Guideline from the Eastern Association for the Surgery of Trauma. *Journal of Trauma*. 2015;78(2):430-441.
- Badhiwala JH, Lai CK, Alhazzani W, et al. Cervical spine clearance in obtunded patients after blunt traumatic injury: a systematic review. *Ann Intern Med*. 2015;162(6):429–437.
- Bush L, Brookshire R, Roche B, et. al. Evaluation of Cervical Spine Clearance by Computed Tomographic Scan Alone in Intoxicated Patient with Blunt Trauma. *JAMA Surg*. 2016;151(9):807-813.

