

# CERVICAL SPINE IMMOBILIZATION PROTOCOL (SELECTIVE SPINAL IMMOBILIZATION)

Scope: EMT, A-EMT, Intermediate, Paramedic



# BACKGROUND

- NEXUS (National Emergency X-Radiography Utilization Study)
- 34,069 patient studied.
- Inclusion criteria is blunt neck trauma
- 99.6% sensitive for a clinically important injury (only 12.9%)
- Only 8.6% of patients were elderly in the initial study.
  - Nexus does not risk stratify based on age.
  - \*\*Small studies show elderly patients with c-spine fractures do not often have midline tenderness

# NEXUS CRITERIA

- Neurological deficit
- Spinal midline tenderness
- Alertness
- Intoxication (Alcohol or Drug)
- Distracting injury

ANOTHER easy to remember acronym!



# NEXUS CRITERIA (ASSESSMENT)

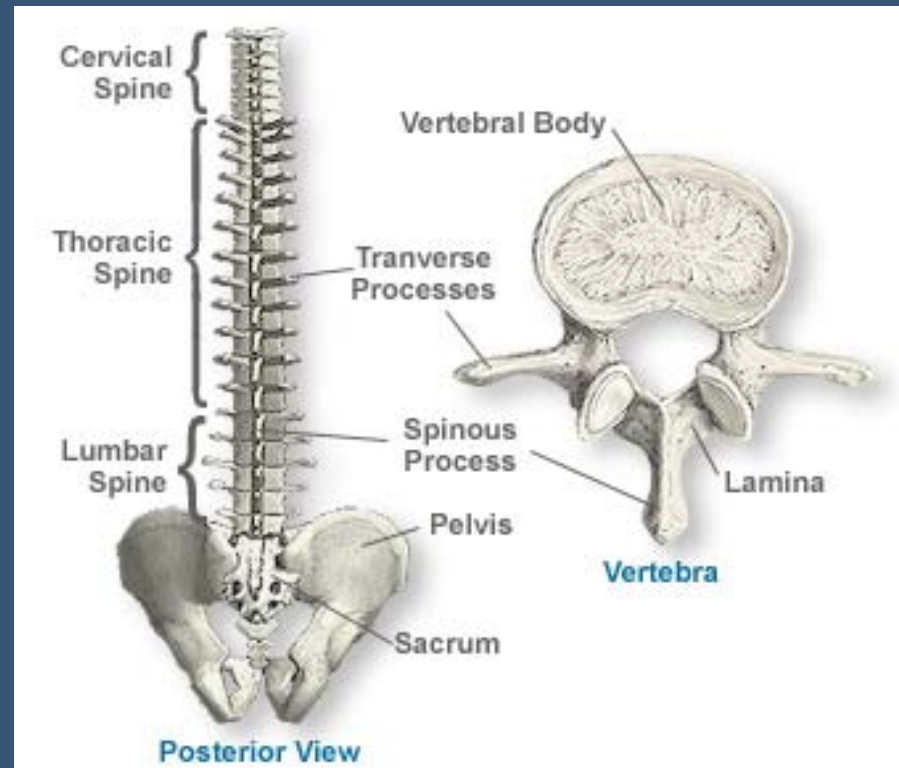
## OPEN DISCUSSION

- Neurological deficits
- What is a deficit?
- Is the deficit isolated?
- Is the deficit related?
- Is the deficit pre-existing?
- What should you ask?



# NEXUS CRITERIA (ASSESSMENT)

- Spinal midline tenderness
- What is midline tenderness?
- How do you detect it?
- What should you look for?
- What could you feel?
- What should you ask?



# NEXUS CRITERIA (ASSESSMENT)

- Alertness

- Is the patient A&Ox4?
- GCS 15? / < 15? Normal?
- How do you determine?

OPEN DISCUSSION



# NEXUS CRITERIA (ASSESSMENT)

## OPEN DISCUSSION

- Intoxication (Alcohol or Drug)
- Alcohol or drugs suspected?
- Pain meds administered?
- Mental disease or defect?
- How do you determine?



# NEXUS CRITERIA (ASSESSMENT)

- Distracting injury
- What is a distracting injury?
- Severity?
- How do you determine?
- *\*\*Pain so significant that pain management is a consideration would qualify the patient as unable to make appropriate decisions. Pain >6 directly relates to a patient's inability to quantify significant neck or back pain. (Immobilize this patient)*

OPEN DISCUSSION





# WHAT ABOUT MECHANISM?

Mechanism of injury in the motorsports industry is subjective.

Mechanism of injury is less subjective in the 911 world.

Lets discuss why...

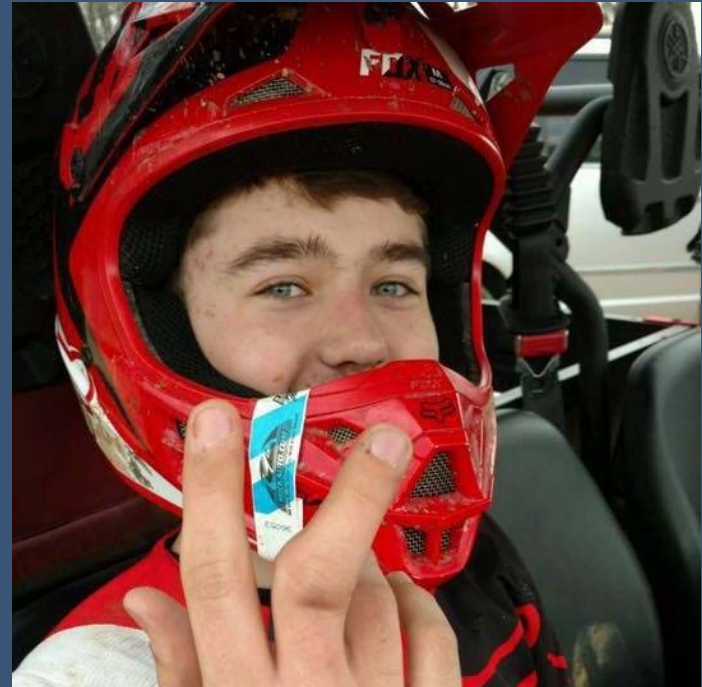


# MOI

- The patient should have a significant MOI to warrant C-Spine clearance.
- If you would consider immobilization you can consider C-Spine clearance.
  - Same criteria as the old “consider c-spine”
- Patients that have isolated injuries do not need cervical spine clearance.
- **WHEN IN DOUBT IMMOBILIZE!!!!**
- Give an example of isolated injury
  - *\*\*Time Out\*\**
  - *Discuss: Scenarios, injuries and use examples.*



# C-SPINE CLEARANCE?



# GLEMS PROTOCOL



## OTHER CONSIDERATIONS

- No standing take downs
- Late on-set neck pain
- Anxious or combative patients
- Documentation
- Quality Assurance

# SCENARIO #1

- 24 year old male patient was riding his pit bike with friends in the woods. He lost control and slammed his shoulder into a tree and crashed. Friends did not see the event because they were ahead of him when the crash happened. The group had just come from the pit area to go play in the woods, they had a cook out and were drinking beer.
- Patient is found supine laying on the ground.
- Chief complaint is some bruising to the shoulder and a laceration to the face. The clavicle and humerus appear to be deformed.
- Assessment revealed?
- Follow up questions?
- Immobilize? Yes/No

# YES!

- Significant Mechanism?
- N- No neurological deficits
- S-No spinal tenderness
- A-Pt is A&Ox<sub>4</sub>
- I-Patient is intoxicated!
- D-No distracting injuries only minor bruises and lacerations



## SCENARIO #2

- 8 year old male patient was walking around on the roof of his camper messing around with friends. A friend on the ground threw a mudball at the patient, the patient lost his balance and fell off the camper onto a plastic folding table.
- Patient found sitting on the ground crying in pain with both parents present. The event was witnessed only by the “mud chucker”
- Chief Complaint right hip pain.
- Assessment revealed?
- Follow up questions?
- Immobilize? Yes/No

# NO!

- Significant Mechanism? No
- N- No neurological deficits
- S-No spinal tenderness
- A-Pt is A&Ox4
- I-Denies alcohol or drug use
- D-No distracting injuries only minor bruises and a embarrassment.

## SCENARIO #3

- 17 year old male patient is riding through a whoop section of a motocross track when he loses control and crashes. The recount from witnesses was the crash was “epic” and the patient was “hauling ass”
- Patient found lying face down on the track, patient was moaning and crying in pain. The scene is not safe but you have access to the patient.
- Chief Complaint: Bilateral leg pain.
- Assessment revealed?
- Follow up questions?
- Immobilize?

# YES!

- Significant Mechanism? Yes
- N- No neurological deficits
- S- No spinal tenderness
- A- Pt is A&Ox4
- I- Denies alcohol or drug use
- D- Possible bilateral femur fractures

# DOCUMENTATION

- All 5 criteria must be stated in your narrative in plain english.
- Neurological: The patient presented with no neurological deficits.
- Spinal Pain: The patient presented with no neck or back pain, the patient denied neck or back pain upon palpation, no step offs or deformities noted.
- Alertness: The patients was orientated to Person, Place, Time and Event
- Intoxication: The patient did not appear to be under the influence of drugs or alcohol and no pain medication administered to this patient.
- Distracting Injury: The patient had no significant distracting injuries to prevent effective spinal assessment.

PROVIDE A SCENARIO YOU FEEL WOULD WARRANT SELECTIVE IMMOBILIZATION.

