

UAMS MEDICAL CENTER
TRAUMA and CRITICAL CARE SERVICES MANUAL

SUBJECT: Management of Traumatic Spinal Cord Injury

SUPERSEDES: New

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RECOMMENDATION(S): David Bumpass, MD

APPROVAL: 11/30/18

CONCURRENCE(S): Benjamin L. Davis, MD

EFFECTIVE: 11/30/18

DEVIATIONS: We recognize that not all cases are the same. Deviations from these standards require attending involvement and preferably discussions.

INCLUSIONS: Trauma patients presenting to the UAMS with known/suspected spinal cord injury (SCI).

EXCLUSIONS: Multiply-injured patients with ongoing or uncontrolled bleeding – to be determined by trauma attending.

CONSULTATION: Spine team shall be notified immediately as soon as SCI is *suspected* based on history or physical exam.

DISPOSITION:

- SCI patient must be transferred to SICU ASAP unless that interferes with obtaining MRI, in which case the patient should proceed to SICU from MRI whenever possible
- Q1 hour neurologic assessments while in the SICU
- SCI Patient to remain in SICU until the beginning of the day after pressor therapy stopped

IMAGING:

- STAT MRI shall be ordered on all patients with known/suspected SCI.
- Trauma chief or designee (trauma or ED resident) must place order for MRI, call radiology resident AND MRI tech immediately – alert them that patient has suspected spinal cord injury
 - Radiology Resident; 296-1095
 - MRI Tech; 686-8405
- Trauma team to evaluate for injuries that contra-indicate transport to MRI
- Do not go to MRI before MAP parameters met

BLOOD PRESSURE MANAGEMENT:

- MAP GOAL: ≥ 85 mmHg starting in the ED
 - Pressor therapy to be started after trauma attending is *reasonably* certain the patient is not bleeding
- ARTERIAL LINE AND CENTRAL VENOUS LINE to be placed by trauma team in ED
 - May begin pressor therapy *while lines are being placed* via peripheral line
 - Central access may be deferred at discretion of trauma attending
- FIRST LINE PRESSOR THERAPY: norepinephrine
 - Substitute phenylephrine if known or suspected history of cardiac arrhythmia
- MAP ≥ 85 mmHg to be maintained until one of the following occurs:
 - Neurological exam remains unchanged from baseline 24-hours after surgical decompression
 - Neurological exam "plateaus" - remains unchanged for any 24-hour period after decompression
 - Neurological exam to be performed daily by spine ATTENDING and results/recommendations regarding cessation of pressor therapy communicated to SICU
- Whenever practical and safe, cessation of pressor therapy should occur before noon on the day the decision is made to allow adequate monitoring of neurological status

IDEAL TIMING OF SURGICAL DECOMPRESSION/STABILIZATION:

- Cervical SCI should *ideally* be decompressed/stabilized within 24 hours of presentation to UAMS
- Thoracolumbar spinal cord injuries should be stabilized within 72 hours of presentation to UAMS
- For SCI, operative plan should be communicated to the trauma team within 12 hours of presentation, contingent on availability of all necessary data and imaging
 - FINAL recommendations for orthotics or further imaging should be made at that time

STEROID THERAPY.

- Steroids are not a standard component of traumatic SCI at UAMS.
- Initiation of steroid therapy should occur only after a discussion between spine and SICU and/or trauma attending.
 - Typical candidates will be pts < 30 years of age with C5 and higher injuries

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THROMBOPROPHYLAXIS:

- Pharmacologic thromboprophylaxis should start 24 hours after surgical decompression
 - Hold thromboprophylaxis for the following reasons:
 - excessive drain output (determined by spine team, communicated to SICU/trauma)
 - neurologic deterioration
 - other contraindications to be discussed between spine and SICU/trauma

TRANSFUSION GUIDELINES:

- Goal hemoglobin is 8g/dl for the duration of the inpatient admission
 - Transfuse no more than one unit at a time for this goal.
- Transfusion of platelets, FFP, and cryoprecipitate shall be ROTEM-guided
 - Exceptions per discussions with attendings in time-sensitive situations

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