

# Guideline



## CCHMC Trauma Service Guidelines

Title: Steroids in Spinal Cord Injury

Effective Date: 05/15

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### 1. SCOPE

- 1.1. Care of the Trauma Services Patient at CCHMC.
- 1.2. This guideline provides the minimum standard of care for any patient with suspected or confirmed spinal cord injury, when considering use of steroids.

### 2. DEFINITIONS

- 2.1. **Spinal Cord Injury:** An injury to the spinal cord resulting in a change, either temporary or permanent, in the cord's normal motor, sensory, or autonomic function.[]

### 3. GUIDELINE

- 3.1. Following review of the literature, CCHMC consensus guidelines recommend that Methylprednisolone following acute spinal cord injury is **not** routinely recommended. At the discretion of the **Neurosurgery Attending**, Methylprednisolone *may* on rare occasion be considered as a treatment option.
- 3.2. Administration guidelines:
  - 3.2.1 Complete primary and secondary survey:
    - Maintain in-line cervical spine immobilization
    - Document neuro-sensory deficits
  - 3.2.2 Initiate Methylprednisolone administration only with the discretion of the Neurosurgery Attending:
    - Bolus of 30 mg/kg over 15 minutes
    - Wait 45 minutes, then initiate 23 infusion at 5.4 mg/kg/hour
    - Once infusion has been initiated administration of complete infusion should be completed regardless of MRI results.
  - 3.2.3 Ranitidine should also be administered during course of infusion for GI prophylaxis

### 4. REFERENCES

- 4.1. Arora, B., & Suresh, S. (2011). Spinal cord injuries in older children: Is there a role for high-dose Methylprednisolone? *Pediatric Emergency Care*, 27(12), 1192-1196.
- 4.2. Bracken M, Shepard M, Collins W, et al. (1990). A randomized, controlled trial of methylprednisolone or naloxone in the treatment of acute spinal-cord injury. Results of the second National Acute Spinal Cord Injury Study. *N Engl J Med*, 322:1405-11.
- 4.3. Bracken MB, Shepard JM, Holford TR, et al. (1997). Administration of methylprednisolone for 24 or 48 hours or tirilazad mesylate for 48 hours in the treatment of acute spinal cord injury. Results of the third National Acute Spinal Cord Injury Randomized Controlled Trial. National Acute Spinal Cord Injury Study. *JAMA*, 277:1597-604.
- 4.4. Galandiuk S, Raque G, Appel S, et al. (1993). The two-edged sword of large-dose steroids for spinal cord trauma. *Ann Surg*, 218:419-27.
- 4.5. Gerhart KA, Johnson RL, Menconi J, et al (1995). Utilization and effectiveness of methylprednisolone in a population-based sample of spinal cord injured persons. *Paraplegia*, 33:316-21.
- 4.6. Hurlbert RJ, Hadley MN, Walters BC, Arabi B, Dhall SS, Gelb DE, Rozzelle CJ, Ryken TC, & Theodore N. (2013). Pharmacological therapy for acute spinal cord injury. *Neurosurgery supplement*, 72(3), 93-105.
- 4.7. Matsumoto T, Tamaki T, Kawakami M, et al. (2001). Early complications of high-dose methylprednisolone sodium succinate treatment in the follow-up of acute cervical spinal cord injury. *Spine*, 26:426-30.
- 4.8. Pointillart V, Petitjean ME, Wiart L, et al. (2000). Pharmacological therapy of spinal cord injury during the acute phase. *Spinal Cord*, 38:71-6.

### 5. APPROVALS

All revisions of this guideline are approved by the Trauma Service Department. This guideline is reviewed every three years or sooner if deemed necessary. Policy authority for this document resides with the Trauma Service Department. This guideline is approved by the Trauma Service Manager and the Director of Trauma Services.

HISTORY	
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