Advanced Practice Protocols and Management Guidelines
For Spinal Cord Injury

In accordance with the Division of Trauma Practice Guidelines Manual and the Practice Guidelines for Acute Care Nurse Practitioners

I. Definition
A. Complete or Incomplete disruption of spinal cord function
   1. Complete: the patient lacks sensory function, proprioception, and voluntary motor activity below the level of spinal cord damage; worse prognosis for recovering neurologic function.
   2. Incomplete: parts of the spinal cord at the level of the lesion are intact. There is sacral sparing. Note sensory perception and voluntary contraction of the anus.

II. Subjective Data
A. Mechanism of Injury
B. Pain
C. Paresthesia
D. Sensory response
E. Prehospital treatment

III. Objective Data
A. ABC
   1. Special focus on respiratory ability
B. Motor/sensory response
   1. Cranial nerves
   2. Motor ability
   3. Strength grade
C. Back examination/palpation
   1. Step-offs
   2. Gaps
D. Clinical examination will report multi-system picture of SCI

IV. Assessment
A. Differential diagnosis
   1. Rapid acceleration/deceleration
      a. Hyperextension
      b. Hyperflexion
      c. Vertical column loading (compression)
      d. Whiplash
   2. Distraction injuries – a result of hanging
   3. Penetrating Trauma
   4. Hematoma
   5. Pathologic Fracture
B. Complete vs. Incomplete lesion
V. Plan

A. If respiratory failure, notify fellow/attending to consider intubation
   1. Indicated in C-spine injury
   2. Otherwise prn

B. Steroid Therapy with Methylprednisolone if <8hrs from time of blunt injury and SBP stable.
   1. Bolus: 30mg/kg over 1hour
   2. Maintenance: 5.4mg/kg/hr for 23hrs

C. Blood Pressure monitoring and evaluation: SBP < 90
   1. Obvious blood loss (regardless notify MD)
      a. YES: treat blood loss
      b. NO: suspect neurogenic shock, evaluate HR
         1) <80bpm: volume resuscitation, Dopamine 5-15mcg/kg/min or
            Norepinephrine 0.5 mcg/kg/min titrated to effect
         2) >80bpm: volume resuscitation, Phenylephrine 10-100mcg/min

D. Consult with fellow/attending about possible trauma ICU admission

E. Spine consult

F. NP will ensure patient is receiving good pulmonary care
   1. Bronchial Hygiene Protocol
   2. Quad Cough
   3. Intermittent Percussive Ventilation
   4. Percussion and postural drainage

G. NP will ensure patient is receiving good bladder care

H. Thromboembolic Prophylaxis
   1. DVT/PE Protocol
   2. Consult with fellow/attending to consider IVC filter placement

I. NP will ensure patient is receiving good GI care
   1. Stress Ulcer Prophylaxis Protocol
   2. SCI Bowel Care

J. Discharge Planning
   1. Rehabilitation Facility Options
   2. Family Teaching r/t para/quad care – needs to begin on admission

References:
1. Practice Guidelines Manual, 2002. Division of Trauma, Vanderbilt University Medical Center, 73.

07/2003