

Maine EMS Trauma Advisory Committee

Consensus Statement and Clinical Advice for Trauma Management

PAIN CONTROL AND SEDATION IN THE MECHANICALLY VENTILATED PATIENT

Part I: Key Concepts

Intubated patients can not advocate for themselves, regarding pain control and sedation. Clinicians must use clinical indicators, such as tachycardia, hypertension, pupil size, and other autonomic indicators.

- A. PARALYTICS, such as Vecuronium, Pancuronium, and Rocuronium, do not have analgesic or sedative properties.
- B. Trauma patients have pain that needs to be controlled. Endotracheal Intubation causes increased pain that needs to be addressed.
- C. Mechanically ventilated patients, especially those that are paralyzed, should also receive sedation with pain control.
- D. **Post-Intubation evaluation of pain control, sedation, ventilation**

Part II: Annotations and Rationale

- A. Use of paralytics without sedation and pain control after intubation is not acceptable. Never use long acting paralytics without anticipating, and being prepared for, potential pain control and sedation needs. It is important to recognize that sedation and analgesia are closely related; that is, Anxiety reduces the pain threshold, and pain control may reduce anxiety.
- B. Fentanyl is a synthetic opioid with a rapid onset and short duration of action. Its relative lack of histamine release and greater hemodynamic stability¹ are well suited for the supine, immobilized, undiagnosed trauma patient. Fentanyl generally does little to affect blood pressure and emesis. Adequate loading and further frequent dosing is beneficial.
- C. Ativan has less hemodynamic effect on blood pressure, and typically lasts longer. Propofol should be avoided in the undiagnosed trauma patient due to drastic effects on hemodynamics. A sudden hypotensive episode becomes difficult to

differentiate between a medication-related side effect vs. progression of the underlying trauma pathology.

- D. Clinical methods of endotracheal placement verification are notoriously unreliable, and patients with chest injuries increase the likelihood of mistakes in this area. “Waveform Capnography is the gold standard in the operating room to assess tracheal tube position, and this should be...” the standard in all trauma patients along the continuum of emergency care who are intubated, too.²

Anticipate the need for post intubation sedation and pain control and as soon as endotracheal placement has been confirmed, and empirically dose the patient with a benzodiazepine and opiate. If the need for paralysis is anticipated or arises, continue to use caution to treat breakthrough sedation and pain that will require promptly dosing the frequent appropriate medication.

- 1. The journal of TRAUMA Injury, Infection, and Critical Care. V. Guidelines for Sedation and Analgesia During Mechanical Ventilation General Overview. J Trauma. 2007; 63:945-950**
- 2. <http://www.trauma.org/archive/anaesthesia/airway.html> Airway Management of the Trauma Victim, Anaesthesia and Critical Care.**