PR18: Sedation Facilitated Intubation

BCEHS | BC Emergency Health Services
Provincial Health Services Authority

Procedure

1. 📲 *Mandatory EPOS consultation prior to SFI decision.
2. Complete the pre-intubation checklist.
3. Perform induction:

Resources

- Pre-Intubation Checklist
- Post-Intubation Checklist
- Pediatric Vital Signs

INDUCTION PROCEDURE

👴 ADULTS

Shock Index Less Than 1

- Ketamine: 1-2 mg/kg IV/IO.

Shock Index Greater Than 1

- Normal saline: 500 mL IV/IO bolus, then PRN to maintain MAP greater than 65.
- PHENYLephrine: 100 mcg IV/IO q 2-5 min to maintain MAP greater than 65.
- Ketamine: 0.5-1 mg/kg IV/IO (may repeat at 2-5 min to max total 2 mg/kg).

➕ Adjunctive Options:
If sedation is inadequate with ketamine alone:

- Midazolam: 2 mg IV/IO q 2-5 min PRN (max total 15 mg).

👶 PEDIATRIC

Stable Hemodynamics

- Ketamine: 1-2 mg/kg IV/IO.

Unstable Hemodynamics

- Normal saline: 10 mL/kg bolus, then PRN to maintain MAP greater than low threshold for age*.
- Epinephrine: 0.001 mg/kg (1 mcg/kg) IV/IO, then PRN q 2-5 min to maintain MAP greater than low threshold for age*.
- Ketamine: 0.25-1 mg/kg IV/IO (may repeat at 2-5 min to max total of 2 mg/kg).

➕ Adjunctive Options:
If sedation is inadequate with ketamine alone:

- Midazolam: 0.05 mg/kg (max 2 mg) IV/IO PRN q 2-5 min (max total 15 mg).

4. Perform intubation and complete post-intubation checklist.
5. Implement maintenance of anesthesia.

MAINTENANCE OF ANESTHESIA

👴 ADULTS

- Ketamine **infusion:** 2 mg/kg/hr IV/IO **or** 0.5-1 mg/kg IV/IO **direct** q 15-30 min.
- Epinephrine **infusion:** 1-20 mcg/min IV/IO to maintain MAP greater than 65.

➕ Consider adjunctive options above.

👶 PEDIATRIC

- Ketamine **infusion:** 5-20 mcg/kg/min IV/IO **or** 0.5-1 mg/kg IV/IO **direct** q 15-30 min.
- Epinephrine **infusion:** 0.01-1 mcg/kg/min IV/IO to maintain MAP greater than low threshold age*.

➕ Consider adjunctive options above.

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✅Indications

- **Oxygenation and ventilation** when unable to achieve with maximal supraglottic airway management.
- **Protection of airway patency** when not adequately managed with suction and severely soiled by fluid.
- **Rapid progression of airway** compromise from inflammation due to burns or angioedema with prolonged transport time.

❌Contraindications

- Medical Orders for Scope of Treatment (MOST) declining invasive airway interventions

? Complications

- Hypoxia
- Hypotension
- Malposition (esophagus/mainstem)
- Aspiration
- Laryngospasm
- Vagal stimulation
- Oropharyngeal trauma

! Precautions

- Predicted difficult intubation
- Shock physiology not favorable for induction

📝Notes

📲*EPOS Consultation

Emergent intubation may occur under extraordinary clinical or logistical situations without EPOS consultation.

If all EPOS resources are unavailable, SFI decision-making will be supported by PS utilizing Pre-Intubation Checklist for consistency.

Intubations performed without consultation will be collaboratively reviewed for quality improvement and critical incident support.

Shock Index (SI) Formula

$$\text{Shock Index} = \frac{\text{Heart Rate (HR)}}{\text{Systolic Blood Pressure (SBP)}}$$

Shock physiology correlates with a SI greater than 1.

Goals of Anesthesia

Amnesia - Critical to long-term psychological well-being. Achieved primarily with ketamine and midazolam.

Analgesia - Improves comfort and reduces overall sedation. Achieved with ketamine and fentanyl.

Autonomic Stability - Mitigates mechanical and medicinal effects. Achieved with PHENYLephrine, epinephrine, and fluid.

Areflexia - Suppresses airway tone and reflexes. Not within ACP scope of practice.

*Pediatric Shock Physiology

*Severity of pediatric shock may be determined through consideration of:

- Blood pressure
- Heart rate
- Capillary refill time
- Alterations in mental status

Similar to adults, blood pressure alone is not sufficient for the diagnosis of shock.