Emergency Department
Procedural Sedation and Analgesia
Physician Checklist

[patient label]

Pre-Procedure Assessment

- ☐ Past medical history (note history of OSA) _____
- ☐ Prior problems with sedation/anesthesia _____
- ☐ Allergies to food or medications _____
- ☐ Procedure _____
- ☐ Dentures none / upper / lower [should remain in during PSA unless intubation required]
- ☐ Cardiorespiratory reserve no or mild impairment / moderate impairment / significant impairment
- ☐ Difficult airway features none / mild concern / significant concern
- ☐ Last oral intake (see fasting grid on reverse) _____
- ☐ Weight (kg) _____
- ☐ Will delay procedure until _____
- ☐ Benefits of proceeding with PSA exceed risks

Difficult Airway Features

Difficult Laryngoscopy:	**L**ook externally, **E**valuate 3-3-2 rule, **M**allampati score, **O**bstruction, **N**eck Mobility
Difficult BVM Ventilation:	**B**eard, **O**bese, **N**o teeth, **E**lderly, **S**leep Apnea / Snoring
Difficult LMA:	**R**estricted mouth opening, **O**bstruction, **D**istorted airway, **S**tiff lungs or c-spine
Difficult Cricothyroidotomy:	**S**urgery, **H**ematoma, **O**besity, **R**adiation distortion or other deformity, **T**umor*

☐ **Is this patient a good candidate for ED procedural sedation and analgesia?**

The less **cardiorespiratory reserve**, the more **difficult airway features**, and the less **procedural urgency**, the more likely the patient should not receive PSA in the emergency department. If not a good candidate for ED-based PSA, other options include regional or local anesthetic; PSA or GA in the operating room; or endotracheal intubation in the ED.

Pre-procedure Preparation

- ☐ Analgesia - maximal patient comfort prior to PSA
- ☐ Informed consent for PSA and procedure
- ☐ Patient on monitor: telemetry, NIBP, SpO_2, $EtCO_2$
- ☐ Oxygenate with NC O_2 **and** high flow face mask O_2
- ☐ Select and draw up PSA agent(s)
- ☐ Reversal agents and paralytic vials at bedside
- ☐ Prepare for endotracheal intubation

Airway Equipment

- ☐ Ambu bag connected to **oxygen**
- ☐ Laryngoscopy handles and blades
- ☐ Suction, oral & nasal airways
- ☐ Endotracheal tubes & stylets
- ☐ LMA with lubricant and syringe
- ☐ Colorimetric capnometer
- ☐ Bougie & difficult airway equipment

Agent	Dose*	Contraindications	Comments
Ketamine	1-2 mg/kg IV over 30-60 sec or 4-5 mg/kg IM, repeat half dose prn	**Absolute:** age < 3 months, schizophrenia **Relative:** major posterior oropharynx procedures; history of airway instability, tracheal surgery, or tracheal stenosis; active pulmonary infection or disease; cardiovascular disease; CNS masses, abnormalities, or hydrocephalus	Preferred for longer procedures; avoid if hypertension/ tachycardia is a concern; have midazolam available to manage emergence distress; muscle tone is preserved or increased; post-procedure emesis may be mitigated by prophylactic ondansetron
Etomidate	0.1-0.15 mg/kg IV, then 0.05 mg/kg q2-3 min prn		Intra-procedure myoclonus or hypertonicity, as well as post-procedure emesis, are common
Fentanyl	1-2 mcg/kg IV, then 1 mcg/ kg q3-5 min prn		Comparatively delayed onset of action; do not re-dose too quickly
Midazolam	.05 mg/kg IV, then .05 mg/kg q3-5 min prn	Pregnancy, allergy to benzyl alcohol	Comparatively delayed onset of action; do not re-dose too quickly
Pentobarbital	1 mg/kg IV, then 1 mg/kg q3-5 min prn	Pregnancy, porphyria	Use for painless procedures where analgesia is not needed
Reversal Agent	**Dose**		**Caution**
Naloxone	0.01-0.1 mg/kg IV or IM (typical adult dose 0.4 mg), max 2 mg		
Flumazenil	0.01 mg/kg IV (typical adult dose 0.2 mg) over 20 seconds, max 1 mg		Only use in benzodiazepine naïve patient

***All doses should be reduced in the elderly and in patients with marginal hemodynamics**

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[patient label]

Detect hypoventilation early
Stop the drugs
Position the patient
Jaw thrust
Suction if needed
Laryngospasm notch pressure
Nasal airways
Consider reversal agents
Bag mask or LMA ventilation
Oral airway, ventilation
Intubate

PSA Intervention Sequence

- Proceed down intervention sequence as slowly as patient condition permits
- Jaw thrust as illustrated above - thumbs on maxilla, four fingers posterior to ramus
- Laryngospasm notch is behind the earlobe, between mastoid process and condyle of mandible – bilateral, firm pressure medially and cephalad (up and in)
- If rescue ventilation is required, bag slowly and gently
- see emupdates.com/psa for details

Post-procedure Assessment

- ☐ Adverse events — none / hypoxia (< 90%) / aspiration / hypotension / agitation / other: _____
- ☐ Interventions taken — none / bag valve mask / LMA / ETT / reversal agent / hypotension Rx / admission for PSA / other: _____
- ☐ Adequacy of PSA — nondistressed / mild distress / severe distress
- ☐ Procedure — successful / unsuccessful
- ☐ MD or RN at bedside until patient responds to voice
- ☐ Telemetry, $EtCO_2$, SpO_2 monitoring until patient responding to questions appropriately
- ☐ If reversal agent used, observation two hours after answering questions appropriately
- ☐ Mental status and ambulation at baseline at time of discharge/disposition

Fasting Grid

Standard risk patient**

Oral intake in the prior 3 hours	Emergent Procedure	Urgent Procedure	Semi-urgent procedure	Non-urgent procedure
Nothing	All levels of sedation	All levels of sedation	All levels of sedation	All levels of sedation
Clear liquids only	All levels of sedation	All levels of sedation	Up to and including brief deep sedation	Up to and including extended moderate sedation
Light snack	All levels of sedation	Up to and including brief deep sedation	Up to and including dissociative sedation; non-extended moderate sedation	Minimal sedation only
Heavier snack or meal	All levels of sedation	Up to and including extended moderate sedation	Minimal sedation only	Minimal sedation only

Higher-risk patient**

Oral intake in the prior 3 hours	Emergent Procedure	Urgent Procedure	Semi-urgent procedure	Non-urgent procedure
Nothing	All levels of sedation	All levels of sedation	All levels of sedation	All levels of sedation
Clear liquids only	All levels of sedation	Up to and including brief deep sedation	Up to and including extended moderate sedation	Minimal sedation only
Light snack	All levels of sedation	Up to and including dissociative sedation; non-extended moderate sedation	Minimal sedation only	Minimal sedation only
Heavier snack or meal	All levels of sedation	Up to and including dissociative sedation; non-extended moderate sedation	Minimal sedation only	Minimal sedation only

Minimal sedation only → Dissociative sedation; brief or intermediate-length moderate sedation → Extended moderate sedation → Brief deep sedation → Intermediate or extended-length deep sedation

Brief: < 10 min
Intermediate: 10-20 min
Extended: > 20 min

Additional Comments

MD Name Sign Date/Time

*Walls RM and Murphy MF: Manual of Emergency Airway Management. Philadelphia, Lippincott, Williams and Wilkins, 3rd edition, 2008

**Green, Roback et al. Fasting and Emergency Department Procedural Sedation and Analgesia: A Consensus-Based Clinical Practice Advisory. Ann Emerg Med. 2007;49:454-461.

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