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 _____
- ☐ 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) _____

Difficult Airway Features

Difficult Laryngoscopy:	**L**ook externally, **E**valuate 3-3-2 rule, **M**allampati score, **O**bstruction, **N**eck Mobility
Difficult BVM Ventllation:	**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 urgent the procedure, the more likely the patient should not receive ED-based PSA. If not a candidate for ED PSA consider these alternatives:

• Regional or local anesthetic • PSA or GA in the operating room • Endotracheal intubation in ED

Pre-procedure Preparation

- ☐ Informed consent for PSA and procedure
- ☐ Personnel: 1 procedural physician, 1 PSA provider, 1 RN
- ☐ Place patient on telemetry monitoring
- ☐ Place patient on $EtCO_2/O_2$ nasal cannula
- ☐ Ensure RN ready to chart RN PSA flowsheet
- ☐ Prepare for endotracheal intubation
- ☐ Select and draw up PSA agent(s) [see reverse]
  [prepare double the amount predicted to be used]
- ☐ Reversal agent(s) vial at beside [see reverse]
- ☐ Paralytic agent [succ. or rocuronium] vial at bedside

Airway Equipment

☐ Ambu bag connected to **oxygen**	Size: approximate nasal bridge, malar eminences, alveolar ridge / err larger
☐ Laryngoscopy handles - verify power	At least two
☐ Suction - verify function	
☐ Laryngoscopy blades - verify bulbs	Curved and straight / One size larger, one size smaller
☐ Oral airways	Size: Angle of mouth to tragus of ear (usually 80, 90, or 100 mm in adults)
☐ Nasal airways	Size: Tip of nose to tragus of ear (usually 26 Fr/6.5 mm, 28/7, or 30/7.5 in adults)
☐ Colorimetric capnometer	To be used if continuous not available or not functioning
☐ Endotracheal tubes - verify cuffs	Variety of sizes
☐ ETT stylet	
☐ ETT securing device	Tape if no device available
☐ Gum elastic bougie	
☐ LMA with lubricant and syringe	
☐ Difficult airway equipment	Cricothyrotomy tools / video laryngoscope / optical stylet / fiberoptic scope

Definition of PSA: PSA is being performed when, in a non-intubated patient, benzodiazepines and opioids are used in combination in sufficient doses to depress level of consciousness, or when ketamine is used in dissociative dose (≥1 mg/kg IV), or when propofol or etomidate is used in any dose. Use of barbiturates to facilitate painless procedures (e.g. imaging studies) is also considered PSA.

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Agent	Dose*	Contraindications	Comments
Propofol	0.5-1 mg/kg IV, then 0.5 mg/kg q1-2 min prn	Egg or soy allergy	Preferred for shorter procedures and where muscle relaxation is of benefit; avoid if hypotension is a concern
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**

Post-procedure Assessment

- ☐ Adverse events — none / hypoxia (< 90%) / airway compromise / vomiting / hypotension / cardiac arrest / 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

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. [For definitions, see "figure footnotes" on page 458 of original article]