

SEDATIVE / HYPNOTICS USED IN ANESTHESIA & PROCEDURAL SEDATION

Drug Name	Drug Class	Adult Dose	Onset	Duration	Notes (reflects single dosing in most cases)
Dexmedetomidine (Precedex)	Sedative/Hypnotic	<u>RSI:</u> none <u>Short-term Sedation of Intubated and Ventilated Patients:</u> 0.5 – 1 mcg/kg over 10 min	5 – 30 min	1 – 2 hrs	<ul style="list-style-type: none"> Mechanism: Acts as a highly selective CNS alpha-2 receptor agonist SE: decreases SVR and pulse (making dose titrations no more frequently than every 30 min can decrease this SE). Loading doses can generate increases in BP (why give LD over 10-20 minutes to minimize) Advantage: minimal respiratory depression; mainly used in ICU patients on mechanical ventilation to aid in coming off of the vent Manufacturer does not recommend use > 24 hours; but studied up to 5 days safely. Do not abruptly stop (cause withdrawal similar to clonidine), so taper.
Etomidate (Amidate)	Nonbarbiturate Sedative/Hypnotic	<u>RSI:</u> 0.2 – 0.6 mg/kg over 30-60 sec, then 5-10 mcg/kg/min for maintenance <u>Procedural Sedation:</u> 0.1 - 0.2 mg/kg (20-30 mg) IV, then 0.05 mg/kg IV q3-5min as needed	30 - 60 sec	3 - 5 min	<ul style="list-style-type: none"> Mechanism: Potentiates GABA mediated chloride current causing hyperpolarization of nerves Decreases cerebral metabolism & blood flow while maintaining or decreasing ICP. Avoid in septic patient; can cause adrenal insufficiency for up to 24 hours after dose SE: uncontrolled eye movements, skeletal myoclonus (that mimics seizures), N/V, laryngospasm, decreased cortisol synthesis, and small decrease in BP in hypovolemia; otherwise no effects on SVR, CO or pulse (why ideal agent in patients with decreased cardiac contractility especially compared to propofol or barbiturates). IV administration can be irritating especially if given in small vessel During ECT therapy, seizure can be prolonged with etomidate use
Fospropofol (Lusedra)	General Anesthetic (pro-drug of propofol)	<u>Procedural Sedation:</u> 6.5 mg/kg (max 577 mg or 16.5 ml), then 1.6 mg/kg q4min	2 – 28 min	< 1 hr	<ul style="list-style-type: none"> Onset is delayed compared to propofol because of need to be converted to active form If patient weighs < 60 kg, base dosing on 60 kg and if > 90 kg base dosing on 90 kg Use with caution in patients with CrCl < 30 mL/min SE: Pruritus, paresthesias (mainly during the 5 mins of administration), hypotension
Ketamine (Ketalar)	Noncompetitive NMDA Receptor Antagonist	<u>RSI:</u> 2 mg/kg IV <u>Procedural Sedation:</u> IV: 0.5 – 2 mg/kg; then if needed 2 - 7 mcg/kg/min IV infusion IM: 2-4 mg/kg	IV: 30 sec IM: 3-4 m	IV: 5 - 10 m IM: 12-25 m	<ul style="list-style-type: none"> Mechanism: Causes dissociative anesthesia. Also has some analgesic properties Does not depress respiratory drive and has bronchodilatory effects; useful in asthmatics and COPD May need an anticholinergic drug to counteract the hypersalivation (increases risk of laryngospasm). SE: increases in, pulse, BP, ICP (due to increases in cerebral blood flow and cerebral metabolic rates), lacrimation, hypersalivation, vivid dreams, hallucinations, frank delirium, “out of body experiences”, slow nystagmic gaze (cataleptic state), and confusion or irrational behavior 24 hours after treatment (less common if given as IM in patients < 15 years and > 65 years of age). Pretreatment with a low-dose benzodiazepine reduces incidence of psychosis by > 50% in children.
Midazolam (Versed)	Benzodiazepine	<u>RSI:</u> 0.1 – 0.3 mg/kg IV <u>Procedural Sedation:</u> 1 – 5 mg x1, then 0.05 mg/kg q3min	1 – 5 min	< 2 hrs (single dose)	<ul style="list-style-type: none"> Commonly used in combination with fentanyl in the operating room Half-life and duration of action increase with length of use Drug-drug interactions with inhibitors or inducers of CYP3A4
Methohexital (Brevital)	Barbiturate / General Anesthetic	<u>Procedural Sedation:</u> 0.75 – 1 mg/kg; then 0.5 mg/kg q2-5min PRN	2 – 10 min	10 – 20 min	<ul style="list-style-type: none"> SE: Hypotension, seizures, pruritus, Use with caution in patients with seizures; avoid in porphyria When prepared for administration it is alkaline (pH ~ 10) and can precipitate if mixed with an acidic drug (why neuromuscular blockers cannot be given in the same IV line) Can be given rectally (use 1% (10 mg/mL) solution)
Propofol (Diprivan)	General Anesthetic	<u>RSI:</u> 0.5-2.5 mg/kg IV (most commonly 1-2 mg/kg) <u>Procedural Sedation:</u> 1 mg/kg IV x1 then 0.5 mg/kg q5min or intermittent boluses of 10 – 20 mg (some use 35 – 50 mg)	< 1 min	3 – 10 min	<ul style="list-style-type: none"> Mechanism: Potentiates GABA mediated chloride current causing hyperpolarization of nerves. Can also reduce cerebral blood flow and metabolism, which reduces ICP and thought to be neuroprotective. SE: Drop in BP (especially if hypovolemic; see drops in MAP up to 30%), reduced inotropy (caution in HF with EF < 50%), bradycardia, propofol infusion syndrome (with prolonged use and/or high doses), and pain with IV injection (only one to do this; why some may give 1% lidocaine first in IV). With only continuous infusions monitor: triglycerides, amylase, lipase, and CK Comes in 10 mg/mL (20, 50, 100 mL vials)
Sufentanil (Sufenta)	Opioid analgesic / General Anesthetic	<u>Surgical Analgesia:</u> 1 – 2 mcg/kg with N2O/O2;	IV: 1 - 3 m EPI: 10 m	Dose dependent	<ul style="list-style-type: none"> Only used for surgery or epidural analgesia In obese patients (> 20% of ideal body weight), use the lean body weight
Thiopental (Pentothal)	Barbiturate / General Anesthetic	<u>Anesthesia:</u> 3 - 5 mg/kg IV, then 25-100 mg as needed	1 min	5 – 10 min	<ul style="list-style-type: none"> Also used for treatment of increased intracranial pressure (ICP), and seizures If CrCl < 10 mL/min give 75% of normal dose When prepared for administration it is alkaline (pH ~ 10) and can precipitate if mixed with an acidic drug (why neuromuscular blockers cannot be given in the same IV line)