

We used to have a protocol for Dex for DISE, but the surgeons have switched over back to propofol.

The main objective is the gradual induction of sleep, affording the surgeon with the adequate time to observe the site(s) of obstruction. No premed of any kind, no supplemental oxygen, no airway opening maneuvers unless directed by the surgeon. Assure comfortable patient positioning on the gurney.

The TCIs and other mathematical pharmacokinetic models, such as the probability ramp control approach (see refs, below) for administering propofol during DISE, have been shown to improve accuracy of achieving the required effect-site propofol concentration and reliability of the observational window for the obstructive events. The predicted mean effect-site concentration for propofol during DISE ranges between 2.0 and 4.8 mg/mL, with the loss of upper airway tone occurring at 2.94 ± 0.97 mg/mL, and upper airway obstruction at 4.2 ± 1.3 mg/mL, so these can be modeled more or less precisely for MCIs.

Yet, for MCIs my typical pragmatic approach involves administering the background infusion of IV propofol 150 to 180 mcg/kg/min with the superimposed small IV propofol boluses 0.1 to 0.2 mg/kg every 30 seconds. In my experience, this sequence assures a reliable and gradual upper airway collapse within 5 to 7 minutes. It is advisable to start an IV in AC to avoid propofol-induced pain.

For a dexmedetomidine DISE sequence, I typically administer dex IV bolus 1.5 mcg/kg over 10 minutes, followed by infusion of 0.7 to 1.0 mcg/kg/h. A reliable induction of sleep and upper airway collapse is observed in the vast majority of patients within 15 minutes, with occasional top-up dexmedetomidine rapid IV boluses 0.25 mcg/kg required after the administration of the loading dose had been completed. Load the patient up with 10 cc/kg of crystalloid, and write the orders to check orthostatics in PACU before getting the patient up: we've had some patients "kiss the floor" due to long dex half life.

I hope this helps, LMK if you have other questions.

Refs.

Atkins JH, Mandel JE, Rosanova G. Safety and efficacy of drug-induced sleep endoscopy using a probability ramp propofol infusion system in patients with severe obstructive sleep apnea. *Anesth Analg* 2014;119(4):805-10.

De Vito A, Agnoletti V, Zani G, et al. The importance of drug-induced sedation endoscopy (D.I.S.E.) techniques in surgical decision making: conventional versus target

controlled infusion techniques - a prospective randomized controlled study and a retrospective surgical outcomes analysis. *Eur Arch Otorhinolaryngol* 2017;274(5):2307-17.

Mandel JE, Sarraf E. The variability of response to propofol is reduced when a clinical observation is incorporated in the control: a simulation study. *Anesth Analg* 2012;114(6):1221-9.

Borek RC, Thaler ER, Kim C, et al. Quantitative airway analysis during drug-induced sleep endoscopy for evaluation of sleep apnea. *Laryngoscope* 2012;122(11):2592-9.