Do ED physicians have different sedation guidelines than Anesthesiologists?

Publication – March 20, 2017

Joshua W Sappenfield, MD

Assistant Professor

Department of Anesthesiology

Gainesville, Florida

KEY POINTS

- The American College of Emergency Physicians does not recommend delaying procedural sedation in the ED based on fasting time.
- The American College of Emergency Physicians states that monitoring of $EtCO_2$ for procedural sedation is optional.
- These recommendations conflict with the procedural sedation guidelines from the American Society of Anesthesiologists

†Recommendations for patient care that may identify a particular strategy or range of strategies that reflect moderate clinical certainty (ie, based on evidence from 1 or more Class of Evidence II studies or strong consensus of Class of Evidence III studies).

Recently I while taking call I was asked to provide sedation for a child in the emergency medicine department who had a dislocated shoulder. After talking to the boy and his father, I determined that the patient had a light meal 4 hours prior consisting of orange juice and toast. I left and told the emergency medicine physician that I could not provide sedation for the procedure at this time. The patient had recent recently eaten. The emergency medicine physician gave me a disparaging look. I said I could come back in two hours to effect a six hour fasted interval and provide sedation then. My emergency medicine colleague seemed surprised. Based on this interaction, I concluded that the physician had different thoughts on the appropriateness of NPO status prior to sedation and perhaps even felt that I was trying to skirt providing sedation for this child. Because of this experience, I have had several discussions with colleagues and I was directed to an article by Godwin et al.[1]

The article is a clinical policy statement from the American College of Emergency Physicians, which address four questions. The first pertains to whether preprocedural fasting has any demonstrated benefit prior to procedural sedation. Godwin et al. give a Level B† recommendation to not delay procedural sedation in adults or pediatrics in the ED based on fasting time.[1] I found this to be surprising and likely contributing to the described scenario. This is in direct contrast to Apfelbaum et al. who recommend that "it is appropriate to fast from intake of a light meal or nonhuman milk for 6 h or more before elective procedures requiring general anesthesia, regional anesthesia, or sedation."[2]

The second recommendation by Godwin et al. they also give a Level B recommendation i.e. that "capnography may be used as an adjunct to pulse oximetry and clinical assessment to detect hypoventilation and apnea earlier than pulse oximetry and/or clinical assessment alone in patients undergoing procedural sedation and analgesia in the ED."[1] This is in contrast to the mandated use of end-tidal CO_2 monitoring for **moderate** or **deep** sedation by the American Society of Anesthesiologists.[3] Godwin et al. also cited studies supporting capnography during sedation. As an example,

Waugh et al found that the addition of capnography was 17.6 times more likely to detect an adverse respiratory event(defined as respiratory depression, apnea, oxygen desaturation, airway obstruction, or need for supplemental oxygen).[4] Deitch et al. found that capnography had a 100% sensitivity and 64% specificity for detecting patients hypoventilating prior to their oxygen saturation dropping below 93% during propofol sedation.[5] Capnography also led to a 17% absolute risk reduction of hypoxic events in Deitch et al.'s study.[5] Although Godwin et al. stated that capnography overall seemed to decrease events related to respiratory issues and hypoxia in the reviewed studies, there was a lack of evidence that capnography decreased any serious complications.

There is clear conflict between recommendations made by the American College of Emergency Physicians and the American Society of Anesthesiologists. This creates challenges and an apparent intellectual inconsistency in terms of standard of care vis a vis procedural sedation happening in the same hospital in different locations. Depending on how comprehensive a clinician's knowledge on the subject, I could see how someone may judge another clinician's practice if it is different than their own. When comparing evidence to make recommendations, one must agree what is an outcome versus a reasonable surrogate, appropriate study size to demonstrate an outcome, and the quality of the evidence itself. When making final recommendations, one has to take in to consideration the risk compared to the benefit, how conservative a practitioner should be in preventing risk, and whether the absence of evidence showing risk, is evidence to the absence of risk. In the end, the authors of these guidelines will not be held responsible for complications related to procedural sedation, but the clinician who administers it.

References

1. Godwin SA, Burton JH, Gerardo CJ, et al. Clinical policy: procedural sedation and analgesia in the emergency department. Ann Emerg Med. 2014 Feb;63(2):247-58.e18. doi: 10.1016/j.annemergmed.2013.10.015.
2. Apfelbaum JI, Caplan RA, Connis RT, et al. Practice guidelines for preoperative fasting and the use of pharmacologic agents to reduce the risk of pulmonary aspiration: application to healthy patients undergoing elective procedures. An updated report by the American

Society of Anesthesiologists Committee on Standards and Practice Parameters. Anesthesiology, 114 (2011), pp. 495–511

3. American Society of Anesthesiologists. Standards for Basic Anesthetic Monitoring. http://www.asahq.org/~/media/Sites/ ASAHQ/Files/Public/Resources/standards-guidelines/standards-for-basic-anesthetic-monitoring.pdf. Accessed March 15, 2017.
4. Waugh JB, Epps CA, Khodneva YA. Capnography enhances surveillance of respiratory events during procedural sedation: a meta-analysis. J Clin Anesth, 23 (2011), pp. 189–196.
5. K. Deitch, J. Miner, C.R. Chudnofsky, et al. Does end tidal CO2 monitoring during emergency department procedural sedation and analgesia with propofol decrease the incidence of hypoxic events? A randomized, controlled trial. Ann Emerg Med, 55 (2010), pp. 258–264.