Is propofol safe if given by non-anesthesia providers?

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Statement of the Problem: Evidence is accumulating that Non-Anesthesiologist-Administered Propofol (NAAP) sedation has a safety and efficacy profile comparable or superior to that provided by benzodiazepines with or without opioids. The guidelines currently available emphasize the importance of appropriate patient selection, staff training and monitoring low-dose sedation protocols for use safety.

Methodology & Theoretical Orientation: Give propofol with initial bolus: 1.5-2.5 mg/kg, patient will be apneic within 30-90 seconds the infusion at rate of 80-120 µg/kg/min.

Results: Evaluation of the data on propofol use by non-anesthesia providers is complex because of several factors, the foremost of which is the lack of adequately powered studies that statistically support the conclusions made. In addition, a direct comparison among the different specialties cannot be made. Procedural needs, patient presentation and defined endpoints are quite different for each specialty. Gastroenterology has evolved from simple procedures such as colonoscopy and diagnostic EGD that require only moderate sedation, to more invasive and stimulating ones such as ERCP and EUS. The traditional approaches have been to combine a benzodiazepine with or without an opioid and this are the combination against which propofol-based sedation protocols with or without adjuvants are compared. Similarly, physicians in the specialty of emergency medicine are often faced with the need for deep sedation and analgesia to perform short, painful procedures such as the reduction of a dislocated joint or closed fracture. The specialty of radiology has supported the development of Pediatric Sedation Units (PSUs) primarily for radiologic procedures. The sedation teams are supervised at times at a distance by pediatric intensivists or emergency department physicians. Because these cases can require hours of sedation, propofol is one of several options used. Finally, dentistry has long been associated with painful procedures. Although local infiltration or nerve blocks remain the techniques of choice, patients may receive supplemental sedation to accompany the procedure, especially at the time of the nerve block or local infiltration. Current studies report sedation being maintained throughout the entire procedure at a more responsive level. Although propofol is undoubtedly an attractive sedative for endoscopic procedures, there continues to be debate regarding its safe use by non-anesthesiologists. When propofol is administered by an experienced professional, the rate of sedation-related adverse events is low. Newer technologies such as computer-assisted personalized sedation are likely to standardize the use of propofol by non-anesthesiologists in endoscopy.

Conclusion & Significance: It is unlikely that the use of propofol by non-anesthesia professionals will cease. In many ways, propofol may be as safe as or safer than more traditional medications. Monitoring must be standardized and adequate. Given their training, experience and everyday environment, anesthesiologists should be at the forefront to determine protocols, initiate training, perform or oversee competency reviews and set up quality assurance programs.