PROCEDURAL SEDATION

How deep are you willing to go?

Amy Weigand Griffin, MD
Medical Director, WakeMed Children’s Emergency Department
Coastal Emergency Medicine Conference
June 2013
YOU CAN’T USE KETAMINE AND PROPOFOL IN THE EMERGENCY DEPARTMENT!!!!
“Anesthesia exists along a continuum. For some medications there is no bright line that distinguishes when their pharmacological properties bring about the physiologic transition from the analgesic to the anesthetic effects. Furthermore, each individual patient may respond differently to different types of medications”

Center for Medicaid, CHIP, and Survey & Certification/Survey & Certification Group, January 14, 2011
### Continuum of Depth of Sedation

<table>
<thead>
<tr>
<th></th>
<th>Minimal Sedation (anxiolysis)</th>
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NITROUS OXIDE
Nitrous Oxide

- **char·la·tan**
- [shahr-luh-tn]
- noun - a person whopretends or claims to have more knowledge or skill than he or she possesses; quack.
Nitrous oxide

• $N_2O$ used for decades in pediatric dentistry
• $N_2O$ used widely in Australia and New Zealand for ED procedural sedation
• Newer portable units with scavenging system are making this an attractive sedation adjunct in US Emergency Departments
Nitrous Oxide – Methods of Delivery
Nitrous Oxide

- Nitrous Oxide is an odorless, colorless gas
- Nitrous Oxide is used as a mixture of nitrous oxide AND oxygen
- It is ALWAYS delivered with oxygen
- Nitrous oxide is not metabolized
- It is excreted unchanged by exhalation via the lungs
Nitrous oxide

- When nitrous oxide is inhaled, it is absorbed by the body and has a calming and analgesic effect
- Onset is 2-3 minutes
- Duration is about 3-5 minutes
- CNS depressant
- Acts on Opioid receptors
Nitrous oxide

- Gas exchange occurs across the alveolus
- When nitrous is inhaled it moves from the alveolus (high partial pressure) to the capillary (low partial pressure) until equilibrium is reached
- Nitrous carried to the brain where it acts on opioid receptors
- When nitrous flow is terminated, partial pressure of nitrous increases in the blood, then it moves down concentration gradient back into the lungs and is excreted
Nitrous Oxide

- Very few side effects
- CV – decrease in pulse and BP due to relaxation
- Nitrous oxide “expands” - avoid in use in patients with PTX or SBO
KETAMINE

Why is it different???
Ketamine

- Dissociative anesthetic
- “dissociates” CNS from outside stimuli
- Trancelike state of “sensory isolation”
- Does NOT exhibit dose response continuum like other sedatives (only give repeated doses to lengthen the time of dissociation)
- Maintain protective reflexes
- Dissociative threshold reliably reached at dose of 1-1.5mg/kg IV or 3-4mg/kg IM
ASA DEFINITION OF GENERAL ANESTHESIA AND LEVELS OF SEDATION/ANALGESIA

Continuum of Depth of Sedation

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Ketamine

- Explain side effects to families to ease anxiety
  - Tears, hypersalivation
  - Mild elevations in HR and BP
  - Histamine reaction
  - Muscle twitching
  - Emergence reaction
  - Vomiting
We update an evidence-based clinical practice guideline for the administration of the dissociative agent ketamine for emergency department procedural sedation and analgesia. Substantial new research warrants revision of the widely disseminated 2004 guideline, particularly with respect to contraindications, age recommendations, potential neurotoxicity, and the role of coadministered anticholinergics and benzodiazepines. We critically discuss indications, contraindications, personnel requirements, monitoring, dosing, coadministered medications, recovery issues, and future research questions for ketamine dissociative sedation.

A podcast for this article is available at www.annemergmed.com.
0196-0644/8-see front matter
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doi:10.1016/j.annemergmed.2011.08.030

INTRODUCTION
The dissociative agent ketamine has been the most commonly used agent to facilitate painful emergency department (ED) procedures in children for nearly 2 decades. Current ketamine protocols, including indications, contraindications, and dosing, are frequently based on a widely cited 2004 clinical practice guideline, which in turn was an update of a 1990 protocol. This latter article was cited in 1999 as an "example of compliance" by the Joint Commission. The 2004 guideline, however, is now substantially out of date and in need of revision because subsequent ketamine investigations have questioned, disproved, or refined several of its assertions and recommendations. During this same period, there has also been sufficient ED research in adults to support expansion of ketamine use beyond children. In addition, animal research describing neurotoxicity with ketamine raises important new questions that must be considered and further investigated in humans.

To describe the best available evidence and perspectives about optimal dissociative sedation practice, we reviewed the newer ketamine literature and updated the 2004 clinical practice guideline.

WHY A SEPARATE CLINICAL PRACTICE GUIDELINE FOR KETAMINE?
Emergency physicians already have access to various standards, policies, guidelines, and review articles dealing with the general practice of procedural sedation and analgesia. However, ketamine displays unique features that warrant considering it separately from other sedatives.

The underlying pharmacology of ketamine is fundamentally different from that of other procedural sedation and analgesia agents. This drug exerts its effect by "disconnecting" the thalamocortical and limbic systems, effectively dissociating the central nervous system from outside stimuli (e.g., pain, sight, sound). The resulting transplant-like state of "sensory isolation" is characterized by potent analgesia, sedation, and amnesia while maintaining cardiovascular stability and preserving spontaneous respirations and protective airway reflexes. Complete analgesia permits performance of extremely painful procedures. Rather than displaying the dose-response continuum observed with other procedural sedation and analgesia agents, ketamine dissociation appears at a dosing threshold of approximately 1.0 to 1.5 mg/kg intravenously (IV) or 3 to 4 mg/kg intramuscularly (IM). In smaller doses, ketamine exhibits analgesia and disorientation. Once the dissociative threshold is reached, administration of additional ketamine does not enhance or deepen sedation, as would be the case with opioids, sedative-hypnotics, or inhalational agents. For these other agents, the more drug administered, the more the patient progresses along the sedation continuum, with increasing probability of ventilatory depression. In contrast, the quantity of ketamine administered has no clinically important effect on airway integrity and respirations within the range of clinically administered doses and using standard administration methods. Accordingly, dissociative sedation can be readily achieved by administration of a single IV or IM loading dose, and the only need for titration, in contrast to other sedatives, is to maintain the dissociative state over time.

This unique mechanism of action has made it challenging to reconcile ketamine with the traditional stages of the sedation continuum. Dissociated patients are unable to respond to external stimuli (including repeated or painful stimulation), and
2011 Ketamine Clinical Practice Guidelines

Absolute Contraindications

- Age < 3 months
  - Infant specific differences in airway anatomy, reactivity and laryngeal excitability

- Known or suspected schizophrenia
  - Exacerbates schizophrenia
2011 Ketamine Clinical Practice Guidelines
Relative Contraindications

- **Age**
  - Safe for use in 3 – 12 months
  - Expands use to adults lacking HTN, heart disease or risk factors for CAD

- **Laryngeal Stimulation**
  - No increased risk of laryngospasm with simple ED procedures (intraoral laceration, dental procedures)

- **Anatomy**
  - Use with caution in patients with tracheomalacia, laryngomalacia

- **Upper Respiratory Infection**
  - May increase laryngospasm
2011 Ketamine Clinical Practice Guidelines

• Increased Intracranial Pressure
  • *Head trauma removed as contraindication*
  • Ketamine causes cerebral vasodilation which may improve perfusion
  • Reports of patients with obstructive hydrocephalus or masses/abnormalities
2011 Ketamine Clinical Practice Guidelines

- Expanded Guidelines to Include Adults
  - Avoid in patients with CHF, HTN, CAD
  - Inhibits reuptake of catecholamines resulting in sympathomimetic effect

- Heart Rate
- Blood Pressure
- Cardiac Output
2011 Ketamine Clinical Practice Guidelines

**IV**
- Faster onset of action (60 seconds)
- Less vomiting
- Easy to redose for longer procedures
- Pediatrics – 1.5-2mg/kg
- Adults – 1 mg/kg

**IM**
- Onset about 5 minutes
- More vomiting
- Repeated IM injections
- Longer recovery
- No need for IV placement
- 4-5mg/kg
2011 Ketamine Clinical Practice Guideline

Adverse Events

• Laryngospasm – 0.3%
  • risk factors include active asthma or URI
  • Tx = BVM and rarely intubation

• Respiratory Depression
  • Case reports of apnea if administered too quickly. Should be administered over 30-60 seconds
  • Occurs after peak concentration (1-2 minutes after administration)

• Emesis
  • Early adolescence is peak
  • Usually occurs when late in recovery and patient can clear airway

• Emergence Reactions
  • Rarely disturbing in children or adults
  • Can give benzos if pronounced reaction
2011 Ketamine Clinical Practice Guideline
“Favorite Things”

- **Should I coadminister an anticholinergic to decrease oral secretions and decrease airway adverse events?**
  - NO. Literature shows no benefit

- **Do coadministered benzodiazepines decrease emergence reactions in children??**
  - NO. Literature shows no benefit in children
  - May have benefit in adults

- **Does my patient have to eat before they are discharged?**
  - NO. Repeated attempts might unnecessarily provoke emesis

- **Does may patient have to be able to walk without assistance?**
  - NO. Patients may have ataxia after ketamine for several hours.
  - Patients should be monitored to prevent falls at home
PROPOFOL
Propofol

• Why is it a great sedative-hypnotic?
  • Classified as nonopioid, nonbarbiturate
  • Fast onset of action 30-60 seconds
  • Half life is 1.3 - 4.1 minutes
  • Ultra short acting.....effects wear off in minutes
  • Dosage in literature for pediatrics: 1mg/kg IV bolus; additional doses of 0.5mg/kg
  • Adult dosing varies depending on age, comorbidities, and if patient has had narcotics. 1mg/kg IV bolus initially, but may need to decrease based on above.

• Adverse Reaction
  • Hypotension
  • Respiratory Depression
Propofol

Ann Emerg Med 2003
N=291
Hypoxia =5%
Partial Airway Obstruction = 4%
Apnea with BVM =1%
All adverse events were promptly identified and readily managed without further complication

Dosage:
1mg/kg IV initial bolus
0.5mg/kg IV additional doses
(pretreated w/ fentanyl 1-2mcg/kg)

All but 4 patients had transient hypotension, but no evidence of poor perfusion

All studies completed successfully
1 provider administering propofol; 1 performing procedure

Limitations:
Did not record depth of sedation
No ETCO2
Multiple MDs administered propofol
Not all patients rec’d IVFs
Propofol
N= 393
Mainly ortho procedures
Hypotension >2 min = 8%; no episodes of poor perfusion
Hypoxia = 5%
Partial Airway Obstruction = 3%
Apnea with BVM = 0.8%
Bradycardia = 6%
Dosage:
1 mkg/kg IV initial bolus
0.5mg/kg add’l doses
Fentanyl or MSO4 given 1 minute prior to procedure
Mean propofol dose = 2.9mg/kg
ED MD monitored sedation
Orthopedist performed procedure
Limitations:
ETCO2 not used
Depth of sedation not scored
Multiple MDs administered propofol
Not all patients rec’d IVFs
Propofol

3 sites: Maine Medical Center, Hennepin (MN), Overlake WA (**no resident coverage)
N= 792
Indications: ortho, cardioversion, abscess I&D

Hypotension = 3.5%
Oxygen Desaturation = 7.7%
BVM = 3.9%

All adverse events resolved with brief supportive measures

Dosage:
1mg/kg initial bolus
0.5mg/kg additional boluses

Propofol for Emergency Department Procedural Sedation and Analgesia: A Tale of Three Centers

John H. Burton, MD, James R. Miner, MD, Eric R. Shipley, MD, Tania D. Strout, RN, BSN, Chris Becker, MD, Henry C. Thode Jr., PhD

Abstract

Objectives: To characterize propofol procedural sedation and analgesia (PSA) encounters for a large patient population at multiple emergency department (ED) sites. The authors sought to assess the frequency of respiratory and cardiovascular events during propofol PSA within these settings.

Methods: This study was a prospective, descriptive series of a consecutive sample of ED patients receiving propofol for PSA at three study sites. Patients were monitored for PSA-related events, including predefined clinically relevant cardiovascular and respiratory events. Data collection was performed during PSA with a standardized data collection sheet unique to each site.

Results: Propofol was administered during PSA to 792 patients during the respective reporting period at each center. Indications for sedation included dislocation reduction (38%), cardioversion (10%), fracture reduction (35%), abscess incision and drainage (8%), computed tomography imaging (2%), and tube thoracostomy (1%). The cumulative rate of oxygen desaturation events for all study sites was 7.7% with a brief period of assisted ventilation with bag-valve mask in 3.9%. The cumulative rate of PSA-related hypotensive events was 3.5%. Increasing patient age and specific clinical procedure were clinical variables most associated with any propofol-related respiratory event. All PSA-related events resolved with supportive interventions during the PSA encounter. No patients required endotracheal intubation, prolonged observation, or admission for PSA-related complications.

Conclusions: Propofol typically confers a deep sedation experience for ED PSA. The most common PSA events associated with propofol are respiratory related and appear consistent across these three practice settings. All propofol-related PSA events resolved with brief supportive interventions in the ED with no adverse sequelae.

ACADEMIC EMERGENCY MEDICINE 2006; 13:24–30 © 2006 by the Society for Academic Emergency Medicine

Keywords: propofol, procedural sedation and analgesia, conscious sedation
Propofol

No statistical significant differences in airway/respiratory adverse reactions among study sites

Limitations:
No rigid guideline for propofol dosing (some docs administered smaller initial bolus based on age, BP etc. from usual dosing)
2 different PSA scores used
Multiple providers
Propofol

Retrospective cohort study

Determine the effect of patient age on propofol dose

N=170; divided into 3 cohorts
18-40 years
41-64 years
>65 years

Opioid use before procedure was similar in all groups

Unique elderly characteristics:
Higher serum concentrations
Greater sensitivity to hypnotic effects
Propofol

Limitations
MDs biased and give smaller doses to elderly anyway which influenced induction and total dosages

May have limited documentation in the medical chart

<table>
<thead>
<tr>
<th>Table 2. Pain and Sedation Data (n = 170)</th>
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<tbody>
<tr>
<td><strong>Variable</strong></td>
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<tr>
<td>---------------------------------</td>
</tr>
<tr>
<td><strong>Median, IQR</strong></td>
</tr>
<tr>
<td>Opioid before procedure (mg/kg)*</td>
</tr>
<tr>
<td>Opioid during procedure (mg/kg)*</td>
</tr>
<tr>
<td>Pain score before procedure (0–10 scale)</td>
</tr>
<tr>
<td>Procedure time (min)</td>
</tr>
<tr>
<td>Propofol doses (mg/kg)</td>
</tr>
<tr>
<td>Induction dose</td>
</tr>
<tr>
<td>Total dose</td>
</tr>
</tbody>
</table>

IQR = interquartile range.
* Morphine intravenous equivalents.
† p value indicates difference between 18–40 year and 41–64 year age groups.
‡ p value indicates difference between 18–40 year and ≥65 year age groups.
§ p value indicates difference between 41–64 year and ≥65 year age groups.
Propofol Safety Considerations

- Consider giving patients with concern for hypovolemia or who are dehydrated
- Use ETCO2 monitoring when using propofol
- Reduce dosage of propofol in elderly patients
Is propofol safe for use for procedural sedation in the ED?
Does End Tidal CO₂ Monitoring During Emergency Department Procedural Sedation and Analgesia With Propofol Decrease the Incidence of Hypoxic Events? A Randomized, Controlled Trial

Kenneth Deitch, DO
Jim Miner, MD
Carl R. Chudnofsky, MD
Paul Dominici, MD
Daniel Latta, BS

From the Department of Emergency Medicine, Albert Einstein Medical Center, Philadelphia, PA (Deitch, Chudnofsky, Dominici, Latta); Department of Emergency Medicine, Hennepin County Medical Center, Minneapolis, MN (Miner).

Study objective: We determine whether the use of capnography is associated with a decreased incidence of hypoxic events than standard monitoring alone during emergency department (ED) sedation with propofol.

Methods: Adults underwent ED propofol sedation with standard monitoring (pulse oximetry, cardiac and blood pressure) and capnography and were randomized into a group in which treating physicians had access to the capnography and a blinded group in which they did not. All patients received supplemental oxygen (3 L/minute) and opioids greater than 30 minutes before. Propofol was dosed at 1.0 mg/kg, followed by 0.5 mg/kg as needed. Capnographic and SpO₂ data were recorded electronically every 5 seconds. Hypoxia was defined as SpO₂ less than 93%; respiratory depression, as end tidal CO₂ (ETCO₂) greater than 50 mm Hg, ETCO₂ change from baseline of 1.0%, or loss of the waveform.

Results: One hundred thirty-two subjects were evaluated and included in the final analysis. We observed hypoxia in 17 of 68 (25%) subjects with capnography and 27 of 64 (42%) with blinded capnography (P=.035; difference 17%; 95% confidence interval 1.3% to 33%). Capnography identified all cases of hypoxia before onset (sensitivity 100%; specificity 64%), with the median time from capnographic evidence of respiratory depression to hypoxia 60 seconds (range 5 to 240 seconds).

Conclusion: In adults receiving ED propofol sedation, the addition of capnography to standard monitoring reduced hypoxia and provided advance warning for all hypoxic events. [Ann Emerg Med. 2010;55:258-264.]

Please see page 259 for the Editor’s Capsule Summary of this article.
WHAT’S BETTER THAN KETAMINE AND PROPOFOL?
KETOFOL!!!.....but, is it really better???
### Ketofol ~ a balancing act

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<td>• Vomiting</td>
</tr>
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<td>• Respiratory Depression</td>
<td>• Sympathomimetic</td>
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<td>• Preserves respiratory drive</td>
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Ketofol

N = 136
Prospective, blinded RCT ketofol vs. ketamine for orthopedic fracture reduction

Dosages:
Ketofol (0.5mg/kg ketamine + 0.5mg/kg propofol) vs.
Ketamine 1mg/kg

Was sedation time shorter with ketofol than ketamine alone?

Was recovery time faster with ketofol than ketamine alone?

Median Sedation Time
Ketofol = 13 minutes
Ketamine = 16 minutes

Recovery Time
Ketofol = 10 minutes
Ketamine = 12 minutes

Less vomiting in ketofol group (2% vs. 12%)

Adverse events easily managed with oxygen and airway repositioning
Ketofol

Randomized, double blind, placebo controlled trial
n=193

Compare frequency of respiratory depression of ketofol vs. propofol alone

Ketamine 0.5mg/kg or placebo, then propofol 1mg/kg with repeated doses of 0.5mg/kg to maintain sedation

Difference in respiratory depression not statistically significant between groups

Respiratory Depression Defined as:
-ETCO2 increase 5mmHg lasting >10 seconds
-RR < 8 bpm for >10 seconds
-SaO2 < 90% for >10 seconds
-Apnea >15 seconds
-Airway Manipulation (jaw thrust or BVM)

Median propofol dose
Ketofol = 100mg
Propofol alone = 175mg
Ketofol

Ketofol had less frequent changes in depth of sedation

Resulted in more consistent sedation
Does ketofol have less adverse events than propofol alone?

**Dosages:**
- **Ketofol** (single syringe)
  0.375mg/kg each of ketamine and propofol (add'l doses of 0.188mg/kg of each)
- **Propofol** 0.75mg/kg initial bolus and then 0.375mg/kg
- Similar number of repeat dosages

Respiratory adverse events were similar in both groups; all responded to either airway repositioning, oxygen, or BVM or combination of all three

More consistent sedation depth
Ketofol vs. Propofol

Ramsey Scale

1 = anxious and agitated or restless, or both
2 = co-operative, oriented, and calm
3 = responsive to commands only
4 = exhibiting brisk response to light glabellar tap or loud auditory stimulus
5 = exhibiting a sluggish response to light glabellar tap (tap on forehead) or loud auditory stimulus
6 = unresponsive

Figure 2. Sedation consistency: Percentage of procedure spent at each sedation level.
Thoughts on Ketofol

- Adverse events are similar between ketofol and propofol
- Using ketamine in sub-dissociative doses….perhaps seeing analgesic effects and not “dissociative effects”??
- Less vomiting in ketofol groups
- MD and RN satisfaction high in ketofol groups
- Ketamine may blunt the peaks and troughs seen with propofol monotherapy ie…more consistent
ROADBLOCKS TO PROPOFOL (AND KETAMINE) USE IN THE ED
The “BIG THREE”

• Is it safe to use propofol in the ED for procedural sedation?

• Does there need to be 2 ED physicians in the room?
  • One to monitor sedation
  • Second to perform procedure

• Can nurse “push the plunger” for ketamine and propofol?
Propofol

- Diprivan (Propofol) package insert (7/2004) …

- “propofol used for sedation or anesthesia should be administered only by persons trained in the administration of general anesthesia and not involved in the conduct of the surgical/diagnostic procedure.”
ADVISORY ON GRANTING PRIVILEGES FOR DEEP SEDATION TO NON-ANESTHESIOLOGIST SEDATION PRACTITIONERS
Committee of Origin: Ad Hoc on Non-Anesthesiologist Privileging
(Approved by the ASA House of Delegates on October 20, 2010)

• Note: The Hospital Anesthesia Services Condition of Participation 42 CFR 482.52(a) limits the administration of deep sedation to “qualified anesthesia professionals” within their scope of practice. **CMS defines these personnel specifically as an anesthesiologist; non-anesthesiologist MD or DO; dentist, oral surgeon, or podiatrist who is qualified to administer anesthesia under State law; CRNA, and AA.**

• Any professional who administers and monitors deep sedation must be dedicated to that task. **Therefore, the non-anesthesiologist sedation practitioner who administers and monitors deep sedation must be different from the individual performing the diagnostic or therapeutic procedure (see ASA Guidelines for Sedation and Analgesia by Non-anesthesiologists).**
January 20, 2011

Sandra Schneider, M.D.
President
American College of Emergency Physicians
1125 Executive Circle
Irving, TX 75038-2522

Re: Statement by American Society of Anesthesiologists on Granting Privileges for Deep Sedation to Non-Anesthesiologist Sedation Practitioners

Dear Dr. Schneider:

My colleagues and I are grateful to have had the chance to meet with your leadership in New York City last month. I hope our discussion addressed your questions about the American Society of Anesthesiologists’ (ASA) recently issued “Statement on Granting Privileges for Deep Sedation to Non-Anesthesiologist Sedation Practitioners.”

The purpose of the statement must be clearly understood. It states that it “is designed to assist health care facilities in developing a program for the delineation of clinical privileges” (emphasis mine). Our expectation is that facilities and medical staffs will use our statement as a starting point when they consider how to establish institution-specific criteria appropriate for deep sedation privileging. We understand that each setting has unique characteristics that should be reflected in the development of medical staff privileging criteria. We also recognize that some institutions may find it unnecessary to privilege non-anesthesiologists for this service at all.

The considerations appropriate for one specialty may not pertain to others. For example, institutions may require some or all staff members to maintain Advanced Cardiac Life Support (ACLS) certification. Some institutions recognize that the ACLS skill set is a core competency of specialties such as anesthesiology or emergency medicine and may treat these specialties differently with respect to their ACLS requirements. We would expect that a facility may address the deep sedation privileging standards with similar distinctions among medical specialties. Note, too, that the ASA statement makes reference to “advanced life support skills and current certificate such as those required for Advanced Cardiac Life Support (ACLS),” (again, emphasis mine). Our document does not suggest a requirement for ACLS certification per se, but instead calls for documented competency in those skills.
As physicians, we all understand that patient needs trump guidelines and standards. A critical function of the medical professional is to weigh the likelihood of patient harm, particularly in emergency situations, in comparison to the benefits of strict adherence to even the most compelling standards. For example, we all have cared for patients who have critical, urgent need for intravenous access and resuscitation; in these instances it may be necessary to put aside time-consuming techniques in their best interests. Central venous catheters inserted at the scene of major trauma provide another good illustration. We understand there may be rare circumstances in which practices suggested in our statement cannot reasonably be followed under extenuating circumstances.

We are hopeful that the ASA statement will be helpful to institutions that need to establish privileging criteria for deep sedation. Our goal is to contribute to thoughtful consideration of the ways in which this can be accomplished . . . with patient safety foremost.

Sincerely,

Mark A. Warner, M.D.
President
American Society of Anesthesiologists

cc: David Seaberg, M.D., ACEP President-Elect
Andrew Sama, M.D., ACEP Vice President
Dean Wilkerson, ACEP Executive Director
Jerry Cohen, ASA President Elect
John Zerwas, ASA First Vice President
John Thorner, ASA Executive Vice President
Beverly Philip, M.D., Chair, ASA’S Committee on Non-Anesthesiologist Privileging
February 10, 2011

Dear ACEP Member:

One of the core competencies of an emergency physician is procedural sedation. Our clinical policies have outlined the evidence that we are skilled in the area of analgesia, sedation, and emergency airway management. The Centers for Medicare & Medicaid Services (CMS) has revised its interpretive guidelines for anesthesia services. Hospitals are to use these guidelines in developing their individual credentialing policies. These guidelines and their FAQs note that “...emergency medicine-trained physicians have very specific skill sets to manage airways and ventilation that is necessary to provide patient rescue. Therefore, these practitioners are uniquely qualified to provide all levels of analgesia/sedation and anesthesia (moderate to deep to general).” This change in CMS’ guidelines is the result of vigorous efforts by ACEP leadership and staff working with others to achieve this result.

The CMS document also suggests that hospitals should use specialty-specific guidelines in creating their credentialing policies and specifically cites ACEP’s clinical policy on sedation, and quotes the Emergency Nurses Association (ENA) and ACEP to “support the delivery of medications used for procedural sedation and analgesia by credentialed emergency nurses working under the direct supervision of an emergency physician. These agents include but are not limited to etomidate, propofol, ketamine, fentanyl, and midazolam.”

Recently, the American Society of Anesthesiologists (ASA) issued their “Statement on Granting Privileges for Deep Sedation to Non-Anesthesiologist Sedation Practitioners.” After ACEP leaders met with the ASA, they wrote the attached letter of clarification. Of note, their statement and this letter preceded the CMS revision noted above.

We believe, based on the CMS interpretive guidelines and the ASA’s letter of clarification, that physicians who are residency trained and/or board certified by ABEM/AOBEM in emergency medicine have the skills necessary to perform procedural sedation (including analgesia), as well as all levels of sedation. These skills surpass what is taught in Advanced Cardiac Life Support, Advanced Trauma Life Support, and Pediatric Advanced Life Support courses, so current certification in these courses should not be required. Many states and individual hospitals agree with this conclusion.

Further, as noted in the ASA’s letter of clarification, our practice environment is unique. When two or more physicians are readily available to the emergency department, we feel it is prudent to have both present during the sedation. However, because our procedures are brief and we are able to address any airway issues, when two physicians are not available, sedation can be performed initially by an emergency physician, and once stable sedation and adequate monitoring are established, the emergency nurse can monitor the patient while the physician performs the procedure.

Emergency physicians provide care to more than 120 million people each year. We provide safe, quality care, including the comfort of our patients during painful procedures. These documents reaffirm our ability to safely care for our patients.

Sincerely,

Sandra M. Schneider, MD, FACEP
President, American College of Emergency Physicians
ACEP Recommendations

- Sedation and Analgesia in the Emergency Department: Recommendations for Physician Credentialing, Privileging and Practice

- O’Connor RE, Sama A, Burton JH, Callaham ML, House HR, Jaquis WP, Tibbles PM, Bromley M, Green SM

- This article was approved by the ACEP Board of Directors at its June 2011 Board meeting and reflects ACEP’s position on procedural sedation and analgesia in the emergency department.
ACEP Recommendations for MD credentialing, privileging, and practice

- **Practitioner administering sedation:** …Actual drug administration may be delegated to a RN or other qualified staff with established competency for sedative administration under direct-contemporaneous physician supervision……

- **Emergency Nursing:**…..The capability of qualified ED nurses to administer propofol, ketamine and other sedatives under the direct supervision of a privileged emergency physician is strongly supported by ACEP
Anesthesia exists along a continuum. For some medications there is no bright line that distinguishes when their pharmacological properties bring about the physiologic transition from the analgesic to the anesthetic effects. Furthermore, each individual patient may respond differently to different types of medications.
Hospitals are free to develop their own specific organizational arrangements in order to deliver all anesthesia services in a well-organized manner. Although not required under the regulation to do so, a well-organized anesthesia service would develop the hospital’s anesthesia policies and procedures in collaboration with several other hospital disciplines (e.g., surgery, pharmacy, nursing, safety experts, material management, etc.) that are involved in delivering these services to patients in the various areas in the hospital.
Under the “Surveyors” section:

• Request a copy of and review the hospital’s anesthesia services policies and procedures.

• Do they apply in all hospital locations where anesthesia services are provided?

• Do they indicate the necessary qualifications that each clinical practitioner must possess in order to administer anesthesia as well as moderate sedation or other forms of analgesia?

• Do they address what clinical applications are considered to involve analgesia, in particular moderate sedation, rather than anesthesia, based on identifiable national guidelines? What are the national guidelines that they are following and how is that documented?
CMS expects surveyors to verify that the hospital can identify appropriate guidelines that support its policies. A hospital could use multiple guidelines, for example, ACEP for sedation in the emergency department and ASA for anesthesia/sedation in surgical services, etc.
The Joint Commission

- JCAHO permits the use of propofol by emergency physicians, depending on the policy of the individual hospital.

- Individuals administering moderate or deep sedation are qualified and have credentials to manage and rescue patients at whatever level of anesthesia is achieved intentionally or unintentionally.

- In addition to the individual performing the procedure, a sufficient number of qualified staff is present to evaluate the patient, to provide the sedation and/or anesthesia, to help with the procedure, and to monitor and recover the patient.
Nursing Issues

• Can nurses “push the plunger” and administer propofol and ketamine?
BON Moderate Sedation Position Statement

North Carolina

• “Administration of such drugs as Propofol and Ketamine for procedural purposes, if ordered by a physician and allowed by agency policy, is not prohibited providing patient retains control of reflexes and can be aroused.”

• South Carolina ??

• Georgia ??
Resources

• Emergency Nurses Association
  • http://www.ena.org/government/Advocacy/Procedural/default.asp

• ACEP website

• Email: amywgriffin@gmail.com