Knock 'Em Out

When in Doubt

Why Sedate Children?

Knock 'Em Out

When in Doubt

Why Sedate Children?

Knock 'Em Out

When in Doubt

Why Sedate Children?

Knock 'Em Out

When in Doubt

Why Sedate Children?

Knock 'Em Out

When in Doubt

Why Sedate Children?

Knock 'Em Out

When in Doubt

Why Sedate Children?

Knock 'Em Out

When in Doubt

Why Sedate Children?

Knock 'Em Out

When in Doubt

Why Sedate Children?
Understanding these differences can make all the difference in the care of your pediatric patient, chiefly because if enough sedatives or analgesics are administered, you might wind up achieving an undesirable state of general anesthesia in your patient.

According to the American Academy of Pediatrics, conscious sedation amounts to “a minimally depressed level of consciousness that retains a patient’s ability to maintain a patent airway independently and continuously, while still responding to physical stimulation and/or verbal command.” Deep sedation, on the other hand, is “a state of depressed consciousness or unconsciousness from which the patient is not easily aroused. It may be accompanied by partial or complete loss of protective airway reflexes and includes the inability to maintain a patent airway independently and respond appropriately to physical stimulation or verbal commands.”

The key contrasts between the two forms of sedation involve the protection of airway reflexes and the ability to respond to stimulation or commands. As you might imagine, additional resources, more intensive monitoring, and frequent assessments must occur during deep sedation. With conscious sedation, however, it’s most important that nurses remember to administer only those drugs with which they are comfortable (knowing beyond doubt, for example, dosages, indications, contraindications, reversal, onset/duration, etc.). Today’s conscious sedation cart stocks many drugs, and most of them can be administered safely. Trouble comes quickly, however, when nurses mix and match drugs, especially sedatives and analgesics.

Who Should Get It?

In the ED, nurses seldom encounter the ideal preparation found in elective preoperative patients. Most emergency patients, for instance, have not been NPO for any period of time before they find themselves on an ED gurney (although this is not a contraindication for conscious sedation). Then, too, patients rarely come to the ED with their complete medical history in hand; nurses must evaluate their preexisting mental and physical conditions. Most practitioners believe that conscious sedation should be administered only to anesthesia ASA class I patients (normal, healthy individuals) or class II patients (individuals with mild systemic disease), unless consultation with an anesthesiologist or certified registered nurse anesthetist (CRNA) is made. Typical procedures for which conscious or deep sedation may be used in the ED include —

- CT scans or MRIs
- Laceration repairs
- Lumbar punctures
- Gynecological exams
- Fracture reductions

Sedation isn’t for everyone all the time, but there are healthcare professionals who believe, as we do, that when it comes to painful procedures, drugs are good for people. Alternative techniques to reduce pain and enhance calm, such as hypnosis, imagery, cold/warm therapies, parental support, and distraction, instead of or in conjunction with sedation, can be effective tools. But for painful procedures in children, we ascribe to a different platform — “Take the pain away!”

For painful procedures in children, “take the pain away!”

While it’s true that administering medications may, and probably will, lengthen the stay of a child on whom a procedure has been performed in the ED, consider this: Nurses must monitor the child’s status during the procedure, with or without medication. A comfortable asleep or mellow versus screaming child, the feelings of the child’s parents, the quality of the information obtained (poor quality CT scans due to motion, for example), or difficulty in performing the procedure (for instance, a spinal tap) — all will affect the outcome of the procedure. In determining whether sedation is right for your pediatric patient, ask yourself these questions —

- Will it take longer to do the procedure with or without sedation?
- If I administer the right medications, in the right amounts, will the child really be in the ED that much longer?
- If I were a two-year-old about to undergo a procedure — painful or not — would I like to be held down? Shouldn’t there be a better way?

Which Drugs, When, and Why?

To determine which drugs to give and by which route, you’ll have to ask yourself a few more questions. What is really needed? Analgesia? Sedation? Amnesia? Immobility? Not all procedures are painful; only a sedative may be necessary in some cases. Bear in mind that painful or “nasty” procedures require both sedatives and analgesics because sedatives, contrary to popular belief, do not take away pain. They only do as their name states — sedate. When you’re performing painful procedures on children, try to take away as much of their pain as you safely can and sedate as needed. An ideal agent is one that —

- has a rapid central nervous system effect
- doesn’t depress respirations
- lasts for the entire procedure
- is promptly eliminated for a quick and safe discharge from the ED
- doesn’t require a shot

This last characteristic — the shot — represents one of the most significant changes in the area of pediatric conscious sedation in recent years. Sedation without shots is no longer a novel concept. Today, many drugs can be administered intranasally, orally, sublingually, rectally, or transmurally. The only safe method of reaching deep sedation, however, remains the IV route. Hopefully, this route will require merely a single “shot.” Once an IV is placed, normally all medications can be given via the IV.

Who Does What?

Although nurses typically are not responsible for determining which medications should be administered, a basic understanding of the common agents used in sedation is crucial to ensure safe patient care. Preparations for conscious sedation must include teaching of the patient in age-appropriate ways, as well as education of the parents or caregivers. In the ED, nurses have additional, specific responsibilities, including —

- administration of medications
- monitoring patients’ level of sedation
- monitoring patients’ overall hemodynamic status

Because most complications associated with sedation are of a respiratory nature, preparations for possible respiratory depression should
focus on this fact. Pulse oximetry is considered the minimum standard, as it allows for concurrent monitoring of the oxygen saturation and heart rate. Some practitioners believe that, in addition to pulse oximetry, cardiac/respiratory monitors should be applied if available. Cardiac dysrhythmias, however, are relatively rare in healthy children; and pulse oximetry with heart rate, in conjunction with regular visual assessments of the child’s respiratory rate and depth, will suffice in many cases.

An automatic blood pressure cuff should be applied before the procedure is started, with measurement intervals at every five to 15 minutes, depending on the level of sedation. Some practitioners advocate more frequent measurements, but many patients become agitated with the inflation of the cuff, possibly requiring additional medications to return to the desired sedation level. Pulse oximetry, skin color, and peripheral pulse status can serve just as well as frequent blood pressure readings.

Besides pulse oximetry or other monitoring equipment, the following equipment and medications — at minimum — should be ready at the bedside before any sedatives or analgesics are administered:

- oxygen with age-appropriate bag-valve mask
- rigid suction tip device
- physical immobilization device (i.e., papoose)
- reversal medications, including Narcan (naloxone) for analgesics and Romazicon (flumazenil) for Benzodiazepine sedatives.

It is neither necessary to have the medications physically drawn into syringes, nor cost effective. If you have unopened medications at the bedside, however, you’ll do yourself a great favor by ensuring, at minimum, doses for reversal agents in mg’s and cc’s are calculated for use if needed.

Resuscitation medications and airway management equipment should be readily available in the department. Most children with respiratory depression will respond to supplemental oxygen and, if needed, “ambu”ing until the reversal agents can be administered. At the very least, the team conducting sedation should include the practitioner who will perform the procedure and one nurse to assess and monitor the child, as well as to administer medications.

Administration of reversal agents is indicated for respiratory depression or the quick return to a baseline level of consciousness. Nurses must remember to provide supplemental oxygen and “ambu” as needed until the reversal agent has resulted in acceptable respiratory function. It is crucial to be aware of the duration of reversal agents versus that of the medication to be reversed. Occasionally, one can outlast the other, potentially resulting in unwanted and dangerous resedation.

A nurse, along with appropriate monitoring and airway management equipment, resuscitation and reversal medications, and the ability to quickly obtain airway control, should accompany sedated children on any transfer outside the ED. Ideally, a physician or CRNA should be included in the transport if the patient is deeply sedated or intubated.

Discharge from the ED may be appropriate for sedated children when several criteria are met:

- Airway reflexes are intact.
- The child has returned to a pre-sedation level of consciousness.
- There are no concerns of re-sedation, cardiorespiratory compromise, or food aspiration.
- The child has adequate hydration status and is able to tolerate liquids.
- A reliable parent or other caregiver has been given written discharge instructions and the ED telephone number in case he or she has questions.

With conscious sedation, we’re making real progress in caring for kids in the ED. They don’t have to feel pain, their parents need not be as anxious, and you don’t have to be the one to make anyone feel badly. Think again — you’re three years old and that nice nurse has given you something tasty to drink. You don’t feel your boo boo any more; you don’t need to cry. Mommy’s here, the nice nurse is here, and you’re not afraid. While they make your boo-boo better, you’ll just take a little nap...

Scott DeBoer, RN, MSN, and Craig Felty, RN, BSN, are flight nurses with the University of Chicago Aeromedical Network.

Bibliography

EDITOR’S NOTE In our next issue, Scott DeBoer, RN, MSN, shares his extensive knowledge of sedation and analgesics in some easy-to-use notes on common drugs. Don’t miss this opportunity to learn the real ins and outs of conscious sedation, along with DeBoer’s unique tips for sedating children.