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AUSTRALIAN INCIDENTS

Dangerous insulin dose abbreviations

An insulin dose of 40 units rather than 4 units was given recently in a large Australian hospital. The symbol used for units was a circle with a dot in the middle. This abbreviation is commonly used as shorthand for units of packed red blood cells. The nurse and pharmacist interpreted the order as 40 units.

Recommendation: Maybe the golden rule for not using abbreviations should apply more widely!

[Australian Alert 42, September 2005]

Paralysed by mistakes—PanSux confusion?

Due to the similarity of the packaging of pancuronium and suxamethonium it has been decided in one Australian teaching hospital, to separate these drugs when stored in operating suites to avoid accidental mixups. They have done this through a decree which states that at no time are pancuronium and suxamethonium to be stored in the same refrigerator. We are concerned about the risks within the clean environments of operating theatres where outer packaging is discarded and ampoules are separated into individual units, surface disinfected and stored in bins or trays. Although both are muscle relaxants used in operating procedures, it would be expected that the different doses would distinguish them. Not so, as when purchased from the same supplier in polyamps they are exactly the same size and printed in similar colours. They would be easily mistaken if one was relying solely on visual recognition of the ampoule.

Recommendation: We suggest that you check the practice in your own hospital and think of strategies.

[Australian Incident 43, October 2005]



US SAFETY BRIEFS

Wrong patient error

An oncology patient received another patient's chemotherapy despite verification by two nurses before administration. The pharmacy dispenses each patient's chemotherapy inside a labelled ziplock bag, which is taken to the bedside for verification before administration. In this case, the pharmacy sent chemotherapy for two different patients inside the same ziplock bag (same drug, but different doses). The verification process proceeded as usual by taking the ziplock bag to the patient's room. The contents of the bag were removed, at which time the

nurses discovered that there were chemotherapy bags for two different patients. They verified the patient (using two unique identifiers) and the medication, but the nurse who then administered the chemotherapy accidentally picked up the wrong patient's bag and hung it. The other bag of chemotherapy was placed back in the ziplock bag and returned to the medication room. Hours later, the error was discovered while looking for the chemotherapy for the other patient. The two patients' doses were close enough that no harm resulted. The pharmacy should dispense only one patient's medications in each ziplock bag and involving the patient as the final double-check might also have averted this error. Although not helpful in this case, nurses should identify and verify each drug using the label on the immediate product container, not a label on an outer bag or envelope.

[Medication Safety Alert! August 11, 2005]

New fentanyl warnings: more needed to protect patients

If you prescribe, dispense, or administer fentanyl patches, we strongly encourage you to review Janssen's alert <www.fda.gov/medwatch/SAFETY/2005/duragesic_ddl.pdf> as well as the FDA <www.fda.gov/cder/drug/advisory/fentanyl.htm> about changes to product labelling. Some patients and their health providers may not be fully aware of the dangers of these potent narcotic products and the recommendations regarding their safe use. ISMP and other safety advocates have repeatedly expressed concerns about using transdermal fentanyl without knowledge of patient selection criteria, contraindications, proper dose adjustment, administration procedures, and expectations for therapy. 1) A nurse's 77-year-old family member died in March due to mis-prescribing and misuse of a fentanyl patch. A week before her death, the family member had been given a prescription for Vicodin (hydrocodone + acetaminophen) for sciatic pain. She took about four doses daily for a week but was still in pain. Her primary care physician called the pharmacy and prescribed fentanyl 50 µg/hour patch to be applied every 48 to 72 hours. A friend picked up the prescription and was given a box of 5 patches, but the pharmacist did not provide education regarding its use. Not understanding how the patch worked, the friend helped her place a patch on her buttock, the site of her pain. When she went to bed, she placed a heating pad on her lower back/buttock area, as was her usual practice. After not hearing from her in two days, friends went into her apartment and found her dead in bed. There were only 3 fentanyl patches left in the box; although unconfirmed, it is suspected that a second patch was applied without removing the first patch. According to the nurse, the pharmacist did not question the prescriber about initiation of fentanyl therapy and the strength, and did not provide counselling when the prescription was collected. Also, in this case, the physician prescribed fentanyl over the phone without examining the patient or educating her about the drug and its side effects. The patient was never warned to avoid applying heat over the patch, which is known to

increase the rate of absorption. 2) A patient who had chronic pain from Crohn's disease, told us that her 4-year-old son either used a discarded patch retrieved from the trash, or opened a wrapper from a box of stored patches, and applied one to his body. She found him dead on the floor near an overturned trash can that held torn wrappers and disposed patches. 3) We also heard about a child who was accidentally exposed to a fentanyl patch that fell off a family member, and another who removed a patch while his grandmother was asleep and applied it to himself. In these cases, the children were not seriously injured. Review of other error reports revealed numerous cases in which multiple patches had been found on hospitalised patients. In part, this happens if nurses do not have a good system in place to remind them to remove patches before the next dose. But another problem is that various patches are clear or translucent, which renders them difficult to see once applied, especially on some skin types. Although the drug name may be printed on the patch, this may not help increase visibility. Poor visibility of the patch may also hinder the ability to properly assess and treat an individual who has overdosed and needs a narcotic antagonist. Patches can also fall off during use. Several issues, some that are addressed in the new labelling, contributed to these serious errors and fatalities. Product labelling states that it should only be used in patients who are tolerant to opioid therapy of comparable strength. Non-tolerant patients may develop respiratory depression, potentially leading to death. Fentanyl patches should be used to manage persistent, moderate to severe chronic pain that requires continuous, around-the-clock opioid administration for an extended period of time, and when the pain cannot be managed by other means. The new labelling notes that transdermal fentanyl should only be used in patients who require a total daily dose of other opioids at least equivalent to a fentanyl 25 µg/hour patch. Patients who are considered opioid tolerant are those who have been taking, for a week or longer, at least morphine 60 mg/day, oxycodone 30 mg/day, or hydromorphone 8 mg/day. Labelling now also addresses the use of patches for post-operative pain, the dangers of using cut patches and applying a heat source over the area of the patch, and safe disposal. The FDA, as well as product labelling, specifically mention the need to dispose of used patches by folding the sticky sides together and flushing it down the toilet. In the case of the child who died after placing a patch on his body, the mother had been educated about proper disposal. Fentanyl patches used in the home should include a risk management program that requires disposal of patches in biohazard containers that cannot be opened, and that they are packaged/dispensed in child-proof packages. In the hospital, the drug entry on the medication administration record should be accompanied by a second entry where nurses can document the location and time of application and removal of the patches. A dosing calendar could serve the same purpose at home. An auxiliary label can also be applied to the patch to prompt documentation of application date and time. One manufacturer provides Tegaderm-like dressings to patients who contact them about their fentanyl patches falling off.

[Medication Safety Alert! August 11, 2005]

Apologies gain momentum

A decade ago, physicians were told, implicitly or explicitly, during their training to avoid making apologies to patients for medical errors because it could lead to problems if they

are sued. Today, some healthcare executives, insurers, and physicians are changing this mindset and fully embracing disclosure and apologies, not only because they believe it will reduce malpractice claims, but also because it is ethically the right thing to do. Led by Lucian Leape, a group of physicians, patients, and executives from Harvard Medical School's teaching hospitals have drafted a disclosure policy that establishes detailed procedures for physicians to acknowledge medical errors and offer fair compensation for expenses related to medical injuries. Colorado's largest malpractice insurer, has enrolled 1800 physicians since 2000 in a disclosure program called the '3Rs' for 'Recognize, Respond, and Resolve'. Under the program, physicians immediately express remorse, apologise to patients, and describe in detail what went wrong in the wake of an error. The insurer compensates patients for expenses related to the injury, including lost work time. Patients cannot participate in the program if they have filed a lawsuit, but they do not waive their right to sue later. Since 2000, the insurer has seen a 50% decrease in malpractice claims and a 23% drop in the cost of settling claims for these 1800 physicians. Illinois recently passed a law allowing six hospitals to pilot a 'Sorry Works!' program in which full apologies for bad outcomes from medical errors are combined with up-front compensation. The state is so confident that the program will reduce malpractice claims that it will provide refunds to these facilities if they experience increases in payments.

[Medication Safety Alert! August 25, 2005]

Location, location, location

Pharmacists and technicians mistakenly thought that the statement 'No bacteriostat added' on the front label panel of Mayne Pharma morphine sulfate injection vials meant that it contained no preservatives. They did not notice a warning statement in small print on a side label panel stating 'Not for epidural or intrathecal use. Contains sodium metabisulfite (a preservative)'. Two patients were given the product intrathecally in error. Neither suffered adverse effects, but allergic reactions and neurotoxicity are a concern when preservatives are given intrathecally. Compatibility problems with certain drugs or preservatives, including sodium metabisulfite, also may damage an implantable pump, causing malfunction. Mayne will be modifying the vial label and the warning 'Not for intrathecal or epidural use' will be added to the front of the vial label and carton label, in addition to its current location on the side panel vial label and the back of the carton. The statement 'No bacteriostat added' will be moved to the side panel and back of the carton.

[Medication Safety Alert! September 8, 2005]

Don't let this flu get you

A physician assistant used the hospital's computerised prescriber order entry (CPOE) system to prescribe fluoxetine 100 mg for a newly admitted patient. During the verification process, the pharmacist tried to call the physician assistant to discuss the high dose, but he had left for the day. The nurse told the pharmacist that the patient was on this dose at home and that an out-of-state psychiatrist had prescribed it. The drug and dose were also listed on the patient's history and physical. The pharmacist then asked the patient's wife to bring in the medication from home. The drug was identified as fluvoxamine 100 mg, and the on-call physician was contacted to clarify the order. In this case, the error did

not reach the patient due to the pharmacist's intervention. Also, this was the type of error we had in mind when we wrote of our objection to the recent USP resolution to encourage the use of generic names only for new single-active ingredient products marketed after 1 January 2006. The redundancy provided by using both brand and generic names can help prevent mix-ups between look-alike generic names. In this case, there is no brand product currently on the market for fluvoxamine, and both drugs have an overlapping indication (obsessive-compulsive disorder). Nevertheless, using both Prozac and fluoxetine when prescribing and displaying this drug will make mix-ups with fluvoxamine less likely. Pharmacists will need to work with CPOE, pharmacy system, and electronic medication administration record vendors, to ensure that drug names are not truncated or abbreviated due to space restrictions that will not accommodate the display of both brand and generic names.

[Medication Safety Alert! September 8, 2005]

False glucose results with point-of-care testing

Point-of-care blood glucose monitoring systems are known to provide an accurate, timely, and cost-effective means for determining blood glucose levels in diabetic patients. These devices have become a mainstay for blood glucose monitoring in hospitals and outpatient settings. This has allowed patients to achieve better glycaemic control and avert the negative health outcomes associated with hypoglycaemia or hyperglycaemia. However, patients and practitioners may not know that the administration of certain substances can result in erroneously high values when using glucose meters. An elderly immune-compromised patient, admitted with sepsis, was started on IV immunoglobulin (Octagam). The hospital routinely stocked another immunoglobulin but had recently switched to Octagam. The manufacturer of Octagam has added maltose (100 mg/mL) to make it isotonic with plasma. The staff were unaware that maltose could cause falsely elevated glucose values in meters that use the glucose dehydrogenase method for testing. The package inserts for glucose dehydrogenase test strips and Octagam describe this problem, but the information was overlooked. To test the patient's blood, nurses were using an Accu-Chek system and Accu-Chek Comfort Curve test strips, which use the glucose dehydrogenase method. Thus, the Accu-Chek provided falsely elevated glucose values, which were used to adjust the patient's insulin doses according to an aggressive insulin protocol. The patient was soon receiving an insulin infusion of 24 units/hr and experienced profound hypoglycaemia, which was confirmed with a laboratory-drawn glucose level of 12 mg/dL. The patient also developed irreversible neurological damage, although this outcome could not be definitively linked to the severe hypoglycaemia. Regulatory agencies in Australia, Canada, and the UK have received similar reports describing this substance-device interaction. These agencies found that maltose interacts with numerous test strips, and has resulted in false readings of hyperglycaemia and unnecessary insulin administration, sometimes leading to injury and death. Additionally, falsely elevated glucose readings could mask true hypoglycaemia, which also could result in fatal consequences. Other products could lead to false glucose readings if maltose is involved, e.g. Extraneal (icodextrin 7.5%), a peritoneal dialysis solution, is metabolised to

maltose and other oligosaccharides following peritoneal absorption. Thus, if the glucose test strips use a glucose dehydrogenase method for testing, patients who receive Extraneal may exhibit falsely high glucose readings. A general lack of awareness among practitioners of potential device interactions with maltose, along with incomplete knowledge of product formulations, also contributes to the risks involved with erroneous glucose meter readings

Recommendation: Create special alerts in the pharmacy computer system to remind pharmacists about the potential for false glucose readings when entering orders for products that may contribute to the problem. Communicate the information to the nursing staff and add a cautionary note to the medication administration record under the drug entry for insulin. Increase staff awareness about the potential for false glucose values so they stay alert to the possibility and detect such a situation as quickly as possible. Include all staff who might perform blood glucose testing at the point-of-care. If involved products are used infrequently, a table posted in areas where insulin is prepared might be helpful. Include the risk of false glucose determinations, and the circumstances surrounding this risk, in protocols for insulin administration according to glucose values. Under these circumstances, consider the need for laboratory testing of glucose levels, or the use of glucose meters that employ the glucose oxidase method of determining glucose levels. Also include symptoms and other monitoring criteria besides glucose values that can be used to verify hypoglycaemia and hyperglycaemia. Remind staff to 'treat the patient, not the glucose meter'. Ask them to always correlate the patient's symptoms with the glucose meter reading before insulin administration, especially in cases in which the glucose readings are very high or very low. Establish written guidelines for early recognition of an error (e.g. discrepancies between laboratory and glucose meter readings taken in close time proximity, symptoms of hypoglycemia or hyperglycemia), and prompt recourse in the event an error has occurred. These include required periodic reconciliation of laboratory and glucose meter readings whenever an insulin drip is infusing, steps to verify a suspicious glucose meter reading, and procedure updates for an immediate response whenever patients exhibit signs of hypoglycaemia or hyperglycaemia. If there is a substance device interaction, let patients know why the glucose meter or certain test strips cannot be used for testing their blood glucose levels. Tell patients to alert any staff member who may attempt to use a glucose meter during the course of their treatment using the involved substance. Medications may have the same active ingredients, concentrations, and volume, but still differ significantly in formulation from those produced by other manufacturers. Since differences in preservatives, salts, excipients, and other inactive substances may have serious implications, evaluate all new products and changes in product formulation for these aspects before purchase and use. Labelling changes for glucose meters, test strips, and substances that may interfere with proper performance should be undertaken to more clearly identify potential interactions. Language that clearly describes the magnitude of falsely high glucose levels, and injuries that have occurred from interactions, should be included.

[Medication Safety Alert! September 8, 2005]

Preventing errors with neuromuscular blockers

Neuromuscular blockers have been inadvertently administered to patients who were not receiving proper

ventilatory assistance. Because the respiratory muscles were paralysed, some patients have died or sustained serious, permanent injuries. The true incidence of injuries from accidental administration of neuromuscular blockers is likely much higher than reflected by error reports. Many errors can be attributed to one or more common root causes.

Look-alike packaging and labelling. Nurses mistakenly reconstituted measles and BCG vaccines with pancuronium and administered the vaccines to healthy infants. One infant died after experiencing seizures and respiratory arrest. The pancuronium vial looked very similar to a vial of the correct diluent, sodium chloride injection. A nurse administered pancuronium instead of influenza vaccine to several patients. The vials were the same size, and the labels were quite similar. The look-alike vials had been stored next to each other in the refrigerator. The patients experienced dyspnoea and respiratory depression but sustained no permanent injuries. Vials of pancuronium were misplaced in a bin holding vials of heparin flush solution. A nurse failed to notice the mistake and flushed a patient's central line with the neuromuscular blocker. The patient arrested after the injection but fortunately recovered after 10 hours on a ventilator. An adult patient received cisatracurium intended for a ventilated infant. The cisatracurium infusion had been delivered by accident to a medical unit along with three bags of antibiotics. A nurse had verified that the first three bags in the stacked pile of piggybacks were the prescribed antibiotics, but she was interrupted before checking the fourth bag, which contained cisatracurium. When she returned to the medication room, the nurse glanced at the yellow label, similar to the other labels on the antibiotics, and administered the neuromuscular blocker, believing it was an antibiotic. The patient experienced a respiratory arrest and required ventilation for a few hours.

Look-alike drug names. A physician prescribed IV vancomycin 1.5 g 12-hourly, which the nurse transcribed correctly onto the medication administration record. The pharmacist misread the faxed copy of the handwritten order and entered vecuronium into the pharmacy computer. A technician prepared the 1.5 g dose in 250 mL using 15 vials (100 mg/10 mL) of vecuronium. The checking pharmacist did not recognise the error, so the bag was dispensed to the unit. Fortunately, the technician had affixed a vivid alert sticker stating, 'Neuromuscular blocker, patient must be intubated' to the bag, which the nurse noticed, thereby averting a serious medication error.

Drug administration after extubation. A ventilated patient was receiving vecuronium and a potassium chloride infusion. After extubation, vecuronium was discontinued. An infusion bag containing vecuronium remained in the room and was mistaken to be potassium chloride. Soon after the medication was started, the patient arrested, requiring intubation and ventilation for 6 hours.

Unlabelled syringes. Commercially prepared saline flush syringes were not available, so nurses prepared a supply of syringes each day from multiple-dose vials. Vecuronium had been prepared for a trauma patient but it was not used. The syringe was not labelled and was inadvertently placed with the saline flush syringes. The syringe containing vecuronium was later used to flush the IV line of an alert 3-year-old child. The child became flaccid and respiratory efforts ceased. She was quickly intubated and ventilated, so permanent harm was averted.

Unsafe storage. Atracurium was administered SC instead of hepatitis B vaccine to seven infants. The infants

developed respiratory distress within 30 minutes. Five infants recovered, one sustained permanent injury, and another died. Neuromuscular blockers had never been available as floor stock in the nursery. For convenience, an anaesthetist from a nearby OR had placed the vial of atracurium in the nursery refrigerator near vaccine vials of similar appearance. In a paediatric ICU, a respiratory therapist obtained what he thought was a sterile water vial to prepare a nebuliser treatment. As he was piercing the stopper, he fortunately noticed that he had accidentally grabbed a vial of atracurium that someone had inadvertently returned to a respiratory box in the refrigerator. The atracurium and sterile water vials both had similar purple color accents.

Inadequate knowledge of drug action. A trauma patient was admitted for stabilisation before transfer to a local trauma centre. The physician gave a verbal order for vecuronium and midazolam and intubated the patient after the medications had been administered. He then mistakenly entered electronic orders for these medications onto an oncology patient's record. While this patient's nurse was taking a break, another nurse administered the medications to the oncology patient without recognising that vecuronium would paralyse the respiratory muscles. After she left the room, the patient arrested. The ED team responded, but the patient could not be resuscitated. A physician prescribed Narcan (naloxone) for a lethargic patient to reverse the effects of morphine. The nurse did not recognise the drug on the automated dispensing cabinet screen because it was listed by its generic name. She intended to ask her coworker for Narcan's generic name, but she became confused and instead asked for the generic name of Norcuron. Her coworker told her that Norcuron was vecuronium, which the nurse then administered. The patient arrested, was resuscitated and placed on a ventilator, and later fully recovered.

Failure to assure ventilator support. An ED physician ordered a neuromuscular blocker to sedate a combative patient. A nurse administered the drug too soon, before the patient could be intubated. The patient arrested and suffered permanent anoxic injury.

Recommendation: Neuromuscular blockers are high-alert drugs because misuse can lead to catastrophic injuries or death. To reduce the risk of harm from neuromuscular blockers, consider the following recommendations.

Limit access. When possible, dispense neuromuscular blockers from pharmacy as prescribed for patients. Allow floor stock only in the OR, ED, and critical care units where patients can be ventilated and monitored.

Segregate storage. When they must be available as floor stock, have pharmacy assemble the vials in a sealed box with affixed warnings. Sequester the boxes in both refrigerated and non-refrigerated locations.

Warning labels. Affix fluorescent red labels: 'Warning: Paralyzing Agent—Causes Respiratory Arrest' on each vial, syringe, bag, and storage box.

Safeguard storage in the pharmacy. Sequester and affix warning labels to vials of neuromuscular blockers stocked in the pharmacy.

Manufacturer warnings. Use brands that clearly differentiate the vials from other products via warnings on the package label, vial cap, and metal ferrule around the rubber stopper.

Standardise prescribing. Do not accept orders for 'use as needed for agitation'. Establish order sets to prevent misinterpretation of handwritten orders. Include the need

for ventilation support during and after administration, and a protocol that stipulates automatic discontinuation of these agents after extubation and removal from a ventilator. Never accept orders to 'resume the same medications' upon patient transfer.

Computer reminders. Build alerts in the pharmacy computer to verify the patient's location when neuromuscular blockers are entered. If the patient is not in a critical care unit, ED, OR, or invasive procedure area, question the order and verify ventilatory assistance before dispensing the drug. If possible, establish computerised cross-checking of the patient's location when entering neuromuscular blockers.

Cautionary messages should also appear on automated dispensing cabinet screens when applicable. A pop-up box that asks, 'Is the patient being ventilated?' may also be helpful.

Redundancies. Before dispensing and administering neuromuscular blockers, require an independent double-check of the drug against the actual order.

Supervision during initial administration. Require attendance of a licensed practitioner who has experience with intubation and airway management during initial administration of a neuromuscular blocker.

Drug verification. Implement point-of-care bar coding to verify drugs, doses, routes of administration, and patients before administration of medications.

Prompt removal of discontinued products. Place vials, bags, and syringes in a sequestered bin for immediate pharmacy pick-up after the patient has been extubated or the drug has been discontinued.

Increase awareness. Educate staff about the risk of serious errors with these high-alert drugs. Provide them with a list of both generic and brand names for all neuromuscular blockers available at your location. Also use the information above to assess your safety practices.

[Medication Safety Alert! September 22, 2005]

Propofol sedation: who should administer?

Using propofol (Diprivan) to sedate patients during endoscopic and other diagnostic procedures is gaining momentum in hospitals, outpatient surgeries, and physician offices. In trained hands, propofol offers many advantages because it has a rapid onset; short duration of action; allows patients to wake up, recover, and return to baseline activities sooner than some other agents; and reduces the need for opioids. Nurses in most critical care settings often administer propofol safely to patients who are intubated and ventilated. However, some practitioners have been lulled into a false sense of security, allowing the drug's good safety profile to influence their beliefs that propofol is safer than it really is. In untrained hands, propofol can be dangerous, even deadly. Administration to a non-ventilated patient by a practitioner who is not trained in the use of drugs that can cause deep sedation and general anaesthesia is not safe, even if the drug is given under the direct supervision of the physician performing the procedure. After all, how much supervision can physicians provide if they are focused on the procedure itself? Believing that propofol was 'used all the time in ICU', a gastroenterologist asked a nurse to prepare '10 mL (10 mg/mL) of propofol for a patient undergoing endoscopy in his room. The nurse obtained the drug from an automated dispensing cabinet via override before she transcribed the order to the patient's record. Another nurse who was trained in the use of moderate sedation, but not

deep sedation or anaesthesia, assisted the gastroenterologist. After questioning the physician about the dose, she began administering the propofol via an infusion pump. The patient suddenly had a respiratory arrest. Fortunately, ICU staff were able to help and quickly intubated and ventilated the patient. Another case involved a physician who thought he could safely administer propofol himself while performing a breast augmentation. Unfortunately, his patient, a young woman, died of hypoxic encephalopathy because he failed to notice the patient's rapidly declining respiratory status, as had his surgical assistant, who was not qualified to monitor patients under deep sedation or anaesthesia. Nurses have also been asked to administer 'a little more' propofol if the patient moved after the anaesthetist left the room. In these cases, the anaesthetist would leave the propofol syringe and needle in the IV port after placing the block and leave the nurses to monitor the patient alone. Initially, the nurses reluctantly complied. Later, they brought the issue to the attention of hospital leaders, citing that they were worried about the safety of this practice. There are several compelling reasons why all healthcare providers should be worried about nurse-administered propofol.

Strict product labelling. AstraZeneca, the manufacturer of Diprivan, states that the drug is intended for general anaesthesia or monitored anaesthesia care sedation, and should be administered only by persons trained in general anaesthesia and not involved in the surgical/diagnostic procedure.

Unpredictable and profound effects. Propofol dosing and titration is variable, based on the patient's tolerance to the drug. Profound changes can occur rapidly. A patient can go from breathing normally to a full respiratory arrest in seconds, even at low doses, without warning from typical assessment parameters.

No reversal agent. There is no reversal agent for propofol. Adverse effects must be treated until the drug is metabolised.

Financial incentives. Unwillingness of insurers to reimburse anaesthesia care for some procedures such as diagnostic endoscopy has increased the use of nurse-administered propofol.

Legal barriers. Nurse-administered propofol falls under each state's Nurse Practice Act. More than a dozen states specifically consider this function beyond the scope of nursing practice.

Recommendation: An interdisciplinary team, including chair of the anaesthesia department, should establish policies and practice guidelines for the administration of propofol to non-ventilated patients undergoing surgical or diagnostic procedures. The debate about who should be allowed to administer propofol may continue, but one thing is clear, whenever propofol is used for sedation/anaesthesia, it should be administered only by persons who are trained in the administration of drugs that cause deep sedation and general anaesthesia; able to intubate the patient if necessary; and not involved simultaneously in the procedure itself.

[Medication Safety Alert! November 3, 2005]