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Your next patient may be abusing prescription drugs: Here's what to do

Nurses in EDs are seeing rising numbers of cases

(Editor's note: This is the first part of a two-part series on caring for ED patients who are abusing prescription or over-the-counter drugs. This month, we give strategies for screening and assessing these patients. Next month, we'll cover serious medical problems that your ED patient may have as a result of prescription drug abuse.)

You're treating a 40-year-old man with a chief complaint of redness and swelling in his arm. Would you suspect prescription drug abuse was the cause?

The man admitted to ED nurses that he had crushed and then snorted acetaminophen and oxycodone pain medication. "The pain and redness in his arm was from taking his father's Dilaudid pill, dissolving it in water, and injecting it into his vein," says **Mark Gruber**, RN, BSN, CEN, patient care specialist at Lehigh Valley Hospital's ED, who cared for the patient. In another case that occurred in Gruber's ED, when nurses assessed a man who seemed lethargic, they discovered he was chewing on a fentanyl patch.

According to data from the Drug Abuse Warning Network (DAWN), part of the Substance Abuse and Mental Health Services Administration (SAMHSA), 495,732 visits to EDs in 2004 were related to nonmedical use of prescription and over-the-counter pharmaceuticals such as pain relievers. More than half of those visits involved more than one drug.¹

EXECUTIVE SUMMARY

In 2004, almost half a million patients came to EDs with complaints related to nonmedical use of prescription or over-the-counter pharmaceuticals. Opiates and opioid analgesics, benzodiazepines, and muscle relaxants are most commonly abused.

- Ask patients about use of prescription and over-the-counter medications.
- Give patients a referral.
- Look for inconsistencies in the patient's history and your assessment.

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Improved screening to identify substance abuse is needed in EDs, urges **H. Westley Clark, MD, JD, MPH**, director of SAMHSA's Center for Substance Abuse Treatment. Patients may come to your ED with an injury or illness related to prescription drug abuse, but "if you don't ask, they don't tell," says Clark. (**For more information on this topic, see "Do you screen patients for substance abuse? Too many slip through the cracks," ED Nursing, November 2003, p. 1.**)

"Patients may tell you only about the presenting complaint," he says. "If you don't ask about substance abuse, including prescription and over-the-counter medications, then you miss an opportunity."

Prescription drug abusers cross gender, race, and economic lines, he emphasizes. "If you jump to conclusions, you may be wrong," Clark says.

The ED visit is a "teachable moment," especially if the patient came as a result of an illness or injury related to their substance abuse, Clark says. "You can

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relate that consequence to misuse," he says. "The ED nurse is in a position of authority and trust."

Patients may not realize how serious a problem they have, or may not be aware they can't take prescription opioids with benzodiazepine, says Clark. In other cases, elderly patients may be misreading package inserts. Gruber says, "By spending time with the patient, we may be able to have the patient realize that they have a problem. The patient must admit that they have a problem first, or they will not follow up after discharge with the resources we give them to seek intervention."

Of the nearly half-million ED visits related to non-medical use of pharmaceuticals, 31.9% involved opiates and opioid analgesics, 29.1% involved benzodiazepines, and 5.7% involved muscle relaxants. Another 8% of ED visits involved both illicit drugs and prescription drugs, and an additional 14% of visits involved illicit drugs, prescription drugs, and alcohol, all in the same patient.

Patients who overdose can have life-threatening situations, warns **Chantal Michel, RN, BSN, CEN**, nurse manager of the adult ED at WakeMed Raleigh Campus. "We aggressively and appropriately intervene by using all resources," Michel says. "We also refer patients to social workers who can further assess and get them the resources that they need to overcome these addictions."

Since the ED is not the patient's primary care physician, there often is no continuity of care for these patients, says Gruber. "We could have been the third ED visit of the same day for this patient seeking prescription medications, and we would not know this," he says. "If anything, the cases of prescription drug abuse are underreported. The patient may get angry and leave the ED when they don't get what they want."

In some cases, patients end up taking too much of their pain medications and run out before they are due for a refill, so they come to the ED, says Gruber.

"A big red flag is when patients come from out of the area, driving 60 miles to come to our ED for something they could have gone to their family doctor for. They will come in asking for the most potent stuff we have right away," says Gruber. "A big warning sign is when their complaints are out of proportion with their assessment."

For example, a patient brought by ambulance reported a score of 10 on a 0-10 pain scale, but when informed that he had to be moved from the transport stretcher, he sat up without any assistance and with no signs of pain, says Gruber.

Perform thorough assessment

Typically, patients who abuse prescription medication come to EDs multiple times complaining of different pains, says Michel. "Usually, pain is musculoskeletal, in the arms, legs, ankles, or back," she says. "Abdominal

SOURCES/RESOURCE

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The DAWN reports are available at the web site dawninfo.samhsa.gov. Click on "New DAWN Publications," "The New DAWN Report — Special Topics," and under "Emergency Department Visits Involving Nonmedical Use of Selected Pharmaceuticals (July 2006)," click on PDF or HTML format.

pain and headaches are also often common complaints."

Always err on the side of caution and perform a thorough assessment for all of the patient's complaints, advises Michel. "The ED physician must also address their complaints and will then make a clinical decision as to what medications the patient will need," she says.

History: Who, when, and where

When obtaining a medication history, ask who prescribed the medications, when they were prescribed, and which pharmacy filled the prescription, says Michel. Also have the patient be specific about the location of pain, whether it increases or decreases with movement, and whether there are things that make the pain better or worse. "Many times, patients are vague about their symptoms or there are inconsistencies in a prescription drug abuser's answers," says Michel. For example, a patient may present with vague pain complaints and state that they are allergic to Tylenol but then specifically request hydrocodone-acetaminophen, she says.

Many times, a person who has overdosed will not or cannot tell you what they have taken, says Gruber. "If they say they've taken 10 pills, they may have taken a whole bottle. If they've actually taken a bottle of tricyclics and they die, we'll still be held at fault," he

says. "On the other hand, people have told us they've taken 50 pills of this, 100 pills of that — and we get the tests back and find nothing."

For this reason, ED nurses do an emergency toxicology blood and urine test that checks for the presence of about 80 medications, including alcohol and psychiatric drugs, to find out exactly what's in the patient's system. "This is the most extensive test and is usually done for overdose patient, especially if it was multipharmacological or the patient is unresponsive or unstable," says Gruber. "We can also do a urine drug screen if we are only worried about street drugs."

Reference

1. Novak S, Ball JK. *The New DAWN Report: Issue 23, 2006: Emergency Department Visits Involving Nonmedical Use of Selected Pharmaceuticals*. Rockville, MD; 2006. ■

Don't miss the chance to stop falls in older patients

An elderly woman comes to your ED with the flu, but this patient also has osteoporosis and is at high risk for fracture. Would you assess this patient for fall risk?

When elderly patients present with a complaint that has nothing to do with a fall injury, you may have an opportunity to prevent a future fall and a potentially devastating outcome.

"Certainly, we see many falls with the elderly that result in trips to the ED," says **Anne Newcombe**, clinical nurse manager for emergency services at Harborview Medical Center in Seattle. "However, we also see patients who on discharge have the potential of falling at home."

In a recent study, researchers found that more than half of 117 elderly patients who came to a large urban ED after a fall and discharged from the ED were scheduled

EXECUTIVE SUMMARY

Assess elder patients for fall risk to prevent future falls, especially patients taking multiple medications, patients with more than one comorbidity, or those with cognitive impairment.

- Ask if patients experience dizziness or rapid heart rate when they stand up quickly.
- Refer patients to a provider for a falls evaluation.
- Remember that falls may be symptoms of underlying conditions that aren't yet diagnosed.

for follow-up of their fall-related injury only, with no follow-up scheduled to address prevention of future falls.¹

Miguel A. Paniagua, MD, the study's lead author, says, "ED nurses are in many ways the front line for risk factor screening in susceptible ED elders, particularly those who present after having fallen." Paniagua is the assistant professor of clinical medicine in the division of gerontology and geriatric medicine at Veterans Affairs Medical Center in Miami.

Falls in elder patients are a serious problem and the No. 1 cause of accidental death in those older than age 65, adds Paniagua. "Those who present and are discharged from the ED need more than just suturing or setting of a fracture," he says. "They need proper risk factor evaluation and at minimum, referral to a provider who can do a falls evaluation. It's not just the injury that should be addressed; the fall should be addressed as well."

A patient's fall may be a symptom of an underlining condition that is not yet diagnosed and treated, says Newcombe. For example, patients may have carotid artery disease with transient ischemic attacks, or a patient may have undiagnosed gastrointestinal hemorrhage that led to postural hypotension, says **Eric Marsh, RN, MSN**, director of the ED at University of Pittsburgh Medical Center.

"When older people do fall, they fall hard, and they often have other comorbidities that lead to bad outcomes," says Marsh. "For example, we often see patients on anticoagulants fall and hit their heads with resultant

intracranial hemorrhage such as subdural or epidural bleeds." These often can be life-threatening, he says.

Check for duplicate medications

According to the study's findings, elderly patients had different risk factors for falls than younger patients. Researchers found that polypharmacy was the most common risk factor for elderly patients, followed by cognitive impairment and more than one comorbidity.

"I am still amazed at the number of medications the elderly are on prescribed by multiple providers," says Newcombe. "Often, the common denominator is that they may be refilled at the same pharmacy so interactions can be caught."

Make the effort to be sure older patients aren't taking duplicate medications, advises Marsh. "Medications are one of the largest risks that can lead to falls. You also have to look at nonprescription drugs as well because they can have interactive effects," he says. For example, many patients take a daily aspirin and should not also take warfarin or other anticoagulants, because this combination can increase risk of spontaneous bleeding anywhere in the body, including the brain.

Patients may be taking multiple prescriptions from different doctors, adds Marsh. "A typical scenario is that the patient brings a brown bag in with 20 pills, and we find out that three or four are the same prescriptions," he says. Contact the patient's pharmacy if you can't get an accurate and complete medication history from the patient or family, he recommends. "The pharmacy could confirm what the patient is currently supposed to be taking, and you could avoid prescribing a similar drug for the same problem or duplicate prescriptions."

If a patient reports dizziness or rapid heart rate when they stand up quickly, these symptoms may mean that their medications need to be adjusted, says Marsh. He recommends routinely asking elder patients about these symptoms.

Perform careful screening of the patient's medications, eyesight, living conditions, and nutritional status, since these are all important components of fall prevention, Newcombe suggests. "The ED is the place where fall potential can be identified and referred for in-depth assessment," she says. "I've seen a fall injury case when a patient just needed new glasses. It can be as simple as that." (**For more information on this topic, see "Don't miss patients at risk for falling in your ED," *ED Nursing*, September 2006, p. 128.**)

Reference

1. Paniagua MA, Malphurs JE, Phelan EA. Older patients presenting to a county hospital ED after a fall: Missed opportunities for prevention. *Am J Emerg Med* 2006; 24:413-417. ■

Patients may be resistant to common antibiotics

Options for community-acquired pneumonia?

Rising resistance rates to commonly used antibiotics has complicated treatment of community-acquired pneumonia in the ED, says a new publication.¹ "In the ED, it is important that we begin antibiotics in a timely fashion for those patients who are seriously ill," says **Gregory Moran**, MD, the study's lead author and ED physician at University of California-Los Angeles Olive View Medical Center in Sylmar, CA.

Since treatment must be started in the ED before culture results are available, the challenge is to predict the likelihood that the patient is resistant to antibiotics, says Moran. "We need to strike the balance between choosing antibiotics likely to cover the likely bugs, but not choosing antibiotics with coverage so broad that we will cause even more antibiotic resistance over time," he explains.

For patients with greater risk for resistance because of prior antibiotic use, or for more seriously ill patients, it's safest to err on the side of more broad coverage, says Moran. "This is because the consequences are greater and therapy can be narrowed later based on culture results," he says. "For those who are not so severely ill, we are willing to accept a greater chance that we may not cover every possible organism. Then therapy can be broadened in the event we find a resistant organism or the patient fails to improve."

Respiratory fluoroquinolones are commonly used because they cover the likely pathogens, including resistant *Streptococcus pneumoniae*, says Moran. "As we use these drugs more commonly, however, we are starting to see more resistance emerge among the gram negative organisms that cause other infections such as urinary tract infections," he notes.

EXECUTIVE SUMMARY

Consider using respiratory fluoroquinolones for community-acquired pneumonia cases if patients are seriously ill or have greater risk for resistance to other antibiotics.

- Risk factors include recent antibiotic use and hospitalization.
- Obtain culture specimens quickly if patients are suspected to be resistant to antibiotics.
- Use standing orders at triage to cut treatment delays.

SOURCES

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Respiratory fluoroquinolones are appropriate for patients who have previously been exposed to other types of antibiotics and therefore have a higher likelihood of resistance, says Moran. "Other factors such as simplicity of dosing, allergy, and drug toxicities should also be considered," he says.

Standing orders at triage

In the ED, the diagnosis for pneumonia can be challenging, says **Jane Hottinger**, RN, MSN, ED clinical educator, Aurora Medical Center in Oshkosh, WI.

Nurses obtain a thorough history of all patients who present with flu-like symptoms, especially the elderly and very young who have a natural diminished physiological reserve and possibly comorbid illness, says Hottinger.

"Their presenting complaint may be recent flu-like symptoms or pneumonia, both treated and untreated," says Hottinger. "We are alerted to potential pneumonia by presenting complaints of new onset of high fever, chills, myalgia, tachypnea, tachycardia, and productive or nonproductive cough."

At triage, nurses listen to lung sounds and note rales, rhonchi, or any bronchial breath sounds in the lung fields. The triage assessment also includes oxygen saturation, and nurses trend for progressive hypoxemia. Standing orders allow nurses to initiate a saline lock; draw blood, which includes blood cultures for pathogen identification; and obtain sputum specimen and urine for analysis and culture.

"Based on the ATS [American Thoracic Society] guidelines, we try very diligently to obtain both urine and sputum specimens prior to antibiotic treatment. However, antibiotics are not held if the sputum or urine are not obtained in the ED," says Hottinger. "When a pathogen is yet to be identified, we base our treatment

on our triage assessment."

The goal is to initiate antibiotics for all suspected or known pneumonia within four hours of admission to the ED, because this approach has been shown to improve mortality, says Hottinger. "As a result, our assessment and triage treatment is extremely important," she says.

If patients are known to be resistant to commonly used antibiotics, it becomes important to obtain all culture specimens as quickly as possible, says Hottinger. "We obtain urine through straight catheterization, and we induce sputum specimens through inhalation treatment with saline and suctioning," she says.

The ATS guidelines recommend fluoroquinolone for high-risk patients with community-acquired pneumonia being managed as outpatients. These include patients with pre-existing chronic obstructive pulmonary disease, immunosuppression, a history of recent hospitalization, or residents of chronic care facilities. "It is also given to the rising number of patients who are allergic to macrolides and doxycycline, as well as to those patients who were treated and failed to improve on other medications," says Hottinger.

Reference

1. Moran G. Approaches to treatment of community-acquired pneumonia in the emergency department and the appropriate role of fluoroquinolones. *J Emerg Med* 2006; 30:377-387. ■

Elderly AMI patients don't always get beta-blockers

Those who need them most are less likely to get them

When elderly patients with acute myocardial infarction (AMI) come to EDs, they are less likely to be given beta-blockers than younger patients, says a new study.

Of 270 patients with ST-elevation myocardial

EXECUTIVE SUMMARY

Elderly patients with acute myocardial infarction are less likely to be given beta-blockers than younger patients.

- Beta-blockers are contraindicated for patients with acute exacerbations of congestive heart failure, chronic obstructive pulmonary disease, and asthma.
- Educate nurses about the benefits of beta-blockers.
- Use standing orders that include beta-blockers.

SOURCES

For more information about beta-blockers and elderly patients, contact:

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infarction (STEMI) who did not receive beta-blockers, 59% were older than age 60. "Elderly patients with AMI tend to have worse outcomes than younger patients and have the greatest potential for benefit with beta-blockers,"¹ says **David D. Vega**, MD, assistant program director of the emergency medicine residency program at York (PA) Hospital. "These may be the very patients who receive them the least."

Collaborate with physicians to develop educational programs regarding the benefits of beta-blockers for AMI patients, recommends Vega. "This may help to promote an understanding of the great extent of benefit with these medications, which is often underestimated by practitioners," he says.

Many ED nurses may have misconceptions about the true contraindications to beta-blockers, says Vega. "One of the big misunderstandings regarding the use of beta-blockers is that a history of [congestive heart failure] alone does not preclude their use," says Vega. "They are contraindicated in the setting of an *acute exacerbation of CHF*." The same criteria applies with chronic obstructive pulmonary disease (COPD) and asthma: Beta-blockers are contraindicated only in patients with acute exacerbations of COPD and asthma, not all patients with a history of these conditions, adds Vega.

The bradycardia contraindication applies for heart rates below 60 bpm, he adds. "Despite the fears of many providers, patients may still receive beta-blockers with a heart rate in the 60s." Likewise, the hypotension contraindication applies for systolic blood pressures below 100 mmHg, Vega says. "Providers sometimes withhold beta-blockers for systolic blood pressure in the 110s or 120s, but many of these patients can still safely be given the medicine."

Use standing orders or order sets that prompt for the use of beta-blockers in the absence of contraindications, suggests Vega. At York Hospital's ED, when an AMI

patient arrives and the initial care is completed, the nurse or physician pulls the order set as soon as possible. They then consider treatments such as beta-blockers, says **Donna Fitz**, RN, MS, CEN, SANE-A, clinical nurse specialist for the ED. "The contraindications are discussed with the physician," she says.

ED nurses were notified of the study's findings via e-mail to raise awareness about patients at risk for not receiving beta-blockers, says Fitz. "This is getting more attention in our ED," she says. "We are educating our nurses by informal discussion with physicians, which increases the frequency of the use of beta-blockers."

Reference

1. Vega DD, Dolan KL, Pollack ML. b-Blocker use in elderly ED patients with acute myocardial infarction. Presented at the Society for Academic Emergency Medicine's New York State Regional Meeting; New York City, March 31, 2004. ■

Study: Pain management is inconsistent in EDs

A patient's race, age, and medical condition may affect whether or not they receive pain medications in the ED, according to a study of adults who presented to an emergency department with musculoskeletal pain.¹

In the study of 868 adults, researchers found that fewer opioids and discharge analgesics were prescribed for black patients than for white patients. Also, younger patients, trauma patients, and patients with chronic pain received more opioids and discharge analgesics compared with older patients and those without trauma or chronic pain.

"If you were unlucky enough to get a certain ED physician, you might get analgesia for your pain only a third of the time, compared to 90% from another," says **Alan Heins**, MD, one of the study's authors and assistant professor in the department of emergency

EXECUTIVE SUMMARY

To ensure consistent pain management in your ED, use protocols and standing orders, and frequent reassessments.

- Give patients pain medications at triage.
- Document pain assessment findings.
- Reassess the patient's response.

Medicine at University of South Alabama in Mobile.

ED nurses should use protocols for rapid assessment, standing orders for potent treatments, and perform frequent re-evaluations with orders for additional analgesics if pain is poorly controlled, recommends Heins. "ED nurses are much better at standardizing care, through use of protocols and evidence-based care guidelines, than physicians," he adds.

As advocates for patients in pain, ED nurses should work to eliminate variations in pain practice, underscores **Janet Kaye Heins**, RN, MSN, CRNP, the study's lead author. "We must lobby with our superiors to institute standardized nursing triage and treatment protocols to improve care and reduce disparities in pain management," she says. "Findings from several studies reveal that a nurse-initiated morphine protocol for severe pain significantly reduces time to analgesia."²

Protocol gives nurses autonomy

At Christiana Care Health System in Newark, DE, ED nurses use a pain protocol to ensure safe and effective pain management. "This protocol provides a great deal of autonomy for our triage nurses," says **Karen Rollo**, RN, BSN, CEN, SANE-A, an ED nurse at the hospital.

As with EDs across the country, they are busy and at times overcrowded, says Rollo. "Effective and consistent pain management is therefore definitely a priority, since the most common chief complaint in most EDs is pain," she says.

For the protocol to be used, patients must have a documented triage assessment, including vital signs and pain level, medications, allergies, and history. Nurses give ibuprofen to patients with nonurgent complaints such as headache, toothache, earache, contusions, lacerations, minor burns, and musculoskeletal pain, when pain is at a Level 4 or less on a 0-10 scale, with 10 being the worst pain.

"We start with 800 mg of ibuprofen if the patient has not taken any prior to arrival or if it has been taken prior to arrival with no relief," says Rollo. If the pain level is over 4 but less than 7, oxycodone can be given, unless patients are nauseous or have suspected sickle cell crisis, flank pain, pelvic pain, abdominal pain, or more serious traumatic injury. For patients with these complaints, or those with a pain level over 7, the ED physician is consulted and an evaluation is required within 30 minutes for intravenous pain medication. "These patients are assisted to a triage treatment area, or to a stretcher in a hallway spot equipped with call lights if a treatment room is not available," says Rollo.

Since pain is subjective, nurses are taught to accept

Continued on page 141

NOTE: NURSE MUST INITIAL EACH INDIVIDUAL FOLDER

DATE/ TIME	NURSE INI.	HUS INIT	<i>(All orders to be deleted are to be crossed out with a single line and initialed by the physician.)</i>
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NOTE: Inpatient systemic antimicrobial medications must be ordered on a "Physician's Antimicrobial Order Form for Inpatients."

Emergency Services Division			
Triage Standing Orders for Pain Management			
		A patient in triage may be administered a single dose of acetaminophen or ibuprofen after completion of the triage nursing assessment for pain relief in stable or non-urgent patients.	
		Acetaminophen (Tylenol):	
		ADULT: 650 mg - 1000 mg po x 1	
		PEDIATRIC: Children over 6 months only: 10 mg/kg up to 500 mg po x 1	
		DO NOT administer patients with the following conditions: <ul style="list-style-type: none"> • Abdominal pain • Vomiting • History of gastrointestinal bleeding • Hepatic or renal disease • Altered mental status • Coagulopathy or anticoagulants Allergy or sensitivity to acetaminophen or ibuprofen or any other Non-steroidal anti-inflammatory drugs (NSAIDs) drugs*	
		-OR-	
		Ibuprofen (Motrin):	
		ADULT: 600 mg po x 1	
		PEDIATRIC: Children over 2 years only: 7.5 - 10 mg/kg up to 400 mg po x1	
		DO NOT administer to patients with the following conditions: <ul style="list-style-type: none"> • Abdominal pain • Vomiting • History of gastrointestinal bleeding • Hepatic or renal disease • Altered mental status • Coagulopathy or anticoagulants Allergy or sensitivity to acetaminophen or ibuprofen or any other Non-steroidal anti-inflammatory drugs (NSAIDs) drugs*	
		* If in doubt, consult with physician and pharmacy prior to administration of any medication.	
		<i>Physician's Signature & I.D. Number</i>	

PHARMACY ORDERS MUST CONTAIN

NAME OF MEDICATION — DOSE — STRENGTH

ROUTE — FREQUENCY

JACKSON MEMORIAL HOSPITAL

MIAMI, FLORIDA 33136

PATIENT IMPRINT

C- 290	PHYSICIAN'S ORDER SHEET
-----------	--------------------------------

SOURCES

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the level a patient is reporting, but in the event that the triage nurse suspects that the patient may be seeking drugs, such as if the assessment doesn't fit with the complaint, the nurse has the option to ask the physician to first evaluate the patient to order the appropriate medication, which may not necessarily be a narcotic. "All patients medicated at triage are strongly encouraged to wait for the full evaluation and complete treatment, even if they feel better after they are medicated," says Rollo. "The percentage who leaves without completing treatment is only 2.4%."

At Jackson Memorial Hospital in Miami, FL, a pain protocol is used by triage nurses for all patients with a complaint involving pain. Standing orders allow nurses to give patients a single dose of acetaminophen after a completed nursing assessment, says **Susie Tome-Manjarrez**, ARNP, an ED triage nurse. (**See the ED's triage standing orders for pain management on p. 140.**)

The nurse then documents the pain assessment findings on the nursing flow sheet, including the response to medications given and any complications. "If there is no improvement when we reassess the patient's response, we expedite the patient back to the treatment area," she says.

References

1. Heins JK, Heins A, Grammas M, et al. Disparities in analgesia and opioid prescribing practices for patients with musculoskeletal pain in the emergency department. *J Emerg Nurs* 2006; 32:219-224.
2. Fry M, Holdgate A. Nurse initiated intravenous morphine in the emergency department: Efficacy, rate of adverse events and impact on time to analgesia. *Emerg Med* 2002; 14:249-254. ■

Avoid adverse events with ketamine for pediatrics

Adverse events do not increase during pediatric ketamine sedation when children are pretreated with morphine analgesia, says a new study.¹

Researchers looked at 858 children receiving ketamine for procedural sedation. The number of adverse events in the group receiving morphine pre-procedural analgesia were compared with a group of patients whom did not receive pre-procedural narcotic analgesia.

A total of 21 adverse events were recorded in the group of patients without morphine pretreatment vs. 13 adverse events in the group of patients receiving morphine pretreatment analgesia.

The study's findings support ED protocols for nurses administering narcotics in triage or immediately upon intravenous (IV) placement in patients with severe orthopedic emergencies likely to require reduction, says **Marc Leder**, MD, one of the study's authors and attending ED physician at Children's Hospital in Columbus, OH. "In our study, the time from morphine administration to definitive reduction was close to two hours," he adds. "If protocols to treat pain early are not established, there may be clear delays in patient pain management if no pain medications are given until procedural sedation begins."

ED nurses monitoring patient procedural sedation should be aware of narcotic pretreatment to anticipate potential complications such as prolonged sedation, says Leder. "Preparation to respond to hypoxia, apnea, or respiratory distress should always be in place as per standard practice of monitoring for procedural sedation."

At Children's Healthcare of Atlanta's ED, several medications are used for moderate sedation, including ketamine. "The process we follow for sedation includes a number of pre-procedural steps," says **Marianne Hatfield**, RN, BSN, system director of emergency services. They are as follows:

- The ED physician examines the patients to determine

EXECUTIVE SUMMARY

Adverse events don't increase when patients are given morphine before pediatric ketamine sedations, according to a just-published study.

- Morphine should not be withheld just because a child is going to be sedated.
- Respiratory rate is the first sign of difficulty.
- Push drug slowly over one to two minutes.

whether they are appropriate candidates for sedation. An informed consent form is signed by the parents that outlines the specific risks and benefits of the procedure.

- The ED nurse validates that the consent has been obtained and prepares the patients for the sedation procedure. The nurse makes sure that the appropriate equipment is available to manage emergency situations including suction, age- and size-appropriate airway equipment, age- and size-appropriate intravenous equipment, emergency medications, a pulse oximetry monitor, a cardiac monitor, a blood pressure monitoring device, age- and size-appropriate nasogastric tube, reversal medications, and an oxygen delivery system.

- The nurse obtains the ordered sedative from the ED's automated medication storage system, recalculates the ordered dose, and reviews the medication dose with a second nurse who serves as a "double-check" witness.

- The physician administers the medication at the bedside. The nurse documents the following items:

- level of consciousness;
- airway status;
- respiratory rate;
- heart rate;
- blood pressure;
- oxygen saturation;
- pain assessment;
- medication documentation (name, route, site, time, dose, and effect of administered medications);
- inspired concentration of oxygen, its duration, and method of administration;
- any adverse events occurring during the sedation process.

At Children's Medical Center of Dallas, ED nurses must have current pediatric advanced life support (PALS) certification and complete an annual competency to perform sedations, says **Lanie St. Claire, RN**, ED nurse and pre-hospital liaison.

Ketamine is commonly used for pediatric moderate sedations, often concurrently with atropine and versed, adds St. Claire. Maintaining the patient's protective reflexes, airway, and appropriate responses during a conscious sedation require bedside monitoring by the nurse or respiratory therapist for a minimum of one hour after the last dose of medication is given and Aldrete score requirements have been met, she says.

Morphine can potentiate the sedative effects of these drugs, says **Jordan Whitehill, PharmD**, a pharmacist in the ED. "However if the patient is in pain and cannot be safely sedated for reasons such as NPO status, morphine should not be withheld just because they are going to be sedated," Whitehill says.

If morphine was given at an outside facility or must be given on arrival for pain, it is important to obtain a complete history from paramedics, the parents, or the

SOURCES

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child's caregiver, says St. Claire. "The nurse and physician ordering and administering the drugs should be aware that morphine is on board," she says.

For a previously healthy child without airway compromise, you may notice little difference in recovery, other than it may take a few minutes longer for the child to arouse, says St. Claire. However, in a child with a significant health history, an anesthesiologist may be required to determine if a conscious sedation in the ED is appropriate or may elect to stay at bedside for the sedation, she says.

You must have the following items at the bedside "ready to go," says St. Claire: Oxygen, the correct size mask already placed on an anesthesia bag that can deliver 15 liters/min. for at least 60 minutes if needed, and suction with Yankauer already connected. "Respiratory rate, *not* pulse oximetry, will be the first indicator that your pediatric sedation is having difficulty," she says. Capnography also is recommended for the purpose of early recognition of decreased respiratory status, she sys. "This is why you must remain at the bedside until the patient is recovered," St. Claire says.

Push drugs slowly over one to two minutes with a slow intravenous push in between, she advises. "These drugs affect the respiratory drive via the central nervous system, so pushing them slower allows a less concentration of the drug to affect the central nervous system," St. Claire says. "This alone can prevent respiratory disaster."

Reference

1. Waterman GD, Leder MS, Cohen DM, et al. Adverse events in pediatric ketamine sedations with or without morphine pretreatment. *Ped Emerg Care* 2006; 22:408-411. ■

IOM medication report: Here is impact for ED

Medication errors harm at least 1.5 million patients every year, says a new report from the Institute of Medicine.

"One of the major implications for the ED is the recommendation to ensure that patients and their surrogates are empowered in your system to be full and active partners in the medication use process," says committee co-chair **Linda Cronenwett**, RN, dean and professor at the School of Nursing at University of North Carolina at Chapel Hill.

The report states that patients who cannot monitor the medication use process themselves have the right to have a surrogate present whenever and wherever medications are being administered.

As an ED nurse, do your part to remove any obstacles to the presence and empowerment of a designated surrogate, urges Cronenwett. "Many hospitals are opening their ED rooms to surrogate presence, even during codes, and finding that families and patients are grateful — and may sometimes prevent errors or improve care in other ways," she says.

Your ED may need to experiment with where the surrogate can sit, what instructions need to be provided and by whom, and what boundaries need to be clear at the start, says Cronenwett. "The most important part, however, is that clinicians recognize that the surrogate may have information about the patient and his or her condition that they could not obtain from the patient," she adds.

EDs are important "teaching places" to help families understand how important it is to bring accurate information about medications, says Cronenwett. "Because ED patients are often unable to participate in the medication use process themselves, we need to reach out to identified surrogates and be as inclusive as possible," she says.

The report also identified patient "handoffs" as high-risk for medication errors. "ED nurses are heavily involved in transitions in care, because they are constantly sending patients home or transferring them to a hospital unit," Cronenwett says. "ED nurses could be influential in developing safe systems for handoffs that

promote medication use safety." (For more information on this topic, see these past stories in *ED Nursing*: "Are dangerous errors occurring during change of shift? Use these strategies," October 2005, p. 133; and "Stop 'handoff' errors when patients leave the ED," November 2005, p. 6.) ■

SOURCE/RESOURCE

For more information on medication errors in the ED, contact:

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Pre-publication copies of *Preventing Medication Errors* can be downloaded at no charge on the National Academies Press web site (www.nap.edu). Click on "Health and Medicine" and scroll down to report title.

CE instructions

Nurses participate in this continuing education program by reading the issue, using the provided references for further research, and studying the questions at the end of the issue.

Participants should select what they believe to be the correct answers, then refer to the list of correct answers to test their knowledge. To clarify confusion surrounding any questions answered incorrectly, please consult the source material.

After completing this semester's activity with the **December** issue, you must complete the evaluation form provided in that issue and return it in the reply envelope provided in order to receive a certificate of completion. When your evaluation is received, a certificate will be mailed to you. ■

COMING IN FUTURE MONTHS

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■ Don't miss life-threatening abdominal trauma

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CE objectives/questions

Participants who complete this activity will be able to:

- **identify** clinical, regulatory, or social issues relating to ED nursing;
- **describe** how those issues affect nursing service delivery;
- **integrate** practical solutions to problems and information into the ED nurse's daily practices, according to advice from nationally recognized experts.

13. Which of the following is recommended if you suspect a patient is abusing prescription drugs, according to Chantal Michel, RN?
 - A. Never give pain medications.
 - B. Provide patients with whatever medications they request.
 - C. Always believe the history given by the patient.
 - D. Ask patients to be specific about the location of their pain.
14. Which of the following is recommended for treatment of community-acquired pneumonia, according to Gregory Moran, MD?
 - A. Antibiotics should not be started until after the patient is admitted.
 - B. Antibiotics should be started before culture results are available.
 - C. All patients should be given respiratory fluoroquinolones.
 - D. Respiratory fluoroquinolones should never be given to patients with immunosuppression.
15. Which is a contraindication for beta-blockers, according to David D. Vega, MD?
 - A. Any history of congestive heart failure.
 - B. Patients with acute exacerbation of congestive heart failure.
 - C. Any history of chronic obstructive pulmonary disease.
 - D. Any history of asthma.
16. Which for is recommended pain management in the ED, says Alan Heins, MD?
 - A. Leave pain management up to the individual nurses' judgment and avoid standing orders.
 - B. Don't give medications for severe pain until the patient has been seen by an ED physician.
 - C. Avoid use of pain medications since illnesses can be masked.
 - D. Establish standing orders with frequent reassessment.

Answers: 13. D; 14. B; 15. B; 16. D.

document "hearing aids brought in by daughter," "interpreter contacted," or "social worker met with patient." During a May 2006 accreditation survey, the surveyor was pleased with this process, Soland says.

Every patient is not asked about every type of barrier, she explains. "We do not need to know if a patient has a religious opposition to blood transfusions if we are not anticipating giving blood," she says. "We provide annual education for the nurses on possible responses to overcome these barriers along with our other risk assessment education." ■

Checkbox lists barriers to patient education

ED nurses at Monticello (MN)-Big Lake Community Hospital have added a "barriers to learning identified" checkbox to their nursing documentation form to comply with an accreditation standard that requires assessment of learning needs.

Assessment of learning needs include cultural and religious beliefs, emotional barriers, desire and motivation to learn, physical or cognitive limitations, and barriers to communication. The checkbox lists the following barriers: language, vision, hearing, emotional factors, cultural practices, literacy, disinterest, religious practices, cognitive deficit, denial of need, financial implications of care, and other.

"If a nurse checks one of these boxes indicating a barrier, he or she must write a note explaining what was done to overcome that barrier," says **Kathy Soland**, RN, BSN, CEN, ED clinician. For example, nurses may