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Dramatic changes in care are needed for elderly trauma patients in your ED

Provide optimum care to this vulnerable population

If an 11-year-old girl comes to your ED with a radius-ulnar fracture, she is X-rayed, casted, and discharged home — a minor injury with minor inconveniences. However, when an 85-year-old woman sustains the same fracture, this injury can have a devastating impact on her quality of life, and the care she requires in the ED is dramatically different.

"What if this patient needs both arms to lift herself out of a chair, and she uses a cane with the casted arm? Her mobility now becomes restricted and unsafe," says **Pat Manion**, RN, MS, CCRN, CEN, trauma coordinator at Genesys Regional Medical Center in Grand Blanc, MI. It is suddenly very difficult for the woman to dress independently, bathe, toilet, cook, grocery shop, drive, or open pill bottles, she adds.

For the optimum care of this vulnerable elderly woman, it is vital to have social workers and case managers in the ED to assist with discharge planning and also have admission to a 23-hour observation unit for a physical therapy consult or possible admission to acute inpatient rehabilitation, says Manion.

"We need to remember that all things are not created equal when comparing injuries between an elderly patient and a youthful patient," she underscores.

Women older than 65 are the group that is hospitalized most often as a result of an injury, according to a new study from the Boston-based Harvard Injury Control Research Center.[1] While hospitalization rates for serious injury are

EXECUTIVE SUMMARY

Women age 65 and older are the most likely group to be hospitalized after an injury, according to new statistics. You must identify effective ways to meet the unique needs of elderly trauma patients.

- Patients on beta-blockers have decreased blood pressure and heart rate, and many older patients have unrecognized hypertension.
- Fluid overload and hypothermia are common adverse outcomes during the resuscitation of trauma patients, and the elderly are more susceptible.
- When administering analgesics, start with a low dose and increase gradually.

decreasing in younger age groups, they are increasing for older patients, the researchers found.

Falls are the most common reason for injury-related ED visits for patients age 65 and older, according to new statistics from the Atlanta-based Centers for Disease Control and Prevention (CDC). Approximately 2.7 million older adults were treated for nonfatal injuries in hospital EDs in 2001, and 62% of the injuries were from falls.[2]

To dramatically improve care of elderly trauma patients in your ED, you must take the following steps:

• Be aware that medications may affect vital signs.

Patients taking beta-blockers will have decreased blood pressure and a slowing of their heart rate, says **Jean M. Marso**, BSN, RN, trauma coordinator at University of Colorado Hospital in Denver. "Therefore, their vital signs may not correlate hemodynamically," she explains.

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Address: P.O. Box 740056, Atlanta, GA 30374. Telephone: (800) 688-2421 ext. 5491, Fax: (800) 284-3291.

Editorial Questions

For questions or comments, call Joy Daughtery Dickinson at (229) 551-9195.

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Editor: **Staci Kusterbeck**.
Vice President/Group Publisher: **Brenda Mooney**.
Senior Managing Editor: **Joy Daughtery Dickinson**, (joy.dickinson@thomson.com).
Production Editor: **Nancy McCreary**.

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Changes in pulse and blood pressure as indicators of hypovolemic shock are not as reliable in the elderly patient, says Marso. Another concern is that blood pressure tends to rise with age, and many older patients have a degree of hypertension that may be unrecognized, she adds.

"These are the patients that are not on blood pressure medicine," Marso says. "Therefore, a normotensive blood pressure reading in an elderly patient may actually be a significant drop from their average blood pressure."

Remember that blood pressure is indicative of perfusion, and decreased tissue perfusion may occur at what you perceive to be a normal blood pressure reading, she advises.

• Realize that detrimental effects resulting from care received in the ED may occur later in the patient's stay.

You may not observe any adverse outcomes from inappropriate care while an elderly trauma patient is still in your ED, but that doesn't mean that life-threatening problems don't occur, warns Marso.

"These may occur later in the patient's stay, often in the intensive care unit [ICU]," she says. "ED nurses often do not learn of this."

For example, fluid overload is a common occurrence during the resuscitation of ED patients, she says. "Elderly patients are more susceptible to fluid overload due to physiological changes related to underlying disease states resulting in decreased cardiac output, decreased pulmonary reserve, and impaired renal function, says Marso. There is an increased risk of volume overload due to the patient's cardiovascular compromise because of age and possibly reduced kidney function, she adds.

Fluid overload can manifest itself as acute respiratory distress syndrome, and there is increased morbidity and mortality associated with this condition in the elderly patient, notes Marso.

"Hypothermia is another culprit that tends to occur in resuscitation of trauma patients," she says, adding that geriatric patients are even more prone to the detrimental effects of hypothermia than younger patients.

Acidosis resulting in coagulopathies is one of the problems that can ensue from hypothermia, and the effects typically are noted in the ICU, says Marso. "Special consideration to measures for prevention of hypothermia are of paramount importance for all trauma patients, but especially for the very young and old," she says.

• Increase skin care measures to prevent breakdown from use of backboards and cervical collars.

Closely monitor the length of time the patient has been on the backboard, Marso emphasizes. "Do not

forget about time spent in the field," she adds. "Advocate for early removal of spine boards when it is safe to do so."

Pad bony surfaces with heel protectors, and use proper-fitting cervical collars to avoid inflicting pressure on tissue surfaces inappropriately, recommends Marso. For example, collars that ride up and over the chin and rest on the cheekbones fail to provide correct immobilization to the cervical spine, she says. They also can abrade the skin, which puts the patient at risk for skin cellulitis, Marso adds.

• Administer appropriate pain medications.

"There are certain issues with pain management and control in the elderly trauma patient that must be taken into consideration," says Manion. She recommends the following:

— Avoid use of meperidine.

This drug is not recommended for the elderly for pain control due to the possibility of normeperidine toxicity, especially if the patient has coexisting congestive heart failure or renal impairment, says Manion. Use of meperidine may cause agitation and confusion because normeperidine produces central nervous system excitability with apprehension, tremors, delirium, and seizures, she explains.

— Be aware of potential side effects of nonsteroidal anti-inflammatory drugs (NSAIDs) and narcotics. NSAIDS may produce increased confusion levels in the elderly, notes Manion. These drugs are contraindicated in patients with renal insufficiency and may increase the risk of gastrointestinal bleeding, she adds.

The use of narcotics could exacerbate the tendency toward constipation in this population because of underlying decreased peristalsis, overuse or abuse of laxatives, and decrease in total body water, says Manion.

Although it's not necessary to avoid use of narcotics and NSAIDs in all elderly patients, you must watch for potential side effects and know the contraindications for specific comorbidities, Manion advises.

— Consider oral medications first.

Use acetaminophen for mild to moderate pain, and consider the use of opioids such as oxycodone hydrochloride for severe pain, advises Manion.

"This drug has gained much notoriety for its addictive potential," she notes. "Often, older patients must be taught not to be afraid of using such drugs."

Intravenous administration is recommended for more immediate pain relief, says Manion. "Morphine, when titrated slowly, is an effective and safe medication for use in the elderly," she says.

In general, intramuscular injections should be avoided in the elderly because of tissue injury, altered drug absorption, and discomfort for the patient, adds Manion.

SOURCES

For more information on improving care of elderly trauma patients, contact:

- **Pat Manion**, RN, MS, CCRN, CEN, Trauma Coordinator, Genesys Regional Medical Center, One Genesys Parkway, Grand Blanc, MI 48439. Telephone: (810) 606-7891. Fax: (810) 606-9515. E-mail: Pmanion@genesys.org.
- **Jean M. Marso**, BSN, RN, Trauma Coordinator, University of Colorado Hospital, 4200 E. Ninth Ave., Mail Stop: A021-630. Denver, CO 80262. Telephone: (303) 372-8905. Fax: (303) 372-0267. E-mail: jean.marso@uch.edu.

When administering analgesics to elderly adults, it is important to start at low doses and gradually titrate upward while monitoring and managing side effects, hence the adage "start low and go slow," she explains. "This takes into consideration the slower circulation times in many of our elderly patients," says Manion.

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1. Shinoda-Tagawa T, Clark DE. Trends in hospitalization after injury: Older women are displacing young men. *Injury Prevention* 2003; 9:214-219.
2. Centers for Disease Control and Prevention. Public health and aging: Nonfatal injuries among older adults treated in hospital emergency departments — United States, 2001. *MMWR* 2003; 52:1,019. ■

Brace yourself: Flu cases can wreak havoc

CDC issues new guidelines

Look around your waiting room, and you'll be sure to spot at least one coughing, sneezing flu patient. If you don't take steps to prevent it, this individual can single-handedly create a disaster in your ED by spreading the disease to staff and other patients. Unless you want to work short-staffed until April, you should follow new guidelines from the Atlanta-based Centers for Disease Control and Prevention (CDC). *(Editor's note:* ***See box on p. 40 with key recommendations,*** *or access the guidelines at www.cdc.gov/flu/professionals/infectioncontrol/resphygiene.htm.)*

"The flu is here, and it is hitting harder than ever,"

EXECUTIVE SUMMARY

EDs nationwide are reporting record numbers of flu patients. New guidelines from the Centers for Disease Control and Prevention give effective strategies to limit exposure.

- Administer flu shots in the ED to make it easier for nurses to be vaccinated.
- Make sure that nurses know how to remove personal protective equipment safely.
- Be aware of potential risks regarding the nasal spray flu vaccine.

says **Lara Merana-Bailey**, RN, BSN, ED educator at Hartford (CT) Hospital, who echoes the sentiments of many emergency nurses. "In our ED, we have also been seeing increased numbers of people who had the flu and got pneumonia from it."

At press time, 38 state health departments still were reporting widespread flu, and 6.2% of patient visits were due to flulike symptoms, according to the CDC. In addition, 93 flu-related deaths in children have been confirmed so far.

To limit exposure to flu in your ED, do the following:

• Wear appropriate personal protective equipment (PPE).

Current CDC guidelines recommend wearing a surgical mask in addition to standard precautions when caring for a patient with symptoms of a respiratory infection, especially if fever is present.

"I think that is the most important clinical practice change that we will need to make," urges **Colleen Connelly**, RN, BSN, an ED nurse and emergency preparedness manager at University of Utah Hospital in Salt Lake City. "ED nurses are some of the worst offenders, even though we take care of the trauma, the blood, the vomit, and the endless people in triage."

Despite this, many ED nurses feel invincible, adds Connelly. "We need to move away from that and embrace better respiratory hygiene," she argues. There has been debate in the ED as to whether nurses should wear N-95 masks when caring for flu patients, notes Connelly. "Our head infection control nurse feels that this is probably overkill. However, if staff feel more comfortable wearing the N-95, then we do not discourage it," she says.

Recently, when ED nurses cared for a potential severe acute respiratory syndrome (SARS) patient, Connelly observed that all removed their N-95 masks differently, but none did it correctly. "The patient did not end up having SARS, but it was clear to us that some of the nurses could have easily been infected because of the way they were removing their masks," she says.

Connelly took digital pictures of a nurse removing an N-95 mask correctly, added written captions to explain each step, and made posters to hang in the ED.

"Probably all of your staff know how to put on an N-95 mask, but how many know how to take it off without contaminating themselves or others?" she says. "We didn't know, but the infection control staff did and were able to train us on how to do it."

• Make it easy for ED nurses to receive the vaccine.

At Utah Hospital, infection control nurses go to the ED multiple times during every shift to give flu shots, says Connelly. "I think most staff want to get a flu shot, but it is not that high on the priority list, especially for those that work nights. The last thing they want to do is come into the hospital on their day off," she says.

With this system, nurses don't have to report to a certain location at specific times — all they have to do is roll up their sleeves, says Connelly. "It also ends up

Use CDC recommendations to limit flu exposure

Here are key recommendations from the Atlanta-based Centers for Disease Control and Prevention guidance for preventing and controlling influenza in health care facilities:

• Hang signs at the ED entrance instructing patients and visitors to inform health care personnel of symptoms of a respiratory infection when they first register for care.

• Instruct patients to practice Respiratory Hygiene/Cough Etiquette by covering the nose/mouth when coughing or sneezing; using tissues to contain respiratory secretions and disposing of them in the nearest waste receptacle after use; and washing hands with nonantimicrobial soap and water, alcohol-based hand rub, or antiseptic hand wash.

• Have tissues on hand for patients to use, with no-touch receptacles for used tissue disposal.

• Provide staff and patients with conveniently located dispensers of alcohol-based hand rub.

• Offer masks to patients who are coughing. Encourage coughing persons to sit at least 3 feet away from others in waiting rooms. ■

SOURCES

For more information on managing flu patients, contact:

- **Lara Merana-Bailey**, RN, BSN, Emergency Department, Hartford Hospital, 80 Seymour St., P.O. Box 5037, Hartford, CT 06102-5037. Telephone: (860) 545-2926. Fax: (860) 545-2274. E-mail: Llbaile@harthosp.org.
- **Colleen Connelly**, RN, BSN, Emergency Preparedness Manager, University of Utah Hospital and Clinics, 50 N. Medical Drive, Salt Lake City, UT 84132. Telephone: (801) 585-3134. E-mail: colleen.connelly@hsc.utah.edu.

reaching people who had no plans on getting a flu shot, who say 'Hey, why not? Everyone else is getting one," she adds.

To encourage ED nurse to get the flu shot, Merana-Bailey has been providing the vaccine during all three shifts since October. "I announce overhead in the ED, 'Any staff member wanting a flu shot, come and see me,'" she says. Merana-Bailey estimates that she's given 260 flu shots in the ED, covering 70% of staff.

• Be aware of potential risks involving the nasal spray flu vaccine.

At press time, the CDC did not have an official recommendation on whether health care workers vaccinated with FluMist, a newly approved intranasal influenza vaccine for the 2003-2004 flu season, (MedImmune, Gaithersburg, MD) should avoid close contact with immunocompromised individuals. Currently, CDC guidelines state that the use of inactivated influenza vaccine is "preferred" for health care workers.[1]

According to **Jeffrey Stoddard**, senior medical affairs director for MedImmune, there is "absolutely no contraindication" for health care workers to receive FluMist.

"The contraindications are specific to certain medical conditions," he says. "Health care workers should get immunized against the flu, and whether they choose to do so with FluMist or the injectable vaccine is really at their discretion."

Still, many EDs are choosing to err on the side of caution. ED nurses at Utah Hospital and Clinics were instructed not to get the intranasal vaccination before the flu season started, reports Connelly.

"Infection control decided against FluMist and made an announcement via our e-mail system," she says. "All ED nurses are required to check their e-mail religiously to keep up with the constant changes."

Reference

1. Harper SK, Fukuda K, Cox NJ, et al. Advisory Committee on Immunization Practices, Centers for Disease Control and Prevention. Using live, attenuated influenza vaccine for prevention and control of Influenza. *MMWR* 2003; 52(RR13):1-8. ■

Don't miss red flags in frequent patients

A man comes to your ED reporting a head injury, and there are no visible signs of trauma. What do you do? This particular patient comes to your ED often, never with a life-threatening emergency, always intoxicated. Does this additional information affect the way you assess and treat this man?

When this common scenario occurred at one ED, nurses wrongly attributed the man's slurred speech to alcohol abuse. In addition, ED nurses failed to document vital signs, according to **Jackie Ross**, RN, BSN, CPAN, risk management analyst at Ohio Hospital Insurance Co. in Columbus.

"He was not completely evaluated due to being well-known by staff," she reports. "The man went home and died from subdural hematoma. The hospital was found liable due to the nurse's lack of assessment."

When you label patients as "frequent flyers" instead of treating them for their chief complaint, you are making a dangerous mistake, warns **Marc Augsburger**, RN, BSN, manager of the emergency care center at Covenant HealthCare in Saginaw, MI. "It is of utmost importance that each patient is treated equally and provided with a full assessment every time they come into your ED," he says.

Recently, when Augsburger cared for a patient who presented frequently for treatment of headaches, he observed that the man was acting differently than

EXECUTIVE SUMMARY

There is a danger of overlooking life-threatening conditions in patients who come to the ED frequently.

- Create a care plan for patients with chronic conditions such as migraines.
- Avoid labeling patients as "frequent flyers" or "drug seekers."
- Ask patients, "What is different today?"

usual. "It turned out that the patient had fallen a day or two earlier and ended up having an intracranial bleed," he says. "Had we treated the patient solely on the basis of the migraine history, the patient would have been treated with an injection and sent home. The outcome could have been disastrous."

It is very easy to fall prey to completing a quick assessment of patients you see on a regular basis, but a thorough assessment must always be completed, advises Augsburger. "There is a definite danger of overlooking serious problems in the frequent-flyer patient," he warns.

To significantly improve care of patients who come to the ED frequently, complete the following steps:

• Develop a care plan for patients who frequently seek ED services.

Clinical staff including ED nurses, an ED physician, and ED social worker or case manager should be involved in the development of this care plan, which would review the medical records of past visits, treatments, and diagnoses, says **Kathy Weil**, MS, RN, education coordinator for the ED at Shady Grove Adventist Hospital in Rockville, MD.

"The plan would then outline a future agreed-upon treatment or plan of care," says Weil. "Upon the patient's next visit, this care plan would be reviewed with the patient and would guide the clinical team's treatment."

When explaining the care plan, Weil suggests saying to the patient, "Because of your frequent number of visits to our ED, a clinical team has reviewed your records and developed a plan that will help us to better guide your treatment with each visit."

For instance, if a patient comes in frequently for migraine headaches and asks for narcotics with every visit, the treatment and outcome for each visit should be documented and reviewed, says Weil.

"The treatment plan may then indicate radiologic studies or a change in medications, based on previous outcomes," she explains.

You should also document the name and telephone number of the physician referrals given at each visit, advises Weil. "If the patient has a primary care physician or neurologist following their case, that physician should be informed of the outcome of each visit and/or a copy of the patient's records faxed," she says. "This should enhance continuity of care and encourage communication about ineffective treatment."

The use of a care plan can keep treatment objective and clinically based, says Weil. "In addition, it may motivate those patients seeking drugs to go elsewhere," she adds.

• Ask patients, "What is different today?"

This simple question can help you avoid overlooking a potentially life-threatening problem in patients you see often, says Weil. "It may be a new symptom or nothing at all," she says. "But this simple question opens the dialogue without introducing bias."

For example, if you ask a patient who presents frequently with migraines, "What is different today from your other visits?" the response may be, "This is not like my usual migraine. It came on much more suddenly, and it's the worst pain I've ever experienced. I also have numb and tingly fingers."

You subsequently would be more concerned about the possibility of potentially life-threatening head injury or intracranial bleed, explains Weil. On the other hand, the patient may respond, "This is like my other migraines, and I need more medication."

"In this case, the nurse should confirm that nothing is different than previous migraines and document this statement," she says.

• Don't label patients.

It's a mistake to keep lists of frequent flyers or drug seekers, as this can be dangerous clinically and legally, warns Ross. "It's not a good idea to keep lists of undesirables as those could be discoverable and would not play well with a jury," she says.

As EDs become more computerized with electronic charting and bed tracking systems, there is a great deal of patient information available at "the click of a mouse," says Augsburger. "However, this style of reporting must be utilized for medical care only and never to stereotype someone," he warns. ■

SOURCES

For more information on improving care of patients who come to the ED frequently, contact:

- **Marc Augsburger**, RN, BSN, BC, Manager, Emergency Care Center, Covenant HealthCare, 900 Cooper Ave., Saginaw, MI 48602. Telephone: (989) 583-6259. Fax: (989) 583.7181. E-mail: maugsburger@CHS-MI.COM.
- **Jackie Ross**, RN, BSN, CPAN, 17410 Merry Oaks Trail, Chagrin Falls, OH 44023. E-mail: jackieross@adelphia.net.
- **Kathy Weil**, MS, RN, Education Coordinator, Emergency Department, Shady Grove Adventist Hospital, 9901 Medical Center Drive, Rockville, MD 20850. Telephone: (301) 279-6461. Fax: (301) 217-5324. E-mail: kweil@adventisthealthcare.com.

Can you recognize problems from gastric procedures?

(Editor's note: This is the second of a two-part series on improving care of obese patients in the ED. This month's story addresses complications of surgical treatment for morbid obesity you may be seeing in your ED. Last month, we covered special considerations for assessment and supplies.)

If you haven't treated a patient for complications related to a gastric procedure in your ED, prepare yourself. You probably will, and very soon.

"The number of procedures being done has increased exponentially, so you will be seeing more of this population coming through the doors, not only for problems related to the surgery, but other ailments as well," says **Jane Lashock**, RN, BSN, CEN, ED nurse and bariatric nurse coordinator at Greater Hazleton (PA) Health Alliance and Drs. Butt, Carrato, and Bono Surgical Practice, also based in Hazleton.

Many surgical interventions for weight loss are available, but the most common is the "roux en y," which makes the stomach a 1- to 2-oz. pouch and reroutes the intestines, she says.

Since demand for weight loss surgery has risen quickly due to a dramatic increase in morbid obesity, potentially unscrupulous practitioners may offer these procedures, warns Lashock.

"The safety nets of patient education with a designated dietitian may not always be in place," she says. "Some patients may not be receiving basic information about dietary restrictions and other limitations such as medications, which can be dangerous and lead to adverse side effects."

To effectively manage complications related to gastric procedures, take the following steps:

• Be aware of typical complications.

EXECUTIVE SUMMARY

Increasing numbers of morbidly obese individuals are having gastric procedures for weight loss, and complications may bring patients to your ED.

- The most common problem is vomiting, which is usually due to dietary restrictions.
- Give patients clear broths, and avoid sugars or carbonated beverages.
- Assess for life-threatening ulcerations or gastric leaks.

SOURCES

For more information about management of complications resulting from gastric procedures, contact:

- **Stephanie Baker**, Paradise Valley Hospital, 2400 E. Fourth St., National City, CA 91950. Telephone: (619) 470-4386. E-mail: StephanieRN1@cox.net.
- **Jane Lashock**, RN, BSN, CEN, Bariatric Nurse Coordinator, Drs. Butt, Carrato, and Bono, Greater Hazleton Health Alliance, 668 N. Church St., Suite 104, Hazleton, PA 18201. Telephone: (570) 459-5607. Fax: (570) 459-1140. E-mail: janern@ptd.net.

"The main complications we see in the ED are nausea, vomiting, diarrhea, and abdominal pain due to slow gastric emptying," says **Stephanie J. Baker**, RN, BSN, CEN, MBA/HCM, director of emergency services at Paradise Valley Hospital in National City, CA.

The most common thing ED nurses are likely to see is vomiting, says Lashock. "The vast majority is dietary-related, either resulting from noncompliance with their diet, eating too fast, or the patient has introduced new foods that don't agree with them," she says. Although vomiting usually can be resolved with a dietary adjustment, you must be alert for vomiting as a sign of bowel obstruction, adds Lashock.

Possible interventions include supportive care, intravenous therapy due to electrolyte imbalance or dehydration, antiemetics, anti-diarrheals, or laxatives, says Baker.

• Understand dietary restrictions.

After undergoing gastric procedures, patients have severe dietary restrictions that you must be aware of, says Lashock. For example, avoid carbonated beverages since these can cause irritation and bloating to the new stomach pouch, she notes. Also, sugar is contraindicated for these patients, Lashock says. "The safest thing is to give patients clear broths or sugar-free [gelatin dessert] and tea," she advises.

• Assess for surgical site infections and adhesions in the abdominal wall.

Patients may experience abdominal pain, fever, purulent drainage, and general malaise, says Baker. "Sites should be checked daily for redness and/or drainage, and patients need thorough instructions regarding dressing changes and wound care management," she says.

When in the ED, these patients may need intravenous or oral antibiotics, wound cultures, antipyretics, and pain medications, says Baker.

Remember that morbidly obese patients are more

prone to infection because of decreased circulation to the skin, and some are diabetic as well, says Lashock. "Also, healing could be an issue because of decreased protein in their diet," she says. "Look for drainage, redness, swelling, and hard, distended abdomens."

• Avoid medications that can cause stomach irritation.

"Nonsteroidal anti-inflammatories are irritating to the normal stomach and are even more irritating to these patients, with the stomach reduced to a 2-oz. pouch," says Lashock. "These should be avoided unless cleared by their surgeon."

Acetaminophen is a good option, but consider possible interactions with other over-the-counter remedies, says Lashock. "Alcohol and other components are rapidly absorbed and can lead to a magnified response to side effects," she explains.

• Watch for ulcerations.

Ulcers can be life-threatening, warns Lashock. "There are multiple areas around the new stomach pouch and intestine that are stapled and can open with the assistance of an ulcer," she notes. "Ulceration can cause a gastric leak or gastrointestinal bleed, which can present as severe abdominal pain or shock symptoms," she says.

Warning signs include tachycardia, hypotension, abdominal pain, or hemoccult-positive stools, Lashock advises.

• "Dumping" syndrome can occur.

This syndrome results from the patient eating or drinking foods high in sugar, and it occurs because the stomach is so small that sugars are absorbed quickly through the intestine, explains Lashock. It may cause vomiting, abdominal pain, extreme fatigue, flushing, palpitations, and diarrhea, she says.

"The patient usually gets dry heaves because their stomach pouch is so tiny that anything that was in there is already absorbed," Lashock says. ■

Protect yourself when caring for TB patients

ED nurses at Carondelet St Mary's Hospital in Tucson, AZ, did the right thing when caring for a woman with cough and chills: They suspected tuberculosis (TB) and put her into isolation.

"The chest-X-ray showed a cavitation, but all other tests were negative," reports **Diana Platt Lopez**, RN, BSN, clinical educator for emergency services.

A month later, the woman returned with the same complaint and again received an X-ray. "However, she was not put in isolation this time since everything looked the same," says Platt Lopez.

The woman was admitted, and sputum samples came back positive for TB. "There was about a three-day lapse with about 50 exposures before she was placed in isolation," she says.

It is better to put into a patient into isolation and rule out TB even if the individual has been worked up recently and found to be negative, warns Platt Lopez, adding that the best rule of thumb is, "When in doubt, isolate until proven otherwise."

To reduce risks when caring for patients with possible tuberculosis, you must take the following actions:

• Limit exposure in waiting rooms.

Masks or tissues should be readily available in the waiting room, but you also may need to instruct patients to cover mouths when coughing to prevent the aerosolization of their sputum, says Platt Lopez.

"The Pima County Health Department's TB clinic relayed to me that a tissue folded in half and placed over the patient's mouth and nose and held firmly is just as effective as wearing a mask in controlling the spread of TB," she adds.

Explain to patients that you don't want them catching anything else from other patients and vice versa, advises Platt Lopez. "It is amazing how many children cough without even using their hand to cover their mouths, and the parents are sitting right there and don't intercede to teach them," she says. "In that case, I teach the child and parent at the same time."

Fold a tissue in half and cover your mouth with it while coughing, then have the patient demonstrate this in return, recommends Platt Lopez. The ED posts signs demonstrating, "Cover your cough" in English and Spanish. **(See box on p. 46 for resource information.)**

• Err on the side of caution when determining whether to isolate a patient.

To assess the need for isolation, triage nurses should ask the following questions, says **Karen Clements**,

EXECUTIVE SUMMARY

To reduce risks of exposure to tuberculosis (TB), place surgical masks on patients and put on an N-95 mask.

- If you suspect TB, isolate the patient immediately.
- Instruct patients to don masks and cover mouth when coughing.
- Notify nurses if a patient treated in your ED was later found to have TB.

Tuberculosis Exposure Plan for Triage

Does the patient have symptoms of active TB?

Compare the patient against these groups of signs, symptoms, and risk factors:

SIGNS AND SYMPTOMS	HIGH-RISK GROUPS	HIGH-RISK CONDIDITONS
• Cough (> two weeks) • Hemotysis • Night sweats • Weight loss • Anorexia • Fever, chills • Pulmonary infiltrates	• Contacts with people with active TB • People with HIV • Homeless or IV drug user • Residents of nursing homes or prisons • Medically underserved or low-income • People with positive purified protein derivative of tuberculin (PPD+)	• Immunocompromised (HIV, cancer, prolonged steroid use) • Diabetes • Chronic renal failure • Underweight • Gastrectomy • Alcoholism and drug use • Past TB infection

IF:

PRIMARY DIAGNOSIS IS TO RULE OUT TB

OR

COUGH > TWO WEEKS

AND

SUSPICIOUS PULMONARY INFILTRATES (UPPER LOBE/CAVITARY LESION, ATYPICAL IN HIV, OR PENDING CHEST X-RAY IN OUTPATIENT AREA)

AND

ANY ONE OF THE FOLLOWING: RECENT TB EXPOSURE, POSITIVE PURIFIED PROTEIN DERIVATIVE OF TUBERCULIN (PPD+) TEST, HISTORY OF TB, FEVER/WEIGHT LOSS/NIGHT SWEATS OR HIV, HOMELESSNESS, SUBSTANCE ABUSE

THEN:

INPATIENT: Airborne Isolation Until Proven Negative **OUTPATIENT:** Mask Patient During Visit

Source: Carondelet St. Mary's Hospital, Tucson, AZ.

RN, BSN, department head nurse for the ED at Eastern Maine Medical Center in Bangor:

— Have you had a cough for more than three weeks?
— Have you had recent weight loss?
— Have you had fever or chills?
— Have you had night sweats?
— Do you tire easily?

These questions usually are prompted by a chief complaint of cough or fatigue, says Clements. "If the patient answers 'yes' to three or more of these identifiers, the patient is masked and placed in isolation in a negative-pressure room, the charge nurse is notified, and appropriate signage is placed outside of the room," she says.

Suspected or known TB positive patients should be placed in a negative-airflow room if at all possible, urges Platt Lopez. "It is good to remove a coughing patient as soon as possible from the general waiting room population," she says.

Be vigilant in identifying signs and symptoms that may indicate TB, especially if the patient is part of a high-risk group or has high-risk conditions, adds Platt Lopez. **(See Tuberculosis Exposure Plan for Triage, above.)**

• Use N-95 masks when you suspect TB.

"At triage, as soon as a patient appears to be coughing, the easiest thing to do is to put a mask on the patient,"

SOURCES/RESOURCE

For more information about reducing risks of tuberculosis patients in the ED, contact:

- **Karen Clements**, RN, BSN, Eastern Maine Medical Center, 489 State St., Bangor, ME 04401. Telephone: (207) 973-8010. Fax: (207) 973-7985. E-mail: kfclements@emh.org.
- **Diana Platt Lopez**, RN, BSN, Clinical Educator, Resource Clinician, Emergency Services, Carondelet St Mary's Hospital, 1601 W. St Mary's Road, Tucson, AZ 85745. Telephone: (520) 740-6193. Fax: (520) 872-6641. E-mail: dplopez@carondelet.org.

A Guideline for Establishing Effective Practices: Identifying Persons with Infectious TB in the Emergency Department (Publication WPT-02) helps ED staff establish effective TB control practices for early identification of patients with infectious tuberculosis and includes diagrams with instructions demonstrating how patients should cover their coughs in English and Spanish. The publication can be downloaded at no charge at www.nationaltbcenter.edu. Click on Products/Services," "Workplace Tools," "A Guideline for Establishing Effective Practices: Identifying Persons with Infectious TB in the Emergency Department," "Download now." Or, single printed copies are available free of charge. To order, contact:

- **Francis J. Curry National Tuberculosis Center**, 3180 18th St., Suite 101, San Francisco, CA 94110-2028. Telephone: (415) 502-4600. Fax: (415) 502-4620. E-mail: tbcenter@nationaltbcenter.edu.

says Platt Lopez. "The nurse should don a N-95 mask just in case, if she suspects possible TB."

If the patient is not wearing a mask once in the room, the door should be shut with a sign for airborne precautions, and each time you enter the room, you should put on your mask, she says. "If the patient is going on a field trip in the hospital, then they must wear a simple mask until they return to their room," Platt Lopez adds.

• Remember that patients with unrelated complaints may have active TB.

You need an effective system to notify exposed staff when patients come to your ED with active TB that is undetected until a later date, says Platt Lopez. "We have had some instances where patients were found to have active TB who presented with an entirely different complaint and coincidentally had active TB as well," she says.

For instance, when an elderly man presented at the ED with an orthopedic injury, he was treated and released. Shortly after, he presented to the TB clinic for evaluation and was found to have active TB. In this case, the county health department contacted the facility's infection control nurses, who in turn notified the ED staff, says Platt Lopez.

"All staff who charted on the patient's chart were notified, and a general mailing was sent out asking nurses to contact the occupational health department if they had contact with the patient found to have active TB," she says. ■

Want to save $60,000? Try electronic system

Document nurse charts, triage notes, orders

By switching to electronic nurse charting, triage notes, and orders, the ED at Mary Washington Hospital in Fredericksburg, VA, saved $60,000 in a single year, according to **Rosemary Brindle**, RN, MSN, TNCC, director of emergency care services.

"This is due to the multiform paper charts and order sheets that we no longer need now that we are 100% computerized," she says.

The ED will see almost 90,000 patients this year, and the typical paper cost per visit is 75 cents, says Brindle. When the information system [Amelior ED] was implemented a year ago, a team of ED nurses worked to train other nurses, she reports. **(See contact information for manufacturer, Patient Care Technology Systems, in resource box, p. 47.)**

"We identified 'superusers' who helped with peer-to-peer training and were primary contacts," Brindle says. "Nurses built basic proficiency within a couple of shifts."

Nursing documentation is more consistent because of the prompt-based format of completing a chart, she notes. "I have also found that an electronic chart record significantly streamlines chart review as there is no longer the usual hunt for the chart, which is cumbersome in an ED that can see up to 300 patients a day," she says.

Physician charting also is streamlined, since redundant

SOURCE/RESOURCE

For more information on electronic documentation systems, contact:

- **Rosemary Brindle**, RN, MSN, TNCC, Director of Emergency Care Services, Emergency Department, Mary Washington Hospital, 1001 Sam Perry Blvd., Fredericksburg, VA 22401. Telephone: (540) 741-1100, ext. 1180. E-mail: rosemary.brindle@medicorp.org.

For more information about Amelior ED Complete ED Information Management with Clinical Support Intelligence, contact:

- **Patient Care Technology Systems**, 32 Journey, Suite 250, Aliso Viejo, CA 92656. Telephone: (949) 349-9409. Fax: (949) 349-9408. E-mail: inquiry@pcts.com. Web: www.pcts.com.

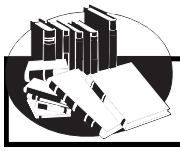
documentation steps are eliminated. "Our physicians can import a triage nurse's notes into their chart in two mouse-clicks and can make subsequent changes without impacting the original triage notes," she says.

Often, physicians can find the information that they are seeking quickly and less often need to ask the nurse directly, adds Brindle.

There are communication checks and balances, such as physicians having to sign off on verbal orders before discharging the patient, she notes. "This protects both the physician and the nurse involved, while ensuring safety for the patient," Brindle says.

With charting, orders, and results information between the ED and the ancillary departments automatically updated on the electronic patient tracking board, it is much easier for nurses to monitor the status of care for each patient, says Brindle. "Time wasted pulling charts is also eliminated," she says. "The system pre-codes as we chart, capturing level of care and facility charges automatically."

[Editor's note: Do you have a tip to share with ED Nursing *readers? If so, please contact Staci Kusterbeck, Editor, 280 Nassau Road, Huntington, NY 11743. Telephone: (631) 425-9760. Fax: (631) 271-1603. E-mail: StaciKusterbeck@aol.com.]* ■



JOURNAL REVIEW

Newman DH, Azer MM, Pitetti RD, et al. **When is a patient safe for discharge after procedural sedation? The timing of adverse effect events in 1,367 pediatric procedural sedations.** *Ann Emerg Med* 2003; 42:627-635.

After procedural sedation, children may be safely discharged 30 minutes after final sedation medication administration if no adverse events have occurred, according to this study from St. Luke's/Roosevelt Hospital Center in New York City, Children's Hospital of Pittsburgh, and the University of Pittsburgh Medical Center.

The researchers analyzed 1,341 sedation events, with 184 adverse effects, of which 159 were serious. Twenty-six sedation events were excluded because of subsequent patient hospitalization that was unrelated to the sedation event. Only patients discharged from the ED were included in the study.

Here are key findings:

• Most of the adverse effects occurred during the procedure, with only 8% occurring after the procedure.

• Serious adverse effects occurred a median of two minutes after final medication dose.

• One hypoxic episode occurred at 26, 30, and 40 minutes after final medication dose, but all these were repeated occurrences in children who had experienced previous hypoxia during the expected peak drug effect.

The study shows that the likelihood of delayed adverse effects in patients who have not had a previous adverse effect is extremely small, according to the researchers.

"Our data suggest that in children without serious adverse effects during procedural sedation and analgesia, discontinuation of monitoring and discharge from the ED may be safe approximately 30 minutes after final medication administration," they wrote. ■

COMING IN FUTURE MONTHS

- Updated treatment guidelines for pneumonia
- Creative ways to reward ED nurses
- Dramatically improve care of bronchiolitis
- New vascular access devices in the ED

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 **June** 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. ■

CE*questions*

After reading this issue of *ED Nursing*, the CE participant should be able to:

- Identify clinical, regulatory, or social issues relating to ED nursing (See *Dramatic changes in care are needed for elderly trauma patients in your ED* and *Can you recognize problems related to gastric procedures?* in this issue.)
- Describe how those issues affect nursing service delivery. (See *Brace yourself: Flu cases can wreak havoc.)*
- Cite practical solutions to problems and integrate information into the ED nurse's daily practices, according to advice from nationally recognized experts. (See *Don't miss red flags in frequent patients.)*

5. Which of the following is accurate regarding the care of elderly trauma patients, according to Jean M. Marso, BSN, RN, trauma coordinator at University of Colorado Hospital?

A. Patients taking beta-blockers have higher blood pressure and increased heart rate.
B. Changes in pulse and blood pressure are the only reliable indicators of hypovolemic shock in elderly patients.
C. Many older patients have unrecognized hypertension.
D. Meperidine is recommended for pain management in elderly patients.

6. Which of the following is recommended regarding the flu vaccine, according to Colleen Connelly, RN, BSN, an ED nurse and emergency preparedness manager at University of Utah Hospital?

A. Encourage nurses to receive the intranasally administered flu vaccine.
B. Require nurses to receive the flu vaccine after their shift is completed.
C. Inform nurses with fever or colds that they can still receive the vaccine.
D. Offer nurses the flu vaccine on all shifts.

7. Which is recommended when caring for patients with complications resulting from gastric procedures, according to Jane Lashock, RN, BSN, CEN, ED nurse and bariatric nurse coordinator at Greater Hazleton Health Alliance?

A. Patients should be given sugar-free iced tea or clear broths.
B. Patients should be given sugar to avoid hypoglycemia.
C. Ulcerations are not life-threatening.
D. Nonsteroidal anti-inflammatories should be administered.

8. Which is recommended when caring for patients who present to the ED frequently, according to Kathy Weil, MS, RN, education coordinator for the ED at Shady Grove Adventist Hospital?

A. If patients have been seen in the previous month for the same condition, an abbreviated assessment is appropriate.
B. Ask patients who present frequently what is different.
C. Keep lists to track drug-seeking patients.
D. Instruct patients suspected of drug seeking to seek care elsewhere.

Answers: 5-C; 6-D; 7-A; 8-B.