ED NURSING™
A MONTHLY CLINICAL UPDATE ON EMERGENCY NURSING

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IN THIS ISSUE

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Another ED waiting room death: Don't let it happen on your watch

Assumptions can harm or kill your patient

(Editor's note: This story is part one of a two-part series on care of psychiatric patients in the ED. This month, we give tips for identifying underlying medical conditions. Next month, we'll share the best ED nursing practices for reassessment during long waits.)

A woman you've seen many times in your ED comes in again, confused, agitated, and unable to follow directions. Many times before, she had the exact same symptoms, always because of noncompliance with antipsychotic medications. Would you assume the same was true this time?

Luckily, the ED triage nurse who cared for this patient didn't make that assumption. Instead, she discovered that the woman had a very high potassium level and was in acute renal failure.

"The nurse really made a difference for that patient," says **Barbara Morgan**, RN, director of emergency services at the Cleveland Clinic. "If the nurse had based a triage assessment of this patient on past visits, the results could have been disastrous." The woman was at risk for organ failure and lethal heart arrhythmias.

At Vanderbilt University Medical Center in Nashville, the ED is seeing an ever-increasing number of psychiatric patients, with an average of more than 10 per day. Until all other causes of altered mental status are ruled out, you can

EXECUTIVE SUMMARY

A psychiatric patient's death on the floor of an ED waiting room of blood clots underscores the danger of missing underlying medical conditions. To reduce risks:

- Give patients your undivided attention during assessment.
- Assess confused, agitated, or aggressive patients for low oxygen saturation, low blood sugar, stroke, and brain aneurysm.
- Suspect pneumonia, urinary tract infections, or dehydration if elderly patients are confused.

never assume the patient has a psychiatric problem, says **Corey Slovis**, MD, professor of emergency medicine at Vanderbilt University and chairman of the Department of Emergency Medicine at the medical center. "Some patients who are acting 'crazy' may have markedly altered electrolytes, be in renal failure, be suffering a stroke, or be in shock from gastrointestinal bleeding," he says.

Don't get too 'comfortable'

Recently, Americans were shocked at yet another videotaped ED "horror story" involving a woman collapsing on the floor of a waiting room in a New York City ED and dying as staff failed to help her. She had a history of psychiatric issues, but she died of blood clots after waiting almost 24 hours for treatment. The hospital has been sued for $25 million, and six employees were fired or suspended, including two emergency nurses.

Morgan cautions that the cause of a patient's cognitive impairment might not be psychological. It could be head trauma, a brain tumor or intracranial bleed, low blood sugar, a drug overdose, high potassium, hyperthermia, low oxygenation, infection, malnutrition, liver or renal disease. "Also, elderly patients can become confused or develop psychosis from pneumonia, urinary tract infections, and dehydration," says Morgan.

Freda Lyon, RN, BSN, MHA, service line administrator at Bixler Emergency Center in Tallahassee, FL, says, "The patient that scares me the most personally is the patient that darkens our doors frequently with a multitude of complaints. We get to know them and are comfortable with them. My fear is that we will miss the subtle sign or symptom of an impending crisis."

Lyon has cared for many patients brought to the ED for psychiatric evaluation who actually had serious medical problems. Confused, aggressive, or agitated patients have had low oxygen saturation due to pneumonia, low blood sugar, stroke, and brain aneurysms. "It is extremely important to assess the entire patient," says Lyon. "Vital signs, bedside blood sugar, electrolytes, and oxygen saturation will identify any life-threatening medical emergencies that may be causing

SOURCES

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symptoms that can be mistaken as having a psychiatric ideology."

For example, a 22-year-old male with aggressive behavior and altered mental status was recently brought to the ED by law enforcement for a psychiatric evaluation. During the initial assessment, the ED nurse discovered that the patient had an oxygen saturation of 55%. "The patient was intubated within 30 minutes of his arrival and was discovered to have a lung abscess," says Lyon.

Although all the facts aren't available involving the New York case, it seems that ED nurses wrongly assumed their patient didn't have a medical emergency. "When we make assumptions that aren't based on data, we run a very high risk of not doing right by the patient. That's when we run into trouble," says Morgan. **(See stories on reduction of risks with a crowded waiting room, below; interventions to do for all psychiatric patients, below right; assistance for psychiatric patients who want help with drug or alcohol abuse, p. 4; and a tip for calming an agitated psychiatric patient, p. 4.)** ■

Stop these risks of a crowded waiting room

Treat psych patients like guests

Overcrowded EDs make it more important than ever that "triage nurses are on top of their game" with psychiatric patients, says **Barbara Morgan**, RN, director of emergency services at Cleveland Clinic.

"We have the ability to influence the care and outcome of these patients," she says. "Every patient is our responsibility as soon as they walk in our door." To reduce risks, do these two things:

• Give the patient your undivided attention.

Constant interruptions might cause a psychiatric patient to feel they are not worthy of taking up your time. "It is our job to make sure each patient knows that we are here for them and we have time to listen," says **Freda Lyon**, RN, BSN, MHA, service line administrator at Bixler Emergency Center in Tallahassee, FL.

When patients feel they do not have your full attention, they might not tell you that they have a plan to carry out their suicidal thoughts or that they have already taken an overdose of acetaminophen. "The nurse needs to hear what made the patient come to the ED," says Lyon. "This may shed light on symptoms of a physical ailment."

At Vanderbilt University Medical Center's ED in Nashville, a depressed patient who had denied suicidal ideation admitted in confidence to a nurse she trusted that she had a plan to kill herself if released. "The patient was admitted for psychiatric evaluation as opposed to being discharged," says **Corey Slovis**, MD, professor and chairman of the Department of Emergency Medicine.

• Provide comfort.

In addition to routine nursing assessments, concentrate on "making the patient comfortable," advises **Mickey White**, RN, BSN, MBA, director of the ED at Emory Johns Creek (GA) Hospital. Provide television, engage the patient in conversation, offer meals, and provide hygiene supplies such as toothbrushes, soap, and washcloths.

"Treating them like a guest rather than a psychiatric patient seems to reduce the anxiety often associated with the long wait for placement into a psychiatric facility," says White. ■

Do these 10 things for your next psych patient

You have to build a relationship with the psychiatric patient, even in triage, says **Barbara Morgan**, RN, director of emergency services at Cleveland Clinic. Here are Morgan's tips to improve care of these patients:

1. Introduce yourself.

Tell the patient: "I'm Barbara, I'm a nurse and have worked here for many years. Thank you for coming in today. How can we help you?"

"This approach eases the patient's anxiety and helps to form a bond between caregiver and patient," Morgan says. "First impressions are very important."

2. Say calmly, "How can I help you? Tell me your concerns." Don't say things such as, "I don't have time for this," "What do you want now?" or "I have other patients to take care of."

3. Reduce stimulation by lowering the lights.

4. Identify psychiatric problems as soon as possible.

"This is also a safety issue, because when patients have a long wait they get very upset," Morgan says. "We must always be mindful of the vulnerability of the ED environment to violence."

5. Don't confront or threaten patients who may be psychotic or paranoid.

6. Place the patient in a safe environment with no hazardous objects.

7. Explain what you are doing. Tell patients, "This is what I'm thinking, and this is my plan."

8. Reassure patients that they are in a safe place.

9. Don't sit at the computer and type without

looking at the patient.

10. If the patient has to go back out into the waiting room, keep in touch with them.

"Assure them that they need to come and tell you if they have *any* questions or change in condition before you get back out to see them," says Morgan. ■

Your next psych patient may need detox help

At Emory Johns Creek (GA) Hospital, ED nurses have noticed that many patients with psychiatric complaints actually are looking for help with drug and alcohol addictions, reports **Mickey White**, RN, BSN, MBA, director of the ED.

"With alcohol, they usually tell us they are looking for help. With drugs, they either tell us, or they come in as an overdose," says White. "However if they come in as an overdose, they usually get admitted to the hospital before they can be transferred to a psychiatric facility."

Patients might tell the triage nurse upfront that they need help with an alcohol addiction. "They usually have lost their job or family and don't know where else to turn," says White.

If a patient tells you this, White says to ask these questions: When was the last time you have had a drink or taken drugs? How much and how often do you use alcohol or drugs? Have you ever been through detox before? Do you have thoughts of wanting to harm yourself or others?

"Have labs done first, including drug and alcohol labs, to rule out any other medical problems," says White. "Sometimes benzodiazepine is given if the patient is agitated."

After one patient waiting for placement into a facility for alcohol detoxification had been in the ED for almost 24 hours, he went into delirium tremens due to alcohol withdrawal.

"An astute nurse noticed the increasing tremors, sweating, and change in the patient's mental status," says White. "She notified the ED physician, and an order for lorazepam was obtained. Continued reassessment and appropriate medication prevented deterioration, and the patient was eventually safely transferred to another facility." ■

Clinical Tips

Have the right nurse do the de-escalating

De-escalation of an agitated patient is a "skill and gift" that all ED nurses do not necessarily have, according to **Scott Phillips**, RN, clinical nurse leader at All Children's Hospital in St. Petersburg, FL.

"Too often, everyone wants to restrain, or looks for the all-page security stat to the room," he says. "Not all psych patients are hostile or are looking to fight. They are often scared and don't have control of their own mind and faculties."

The ED nurse with the best ability to handle these situations should be the one who interacts with the patient and determines the need for extra "manpower," says Phillips. "If a nurse is having difficulty or does not have the experience, then that nurse should seek help," he says. "If a known nurse is better skilled or used to these intense situations, it would be best to have that nurse offer to help."

Charge nurses might need to ask ED nurses to switch assignments in order to give an agitated psychiatric patient the best care possible. "I have also been the person who asked another nurse to take care of a patient, because the previous nurse was overwhelmed and was not the best person for the care of that particular patient," he says. ■

Don't believe these myths about pediatric traumas

You might see only a handful of pediatric trauma cases every year, but chances are you will see at least one. This is a dangerous "low-volume, but high-risk" patient for most emergency nurses. Here are some common misconceptions about these patients:

• Traumas only come by ambulance.

"A trauma patient can walk through the front door," says **Carrie L. Baumann**, RN, BSN, patient care supervisor in the Emergency Department Trauma Center (EDTC) at Children's Hospital of Wisconsin in Milwaukee. "Whether a child is carried in by mom, or a teenager walks in after a motor vehicle crash, we activate the trauma team if it meets the criteria." **[The ED's criteria for the trauma team response is included with the online version of this month's *ED***

EXECUTIVE SUMMARY

Pediatric trauma cases are "low-volume, but high-risk" patients for most emergency nurses. To prepare:
- Remember that children are at risk for hypothermia, so apply blankets as soon as clothing is removed.
- Shadow trauma cases alongside another nurse to get hands-on experience.
- Explain what is happening to calm the child.

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• There is only one type of trauma. Most trauma patients are awake and talking or crying, as opposed to "blood-and-guts" cases, says Baumann.

• New nurses will get "thrown into" a trauma situation.

At Children's, each ED nurse gets extensive training to be a trauma competent nurse. "We also have them shadow in each role the EDTC nurse performs," says Baumann.

• Trauma cases are out of control.

"They can be scary for the first couple of times because the fear of making a mistake is increased," says Baumann. "But in fact, traumas are one of the most controlled environments in the ED."

She notes that if the trauma team is activated, a minimum of 12 people are involved: three physicians, five nurses, pharmacy, lab, social worker, security, and radiology. "It is controlled chaos, with a systematic assessment with monitors for vital signs," Baumann says. "One person gives orders and is in control of the team."

It is a little different if the patient walks through the door or an ambulance is upgraded upon arrival, because the team has not been activated yet. "But it quickly becomes more controlled as the team comes together," says Baumann.

• Trauma patents are always in the hospital for extended periods of time.

"Some traumas are discharged the same day," says Baumann. "This is where outpatient follow-up and social services come into play. They follow the child well after they have been discharged."

• Children don't require blankets on them because they aren't modest about having their clothing removed.

It's incorrect that children do not require blankets to cover them after completion of the initial clinical exam. "Removal of clothing is a standard for trauma care in both children and adults," says **Gordon Lee Gillespie**, RN, an ED nurse at Cincinnati Children's Hospital Medical Center. "Children just as adults are at risk for hypothermia due to a traumatic injury and trauma care. Blankets should be applied as soon as soon as clothing is cut off or removed." **(Also see stories on training ED nurses in trauma care, below, calming your patient, p. 6, and neurological assessment, p. 6.)** ■

SOURCES

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3 ways to train for trauma cases

"Every encounter an ED nurse has with a trauma patient and family makes a definite impression on their lives," says **Carrie L. Baumann**, RN, BSN, patient care supervisor in the Emergency Department Trauma Center at Children's Hospital of Wisconsin in Milwaukee. Here are three ways to be sure you are prepared for the next trauma case that walks through your door:

• Give annual updates on new equipment.

"Stay current with the equipment and contents of carts that you have in your department," says Baumann. She offers hands-on teaching when a new piece of equipment comes in, such as pelvic binders, a new blood warmer, or a carbon dioxide monitor. ED nurses also attend a mandatory yearly review on all equipment, including arterial lines and the trauma cart.

At Cincinnati Children's Hospital, all ED nurses and paramedics are provided semiannual training sessions on trauma bay equipment, including the rapid large volume fluid infusers, leather restraints, and defibrillator.

Additional inservices periodically are provided by the ED's core trauma team nurses, says **Gordon Lee Gillespie**, RN, PhD, a clinical nurse in the ED. Recent inservices have covered medication safety practices in the trauma bay and introducer CORRECT catheter equipment and procedures.

• Obtain certification.

At Children's Hospital of Wisconsin, all newly hired ED nurses are required to take the Emergency Nursing Pediatric Course (ENPC) or Trauma Nurse Core Curriculum within a year, and all ED nurses are certified in Pediatric Advanced Life Support (PALS).

Baumann says, "I believe that PALS is critical for all those in an emergency room setting. Pediatric dosing of medications is markedly different than that of adults."

Gillespie says, "It is critical for ED nurses in community hospitals to take PALS or ENPC. Both courses provide content on ill or injured children as well as children with special health care needs."

The advantage of taking ENPC in addition to PALS is that ENPC provides content more specific to the ED nurse, such as triage, trauma care, maltreatment, and techniques to better interact with patients and their parents, adds Gillespie.

• Shadow trauma cases.

Children's ED nurses are required to shadow two trauma cases before they are placed in a role independently. "They will record alongside another nurse or assist the bedside nurse to help gets some hands on in the role," says Baumann.

Nurses do side-by side charting during an actual trauma case, then compare their documentation with the recorder to see what was missed. "It would be beneficial for anyone in the ED to observe a pediatric trauma before they have to jump into one themselves," says Baumann.

At Cincinnati Children's Hospital, a core trauma team nurse now "shadows" behind all new ED nurses until they report being comfortable practicing independently in the trauma bay. When a trauma activation occurs, a second core trauma team nurse also responds and stand behind the new ED nurse providing verbal coaching and mentoring.

Gillespie says, "The goal is for the new ED nurse to act as independently as possible." ■

Don't forget to calm a young trauma patient

A pediatric trauma patient might come to your ED directly from the scene without any parents or family present.

"They are scared and screaming, so it is difficult to get assessments on these kids," says **Carrie L. Baumann**, RN, BSN, patient care supervisor in the Emergency Department Trauma Center at Children's Hospital of Wisconsin in Milwaukee. "We are all in personal protective equipment, which consists of goggles, masks, gowns, gloves. This is a very scary situation for children of all ages, with 12 people garbed up and ready to go."

To calm your pediatric trauma patient, do these three things:

• Make your voice heard in the flurry of activity.

"Two physicians and nurses descend immediately on the patient and there is a lot of talking, says Baumann. "One person should talk to the child. Explain why we are dressed like that and what we are going to do next."

At Children's, whomever is holding the cervical spine or maintaining the airway gets right down next to the patient's ear and in a calm voice, tells them what is happening. "They also tell them what will be happening next, even if it is a painful procedure like arterial sticks or venous access, so there are absolutely no surprises," she says. "That person is always reiterating that we are taking care of them and they are doing a good job."

• Make the child comfortable.

"Every little thing" you do for the child can make a difference, even something as simple as getting a blanket, says Baumann.

• Involve parents as much and as soon as possible, for children of any age.

Family presence is key to calming a toddler in an intense situation, such as when a child is in manual cervical spine immobilization and staff are unable to calm the patient to maintain proper alignment. "Sometimes the teenagers need to hear from mom and dad, "Don't worry about the car, let's just get you well," says Baumann. If the parents have not yet arrived, you can say these words instead, she says: "Your parents love you. They want you to be OK. Don't worry about the car right now." ■

Clinical Tips

Don't assume silent child is just scared

After a 4-year old girl came to the ED at Cincinnati Children's Hospital Medical Center with an injury

from falling off a diving board into a swimming pool, she was in acute respiratory distress, but she had no identified injuries. She had normal vital signs and a Glasgow Coma Score of 15.

During the initial assessment of airway, breathing, circulation, and disability, the physician team leader reported that the patient now had an altered mental status, recalls **Gordon Lee Gillespie**, RN, one of the ED nurses who cared for the patient.

The team then learned that the girl had hit her head on the diving board before falling into the pool. Since this meant that an acute head injury was now suspected, the team prepared for an elective intubation. "The pre-hospital providers reported that they had assumed she had not been responding to them because she was afraid of strangers," he adds. "This misconception led to a delay in the identification of a possible head injury at the scene."

If the ED had been notified of this, intubation equipment and medications could have been ready upon the patient's arrival.

Although children might in fact be wary of strangers, crying is a more normal response than silence or unresponsiveness, says Gillespie. "To identify if the patient is acting age-appropriately, perform a more detailed neurological assessment and interview the patient's parents." ■

ED catches atypical MI patients with rapid EKGs

Nurses report 'extraordinary saves'

At Virginia Commonwealth University Medical Center in Richmond, ED nurses implemented a new electrocardiogram (EKG) process for chest pain patients in April 2008. The goal is to catch myocardial infarction patients with atypical signs and symptoms by bypassing most of triage and getting the EKG within three to four minutes of the patient's arrival.

"We aggressively triage chest pain patients by foregoing much of the triage process to obtain a rapid EKG," says **Steve Rasmussen**, RN, CEN, clinical coordinator for the ED.

Any patient age 30 years or older with a complaint of chest pain, pressure, or discomfort receives an EKG. Serial cardiac enzymes and a nuclear scan study are obtained. If the cardiac enzymes or nuclear scan study have any question of being positive, the patient is admitted to the ED's 23-hour observation unit for a follow-up stress test prior to discharge.

EXECUTIVE SUMMARY

Chest pain patients bypass most of triage and get an electrocardiogram (EKG) within three to four minutes at Virginia Commonwealth University Medical Center. The goal is to catch patients with atypical symptoms who are having a myocardial infarction. Here is what ED nurses do:

- Any patient age 30 or older with chest pain, pressure, or discomfort is given an EKG.
- The EKG is given before the normal triage process is completed.
- Depending on the results, the patient goes straight to the treatment area or the normal triage process is completed.

"This type of aggressive response to chest pain can be burdensome to ancillary and nursing staff that are already overtaxed," acknowledges Rasmussen. "This can be a challenge when the ED is overcrowded with long admission waits and few resources."

To activate the cardiac catheterization team more quickly, ST-segment elevation myocardial infarction (STEMI) alerts are called from the field. The goal is to get the patient to reperfusion in the cath lab within 90 minutes from the time of STEMI recognition in the field. "Not only have we been able to hit our target times, but we have had some extraordinary saves," says Rasmussen.

Patients bypass triage

Previously, ED nurses used information obtained at triage to decide which patients would go back immediately and which would have to wait for beds to become available. "If patients presented with classic signs of cardiac problems, the decision was no problem, but it was those atypical presentations that would slip through the cracks," says Rasmussen.

When there is a bed available, patients go back immediately to be seen. "But with the increase in patient numbers and the ED at 140% capacity in the treatment area, triage becomes increasingly important, and only the sickest patients come back," says Rasmussen.

For this reason, lives potentially can be saved by quickly obtaining an EKG for patients presenting with certain complaints *before* completing the normal triage process. "EKGs are literally obtained within three or four minutes," says Rasmussen. "The EKG is then reviewed by an attending physician, with a decision

SOURCE

For more information on care of chest pain patients in the ED, contact:

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made to bring the patient into the treatment area or return to complete the normal triage process." ■

CLINICAL TIPS

Don't be fooled by a patient's age

A 21-year-old college student complains of sudden "flu-like" symptoms and tells you his roommate was sick earlier in the week. The flu has been going around the campus. He says he doesn't have chest pain, pressure, or nausea; has no relevant medical history; and doesn't take drugs or smoke. He looks slightly pale and diaphoretic.

In this case, a quick electrocardiogram was obtained by ED nurses, and an acute myocardial infarction was noted. The patient was taken to the cardiac catheterization lab with a successful outcome.

"We are seeing so many more young people without significant history, such as significant cardiac history as a child or drug or crack cocaine use," reports **Steve R. Rasmussen**, RN, CEN, clinical coordinator for the ED at Virginia Commonwealth University Medical Center. With young people, sometimes the first sign of cardiac disease is sudden cardiac arrest, he says. "Look at the whole patient, and go with your gut instincts and not just protocol," Rasmussen says. "If your gut tells you there is something wrong, it is because there is something wrong." ■

142,000 ED patients with antibiotic reactions

Don't miss life-threatening symptoms

If your patient asks for an antibiotic when it's not appropriate, you now have an attention-getting answer to give. A just-published study says adverse events caused by antibiotic use bring 142,000 patients to EDs each year.[1]

Patients might expect an antibiotic prescription when they are diagnosed with certain illnesses, such as upper respiratory tract infections. "Emergency nurses can use this information to explain that antibiotics are not harmless," says study author **Daniel Budnitz**, MD, MPH, medical officer in the Center for Disease Control and Prevention's Division of Healthcare Quality Promotion.

"Tell patients that if they have an illness due to a virus, prescribing an antibiotic — which kill bacteria, not viruses — is probably more likely to cause harm than to help the patient."

Half of the ED visits in the study was for penicillin reactions, and the other half were for reactions caused by other antibiotics. Your medication history should cover not only chronic medications, but also episodic medications and recent antibiotic use, says Budnitz. **(Also see stories on pediatric patients with adverse reactions to antibiotics, p. 9, and asthma patients and antibiotics, p. 10.)**

If a patient presents with an allergic reaction, ask if they have had any change in their health, diet, medications — both prescribed and over-the-counter — herbs, cosmetics, new animals, household products, or recent activities, says **Gwyn Parris-Atwell**, MSN, CRNP, CS, CEN, clinical nurse specialist in the Department of

EXECUTIVE SUMMARY

If a patient asks for an antibiotic when it's not appropriate, point to the results of a new study that says adverse events caused by antibiotics cause 142,000 ED visits each year. If you suspect an antibiotic reaction:

- Ask about severe pain, itching, facial or tongue edema, and shortness of breath.
- Closely monitor for laryngeal edema, laryngospasm, and circulatory collapse.
- Keep advanced airway equipment within reach of the bedside at all times.

Emergency Medicine at the Hospital of the University of Pennsylvania in Philadelphia. Also ask if they have ever had these symptoms before, if there is any history of allergies, and if the patient has any facial or tongue edema.

Is it life-threatening?

Is your patient is experiencing a minor allergic reaction or a more serious, anaphylactic-type reaction? "The presence of respiratory distress or shock would indicate the latter and would require immediate intervention to prevent deterioration and loss of life," says **Jennifer Cochran**, RN, patient care manager for the ED at Cox South Hospital in Springfield, MO.

Assess whether your patient is experiencing shortness of breath or tightness in the chest or throat, rash, hives, itching, nausea, vomiting, or diarrhea. "The patency of their airway would be the first consideration," she says. "Monitor the patient closely for laryngeal edema, laryngospasm, and circulatory collapse."

When patients says they feel like their "throat is closing up" or you observe increased work of breathing, an advanced airway may be necessary. "If it is determined that the patency of the airway is becoming increasingly compromised, the physician may opt to go ahead and establish an advanced airway," says Cochran. Laryngeal edema and spasm can make establishing an airway difficult, she warns.

Be prepared for the worst-case scenario with a patient experiencing an anaphylactic response, warns Cochran. Do these three things:

• Keep advanced airway equipment, including suction and a bag-valve mask, within reach of the bedside at all times.

• Closely monitor the patient for signs of shock, including hypotension, and late signs of decompensation from hypoxia, including bradycardia.

• Comfort the patient during this time, as anxiety might worsen their condition.

A rash from drug hypersensitivity usually is a red, flat lesion with symmetric distribution, almost always on the trunk and extremities, notes Parris-Atwell. "Patients typically complain of itching with this rash," she says.

Patients also might present with tachycardia, hypotension, respiratory complaints, and significant history or petechiae or purpura, says Parris-Atwell. "True anaphylaxis involves multiple body systems including airway compromise," she says.

Reference

1. Shehab N, Patel PR, Srinivasan A, et al. Emergency department visits for antibiotic-associated adverse events. *Clin Inf Dis* 2008; 47:735-743. ■

Children at risk for antibiotic reactions

The most common type of antibiotics that cause reactions are penicillin, sulfonamides, and cephalosporins, says **Rachel Sweeney**, RN, BSN, an ED nurse at Cincinnati Children's Hospital Medical Center. "Other antibiotics can cause reactions, but not as commonly."

Take these steps if you suspect a child is having an allergic reaction to an antibiotic:

• Ask the right questions at triage.

Ask "When did the symptoms first occur? "Has this ever happened before?" and "When was the last time the child had the medicine?" says **Mary Baker**, RN, CCRN, a clinical educator for the ED at Children's Medical Center Dallas.

• Do an "across-the-room" assessment.

Notice any breathing problems, such as noisy breathing, increased work of breathing, or if the patient is not breathing at all, says Baker. "If the patient's airway and breathing are OK, look for rashes, changes in skin color, hives, and any swelling or peeling of skin," says Baker. "If the nurse misses any of

SOURCES

For more information on adverse events caused by antibiotics, contact:

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these signs or symptoms, the patient's condition could get worse. This could lead to respiratory or cardiac arrest."

• Don't overlook severe reactions.

Anaphylaxis can cause angioedema, which causes the upper airway to close making breathing very difficult, says Sweeney. "Anaphylaxis shock can be a life-threatening condition," she warns.

• Remember that children compensate for a long time and then can go downhill quickly. "If children are not verbal, they may not be able to tell you that they feel different with the start of an antibiotic," adds Sweeney.

• Look for other types of reactions caused by antibiotics.

Erythema multiforme might cause malaise, fever, myalgia, arthralgia, and itching prior to the onset of a rash, which might worsen and enlarge over 24-48 hours. "Most commonly, the lesions are target-like with redness around a pale center," says Sweeney.

A young boy presented to Cochran's ED with erythema multiforme as a result of a penicillin allergy. He presented with a rash and "textbook" target lesions covering his extremities, face, and torso. "His extremities were dusky, though his vital signs and respiratory status were within normal limits," says Cochran.

Since erythema multiforme can progress to Stevens-Johnson syndrome, a potentially serious disorder, intravenous therapy was started. The child was admitted.

"Some patients who present in this manner are discharged to home with close supervision by their primary care provider," says Cochran. "However in this case, the presence of delayed capillary refill in his extremities laid cause for a more conservative approach in admission. The child was expected to have a good outcome."

Erythema can first occur on the fingers, toes, and hands before becoming more widespread all over the body, adds Sweeney.

Serum sickness develops seven to 10 days after the antibiotic has been started, and symptoms can include fever, arthralgias, myalgias, and palpable purpura. "Antibiotics can also cause a rash that will go away once the antibiotic has been stopped," says Sweeney. "This rash may develop 72 hours after starting the antibiotic." ■

Study: ED asthma patients get needless antibiotics

Acute asthma patients often are given unnecessary antibiotics in the ED, according to new research. Researchers used data from the National Hospital Ambulatory Medical Care Survey and the National Emergency Department Safety Study and found that about 20% of acute asthma visits resulted in an antibiotic prescription.[1]

While some of these may have been appropriate, most were probably not. "It's very unlikely that one in five ED patients with acute asthma actually needs an antibiotic," says **Carlos Camargo**, MD, one of the study's authors and an ED physician at Massachusetts General Hospital in Boston. "Emergency nurses should remember this."

ED treatment of acute asthma with unnecessary antibiotics is likely to contribute to bacterial antibiotic resistance, he warns Camargo.

"Current asthma guidelines, in countries, do not recommend antibiotic treatment for asthma exacerbations," Camargo says. These include the updated 2007 asthma guidelines from the National Institutes of Health.[2]

Camargo recommends "lowering patient expectations for prescription of an antibiotic at the outset" by explaining that viruses do not respond to antibiotics. "The important thing to remember is that there are other, much more effective ways to improve emergency asthma care."

When in doubt, ask

If you believe that an ED physician could be prescribing antibiotics inappropriately, ask why they're being prescribed. "Remember that some antibiotic prescriptions will be appropriate. Often, however, the prescription will not be indicated," says Camargo.

Antibiotics are prescribed appropriately for asthma when it is deemed that a bacterial infection most likely has precipitated the exacerbation, says **Jennifer Cochran**, RN, patient care manager for the ED at Cox South Hospital in Springfield, MO. Antibiotics would not typically be prescribed for asthma exacerbation due to viral infections, environmental or chemical allergens, anxiety, or other noninfection-related factors.

COMING IN FUTURE MONTHS

■ Stop inappropriate drugs from harming patients

■ What to do immediately if you suspect measles

■ Don't miss signs of life-threatening DVT

■ Strategies to stop anticoagulant drug errors

If you feel a prescribed antibiotic is inappropriate, Cochran says you should present your case to the physician. "A nurse is always expected to advocate on behalf of their patients, and this situation is no exception," she says.

If you expect that your question will be poorly received, approach it as a learning opportunity for yourself. "Sometimes, simply asking about the thought process of the physician may reveal an angle you hadn't considered," says Cochran.

References

1. Vanderweil SG, Tsai C, Pelletier, et al. Inappropriate use of antibiotics for acute asthma in United States emergency departments. *Acad Emerg Med* 2008; 15:736-743.
2. U.S. Department of Health and Human Services; National Institutes of Health; National Heart Lung and Blood institute; National Asthma Education and Prevention Program. *Expert Panel Report 3 (EPR3): Guidelines for the Diagnosis and Management of Asthma*. Bethesda, MD; 2007. ■

CNE 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. ■

CNE *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.

17. Which of the following could cause a patient's cognitive impairment?
A. Low blood sugar.
B. Low oxygenation.
C. Urinary tract infection.
D. Any of the above

18. Which of the following is recommended regarding pediatric trauma patients?
A. Avoid placing blankets on the child after completion of the initial clinical exam.
B. Apply blankets immediately after clothing is removed.
C. Don't automatically remove the child's clothing.
D. Remember that children don't require blankets on them because they aren't modest about having their clothing removed.

19. Which of the following is characteristic of a rash from drug hypersensitivity?
A. The rash is not likely to be on the extremities.
B. The rash is usually a red flat lesion with symmetric distribution.
C. The rash is always raised with asymmetric distribution.
D. Patients usually do not complain of itching.

20. For what precipitating cause of a patient's asthma exacerbation are antibiotics typically prescribed?
A. A bacterial infection.
B. A viral infection.
C. Environmental or chemical allergens.
D. All of the above

Answers: 17. D; 18. B; 19. B; 20. A.

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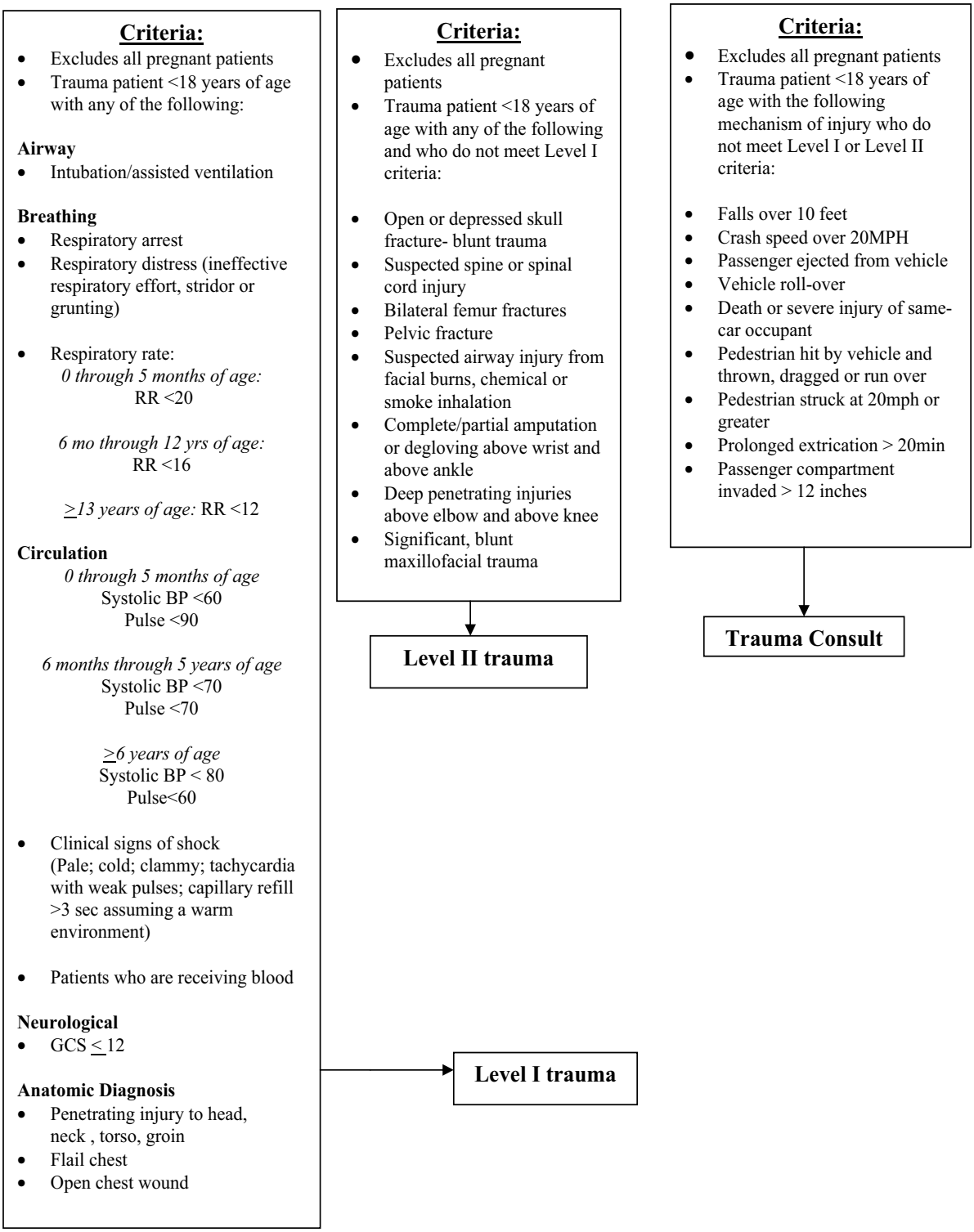
CHW Pediatric Trauma Team Response

06/27/2007

ALL PRIVATE AMBULANCE BLS TRANSPORT SHOULD BE PAGED AS "ED ALL " REGARDLESS OF THE FIELD REPORT.
If you have questions please call the Children's EDTC Attending



Source: Children's Hospital of Wisconsin, Milwaukee.

Triage Chest Pain Protocol

VCU Medical Center
Virginia Commonwealth University

- Patient arrives in screening
- Does patient meet criteria for Screening ECG? — N → Triage per usual nursing policy.
- Y
- Acute ED bed is clean, unoccupied, and immediately available? — N → Patient taken immediately to triage diagnostic room and 12-Lead ECG obtained.
- Y
- Patient goes to open bed, 12-Lead immediately obtained and given to Attending.
- Attending initiates Alpha/Bravo cascade* as appropriate.

- 12-Lead ECG automated interpretation reads "* * * ACUTE MI* * *" — N → Physician screen neg
- Y
- Patient and ECG brought directly back to attending to initiate Alpha/Bravo cascade.* Consider immediate contact with attending in charge (AIC) via phone for ***ANY*** potential delay.
- Attending initiates the Alpha/Bravo cascade.

- Patient and ECG should be brought back to treatment area and AIC notified.
- Attending interprets ECG and screens patient.

Physician Screen pos

- Patient taken to first available bed

Criteria for ECG in triage:
Age > 30 years with Chief Complaint of Chest Discomfort ***OR***

Age > 50 years with Chief Complaint of Chest Discomfort, Shortness of Breath, Weakness, Syncope, or Nausea and Vomiting.

*Alpha: The cardiac catheterization lab is mobilized for an acute cardiac event, and the attending cardiologist responds in-house. Bravo: Possible acute cardiac event. The cardiac fellow responds in-house.

Source: Virginia Commonwealth University Medical Center, Richmond.