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Inside

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Are you ready for a 5-level triage scale? Be prepared: Most EDs will switch soon

You'll need to start planning for this dramatic change now

Brace yourself. Most emergency departments (EDs) in the country will switch to a national five-level triage classification system following the expected endorsement of the Des Plaines, IL-based Emergency Nurses Association (ENA). If you're included in the majority of the nation's EDs that currently use a three-level system, you'll need at least six months for the transition, sources advise.

"Recognize the magnitude of the change," says **Paula Tanabe**, RN, PhD, CCRN, CEN, research coordinator at Northwestern Memorial Hospital in Chicago, which implemented the Emergency Severity Index (ESI) in August 2000.

A specific five-level triage system will be recommended for use this year, says **Jean A. Proehl**, RN, MN, CEN, CCRN, past president of the ENA and emergency clinical nurse specialist nurse at Dartmouth-Hitchcock Medical Center in Lebanon, NH, which uses the five-level Canadian Triage and Acuity Scale.

Five-level systems have demonstrated reliability and validity, but three and four-level systems have not,[1-3] she says.

"I think it is time we caught up with Australia, the United Kingdom, and Canada, who have been working toward this for years," she says.

EXECUTIVE SUMMARY

The Emergency Nurses Association plans to support the use of a standardized five-level triage system and will recommend one for use nationally this year.

- There will be a dramatic increase in the use of five-level triage scales.
- Start discussing the five-level system with staff now.
- Five-level scales improve patient care and throughput.

According to 2001 ENA data, 66.7% of EDs use a three-level system, while only 3% use a five-level system, says Proehl. "I already see a big trend of moving toward five-level systems, and I expect this to increase significantly," she predicts.[4]

Begin discussing the five-level triage system in your ED now, Proehl recommends. "If you start to spread the word to staff, it will be easier down the road when the chosen system is announced," she says.

4 items to consider

Here are steps to take to facilitate a switch to a five-level triage system:

• Consider how staff will be trained.

The amount of training required will depend on the triage scale chosen, Proehl says.

"Some require more training, and others require less," she says. "For example, the Canadian system uses a six- to eight-hour training program."

Experienced triage nurses simply will need to learn a new categorization scheme, says Proehl, but for nurses without triage experience, education also must address the triage process itself.

"This should always include time with an experienced triage nurse," she says. "A uniform national scale will make it easier to orient nurses who are new to your ED, especially travelers."

At Dartmouth-Hitchcock Medical Center, some staff members initially were reluctant to attend an all-day class because they were experienced ED nurses, Proehl says.

"However, the course was well-received and highly regarded after they had attended it," she adds.

Before Tanabe's ED switched to the five-level system, every triage nurse was required to attend a four-hour class. "The class outlined the benefits of the change and reviewed the triage algorithm in detail," Tanabe says.

The remainder of the class focused on reviewing cases and classifying patients with the new five-level system, she says.

• Add extra support during the transition period.

Having extra nursing support for the "go live" day was key. Tanabe says. Two advanced practice nurses and one educator assisted triage nurses for three weeks, 24 hours a day, by answering questions and ensuring that categorization was correct, she says.

Every triage nurse was required to be observed by one of these three experts for eight hours, says Tanabe. "In the first week, we scheduled some of the stronger nurses that we wanted to be triage preceptors," she says.

After these nurses were "signed off" as experts on the new triage scale, they were allowed to work with and sign off the other triage nurses, Tanabe says.

The ED has about 100 nurses, and about 75 were triage nurses at that time, she says. "The key to successful implementation was devoting the time, training, expertise, and support to the process, both prior to and during implementation," Tanabe explains.

• Implement a quality improvement process.

Proehl's ED does ongoing quality assurance to assess individual triage nurses' decisions. "We have not found any major problems, although a few nurses have needed some remediation," she says.

Tanabe says each week, the ED's clinical nurse specialist sits down with three nurses. Each nurse reviews five ED records for the quality improvement documentation indicators.

One of these indicators is the accuracy of the triage category, says Tanabe. "Any mistriages are identified

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Editorial Questions

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and discussed," she says. "These cases are then retyped and a discussion is written, explaining the rationale for the correct triage category."

These are distributed to all the staff, she says. "This has been very well received by the staff and is a great learning tool," adds Tanabe.

• Be realistic with expectations.

Be clear about what five-level triage can and can't do, Tanabe advises. She says that several nurses and physicians complained that the five-level scale wasn't shortening delays.

"We needed to emphasize that changing to a five-category triage system will not decrease wait times," she says. "However, it will ensure that the sickest patients are not left waiting."

Triage will be standardized

You will recognize significant benefits with the standardized use of a five-level scale, sources report. They include:

• Improved ability to benchmark.

This will help EDs more accurately compare data across the country, so you can benchmark more accurately, says Proehl. "To say you have 30% Level 1 patients doesn't really mean much unless you are using a standardized system," she says.

Without a standard triage system, important decisions that affect EDs may be based on inaccurate comparisons, according to **Debbie Travers**, RN, MSN, a triage nurse and researcher at the University of North Carolina in Chapel Hill. Travers participated in the development of the five-level ESI, which is used by a dozen hospitals.

For example, some policy-makers have claimed that a large percentage of ED visits are for nonurgent conditions, she says. "However, with no national standard for triage acuity and the poor reliability and validity of current three-level triage systems, it is difficult to determine whether patients' visits to the ED are urgent or not," says Travers.

In a three-level system, one hospital might rate patients with an ankle injury as Level 2, while another would rate them as Level 3, explains Travers. "Even nurses at the same hospital might rate such patients differently," she says.

• Better patient flow.

The five-level scales are more efficient because they allow triage nurses to more easily pick out the patients who cannot wait and those who can be sent to a fast track or urgent care clinic, says Travers.

As a result, you'll be able to more accurately reflect your workload and allocate resources and staffing accordingly, says Proehl. "It will also be more legally defensible as a triage scheme because it's national and it's backed by ENA," she adds.

• Improved patient care.

With the use of a five-level scale, patients will be assessed and prioritized more consistently, Proehl says. "This will lead to improved care and decrease the risk of patient deterioration in the waiting room," she says.

The five-level scale also can be used to trigger automatic clinical guidelines by having the triage nurse enter information about the patient's level into the hospital computer upon the patient's arrival, Travers adds.

"For example, if the triage level is 2 and the patient's chief complaint is chest pain, the system could trigger a clinical guideline for patients with potential cardiac ischemia," Travers explains.

SOURCES

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New seizure meds will dramatically change care

If you are not aware of side effects or interactions of several new medications, you may be putting children with seizures at risk.

"You will not be able to provide appropriate assessment education to patients and families," says **Mary Karn**, RN, MSN, CNP, nurse practitioner at the Comprehensive Epilepsy Center at Children's Hospital in Columbus, OH.

What would you suspect if a 12-year-old girl with a history of intractable epilepsy came to your emergency department (ED) with altered mental status, ataxia, and slurred speech? You obtain the following history: She was seen three days earlier by her pediatrician for sinusitis, has a vagal nerve stimulator, and currently is on carbamazepine, diazepam as needed if seizures last more than five minutes, and azithromycin.

The carbamazepine level drawn in the ED is reported at a toxic level. "Zithromax caused the toxic level of carbamazepine due to a drug interaction," says Karn.

To manage pediatric seizures effectively, you must be familiar with several new medications, says **Jennifer A. Disabato**, RN, MS, CPNP, pediatric nurse practitioner for the Children's Epilepsy Program at the Children's Hospital in Denver. Here are items to consider:

• Diazepam rectal gel is being used at home.

Many families now have rectal diazepam gel on hand to give children before coming to the ED if the seizure doesn't stop, Disabato says.

The dosing is different than oral diazepam or the IV preparation, she notes. The intravenous dose is 0.1mg/kg, whereas the rectal diazepam gel dose is 0.2 mg/kg-0.5mg/kg, she says.

The diazepam dose may seem high to you, unless you realize that the rectal diazepam gel dosing is higher than the IV dosing, Disabato explains. Although IV diazepam has been associated with respiratory depression, this is rarely if ever seen with the rectal diazepam gel, she adds.

Diazepam rectal gel comes in a twin pack with instructions to give one dose and reevaluate, Disabato notes. "If the seizure has not stopped in 20 minutes, they can give the second dose, so you should ask how many doses were administered," she says.

Determine how much and when the diazepam rectal gel was given to avoid possible overdose, she explains. "The next step might be to give lorazepam rather than another dose of [diazepam]," she says.

• There are new side effects to watch for.

You should know the rare but serious side effects of some of the newer drugs, Disabato warns. For example, lamotrigine should be increased very gradually over the first two to three months because a serious rash may result if started too fast, she says. This occurs in about 5% of patients, usually when the drug is given in combination with other medications, but there are reports of the rash progressing to a severe reaction,[1] she explains.

"ED nurses need to be aware of this potential complication," she says. "If a rash develops, the drug should be stopped immediately."

Antibiotics such as erythromycin, azithromycin (Zithromax), or clarithromycin (Biaxin) can interact with carbamazepine to cause the level to increase to toxic levels, Karn notes.

"The patient might have slurred speech, be dizzy or sleepy, have blurred vision or difficulty walking," she says. "Alternative antibiotics should be used if the patient is on carbamazepine."

Levetiracetam may cause an increase in behavior problems if the patient already has behavior difficulties, adds Karn.

The drug topiramate can cause kidney stones, so patients should be instructed to drink lots of water if they are taking this medication, she says. "This drug can also cause difficulty with memory and speech and cause decreased appetite and weight loss, so patients should be assessed for these side effects," she says.

• There is a new IV form of valproate sodium.

The new IV form of this medication works well, according to Disabato. "Nurses need to know that this drug is available for emergency situations to manage seizures," she says.

Valproate sodium injection also can be used when patients can't take anything by mouth before or after surgery, she notes.

EXECUTIVE SUMMARY

If you aren't using several new medications for pediatric seizures, you may be giving patients inadequate assessment and education.

- Parents are using rectal valium gel at home to control seizures.
- A serious rash can result if lamotrigine is started too quickly.
- Vagal nerve stimulators must be turned off before a patient has a magnetic resonance imaging testing.

SOURCES

For more information about medications for pediatric seizures, contact:

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• There is less emphasis on drug levels.

Increasingly, clinical information is relied on instead of drug levels to gauge effectiveness when managing seizures, says Disabato. "The exception to this practice is with older drugs where levels are utilized," she says.

For example, if a patient is at the low end of the dose range and not having side effects, then practitioners are comfortable increasing the dose without a level, especially if the medication has shown effectiveness, she explains.

• Patients may have vagal nerve stimulators.

The vagal nerve stimulator is an alternative treatment for epilepsy that may improve sleeping patterns and behavior, explains Karn. "This has allowed some patients to avoid adjustment of dosages or starting a new medication," she says.

The vagal nerve stimulator is an implanted device that works with a magnet to stop seizures, Disabato says. "Patients can't have an MRI without the device being turned off first, which is done by computer programming," she notes.

Reference

1. Guberman AH, Besag FM, Brodie MJ, et al. Lamotrigine-associated rash: Risk/benefit considerations in adults and children. *Epilepsia* 2000; 41:488. ■

Use these hot tips to assess abdominal pain

When a 7-year-old boy presented with right-sided abdominal pain, no rebound tenderness was noted, the abdominal flat plate was negative, white blood count was normal, and there was no left shift and no vomiting or bowel changes.

"However, he looked ill and had pain every time he coughed," says **Patricia Carroll**, RN, BC, CEN, RRT, MS, former ED nurse at Manchester (CT) Memorial Hospital and founder of Educational Medical Consultants, a Meriden, CT-based consulting company specializing in educational programs for health care professionals.

When Carroll had a moment alone with the boy, he confided that he had been dared to swallow a toad. When he did so, he had aspirated fungus, Carroll explains.

"The initial abdominal pain actually was referred pleuritic pain, and when the chest X-ray was taken to follow up on this new information, it showed infiltrates on the whole right side of his chest," she recalls.

The boy had no gastrointestinal problems from digesting the toad, but he was transferred to another facility for bronchoscopy and treatment of fungal pneumonia, says Carroll.

The above example shows the importance of thorough assessment of abdominal pain, says Carroll.

Here are some items to consider:

• Remember that abdominal pain can be referred.

Particularly in children and the elderly, abdominal pain may indicate there is a problem elsewhere, she says.

Pleuritic pain may be referred to the abdomen in children, as in the above case, she says, and an elderly patient having a myocardial infarction may present with abdominal discomfort.

"All bets are off in kids and the elderly," says Carroll. "Children have trouble localizing pain; elderly patients have a diminished perception of pain."

• Look for more subtle signs in older patients.

Geriatric patients are much more likely to have serious causes of abdominal pain than younger patients,

EXECUTIVE SUMMARY

Assessment strategies for abdominal pain patients include treatment for pain before a diagnosis is made, asking the patient to point to the pain with one finger, and doing a heel strike test.

- Short-acting opioids can be used so that pain medications won't obscure repeated examinations.
- Have a high index of suspicion for myocardial infarction in the elderly.
- Sudden onset of localized pain is a red flag that a patient may have a serious condition.

SOURCES

For more information on assessment of patients with abdominal pain, contact:

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- **Rebecca A. Steinmann**, RN, MS, CEN, CCRN, CCNS, Emergency Department, Northwestern Memorial Hospital, Chicago, IL 60611. Phone: (312) 926-7069. E-mail: Rsteinma@mnh.org.

warns **Rebecca A. Steinmann**, RN, MS, CEN, CCRN, CCNS, clinical nurse specialist for the ED at Northwestern Memorial Hospital in Chicago. These include a ruptured abdominal aortic aneurysm, mesenteric ischemia, and acute myocardial infarction (AMI).

However, abdominal symptoms may be more subtle in the older patient, because they don't localize pain as well and are less likely to run a fever with infection, she notes. For this reason, Steinmann recommends having a low threshold for obtaining abdominal computed tomography (CT) scans in this population.

"Nurses should advocate for ordering the CT early in the evaluation, if the cause of the patient's discomfort is not readily discerned," she says.

An 83-year-old patient with constipation and no bowel movement for three days may have a fairly readily identifiable cause of the discomfort, so a CT may not be indicated, but an 83-year-old with vague generalized abdominal discomfort may well benefit from this diagnostic test, she says.

"This usually requires awaiting the results of serum blood urea nitrogen and creatinine, as the scan will require contrast to ensure those are sent as part of the initial labs," she says.

AMIs have a very unpredictable pattern in the elderly, and Carroll therefore recommends that electrocardiograms be given to all elderly patients with abdominal pain without an obvious source.

• You can treat pain before a diagnosis.

There is an unfortunate misconception about abdominal pain: that the patient's pain can't be treated until a definitive diagnosis is made, Steinmann says.

She points to a clinical policy from the American College of Emergency Physicians that states that "administration of narcotics to patients with abdominal pain is safe, humane, and in some cases, improves diagnostic accuracy,"[1] Steinmann says. "Yet, these patients often are not medicated."

The patient should not have to wait for multiple diagnostic tests to be completed before pain management is initiated, emphasizes Steinmann.

"Although we don't order pain medications, nurses certainly can advocate for the patient," she says. If a physician is concerned that pain medications will obscure repeated exams, encourage the use of short-acting opioids, she recommends.

• Ask the patient to point to the pain with one finger.

If the patient is able to do this, there is likely to be a distinct cause for their pain such as appendicitis or ectopic pregnancy, as opposed to the generalized discomfort common with gastroenteritis, says Carroll.

People with significant pain will be reluctant to move, notes Carroll. "They may be sitting or standing in a rigid posture, or curled in a fetal position on the stretcher," she says.

• Do a heel strike test.

Carroll recommends doing this test if you think the patient has peritoneal irritation, instead of palpating the abdomen. Ask the patient to stand on tiptoes, and then rapidly lower their full weight onto their heels on the floor, she says.

This will move the abdominal organs and will be positive in cases of peritoneal irritation, but will cause less pain than palpation and result in less guarding for subsequent exams, she says.

• Don't miss life-threatening conditions.

You always should think of life-threatening problems first, Carroll emphasizes. She gives the following examples: myocardial infarction, a ruptured abdominal aortic aneurysm, ruptured spleen, ectopic pregnancy, ruptured appendix, mesenteric ischemia, or thrombosis.

"Sudden onset of localized pain, especially if it awakens the patient from sleep, is a clue of a more serious condition," she says.

Reference

1. American College of Emergency Physicians. Clinical policy: Critical issues for the initial evaluation and management of patients presenting with a chief complaint of nontraumatic abdominal pain. *Ann Emerg Med* 2000; 36:406-415. ■

Use these tips to collect evidence of sexual assault

Your evidence can make or break a conviction

When **Trudy A. Meehan**, RN, CHE, director of emergency services at East Jefferson General Hospital in Metairie, LA, was subpoenaed to testify in a rape case, she was grateful for a longtime habit of

EXECUTIVE SUMMARY

Since you may have first contact with a sexual assault victim, the evidence you collect is crucial.
- Document the patient's words and appearance.
- Attend classes programs given by sexual assault nurse examiner programs.
- Follow the printed instructions in evidence collection kits closely.

sealing pieces of evidence with tape she had initialed.

When the defense attorney asked Meehan if she had collected a certain item, she confidently answered "yes." He asked how she was so sure.

"I politely showed him my initials on the tape that had secured the specimen container," she says. "It was the most priceless look of amazement I had ever seen. He promptly indicated he had no further questions for me."

Practices such as this one can make or break a conviction case for a victim of sexual assault, according to new research. Two studies have demonstrated a close link between documentation of traumatic injuries and eventual convictions.[1,2]

"Forensic evidence is very important to a sexual assault case and has made the difference achieving a conviction in many a case," emphasizes **Diane DeHart**, PA, coordinator of the sexual assault nurse examiner (SANE) program at Harborview Center for Sexual Assault and Traumatic Stress in Seattle.

If a SANE team isn't available, you should ask request training in collection of forensic evidence, says **Valerie Sievers**, MSN, RN, CNS, CEN, SANE-A, clinical forensic nurse specialist and SANE Coordinator at Colorado Coalition Against Sexual Assault in Denver.

"The Joint Commission [on Accreditation of Healthcare Organizations] mandates that emergency departments and ambulatory care centers provide education to staff who will respond to victims of interpersonal violence," she underscores.

DeHart says that many SANE programs provide training programs for ED nurses. She suggests sending one or two ED nurses to a training course, who in turn can return to their ED and function as a resource or trainer for the nursing staff.

She also recommends making an appointment to tour your state crime lab, if you are regularly involved in forensic evidence collection. "Most labs give such tours to people involved in this process," she says. "Seeing what happens to the evidence and learning why certain techniques of collection are important can be a great help."

Training is important because ED nurses may be the first health care providers to have contact with a patient, so what they observe and record is invaluable. **(See list of what to document, p. 37)** Here are items to consider:

• What the patient tells you.

DeHart says to include details in the history such as the type of physical contact that occurred, whether ejaculation occurred, and whether a condom was worn.

"All of this information will give clues as to where potential DNA might be located and lead to collection of valuable evidence," she says.

Use the patient's exact words, and describe the patient's appearance, she advises. "You are painting a picture of how that patient appeared to you, what she said, and what the assailant said," she says.

• Appearance of an unconscious patient.

Start the evidence collection process immediately if you suspect sexual assault, says DeHart. She gives the example of an unconscious trauma victim with clothing partially removed. In this case, place the clothing in a paper bag and label it, DeHart says. "Thus, clothing that might contain valuable forensic evidence is saved rather than discarded," she explains.

Here are effective ways to collect forensic evidence in your ED:

• Consider every item as potential evidence.

Even such items as tree bark, leaves, and dirt can assist forensic experts in determining the location of a

SOURCES

For more information about forensic evidence, contact:

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Don't mishandle forensic evidence: Take these 4 steps

Here are ways to protect the forensic evidence you collect, recommended by **Diane DeHart**, PA, coordinator of the Sexual Assault Nurse Examiner (SANE) Program at Harborview Center for Sexual Assault and Traumatic Stress in Seattle, WA:

1. Don't break the chain of custody.

"No matter how meticulously you collect the evidence, if there is a lapse of time during which it cannot be accounted for, there is a chance that it will not be admissible in court," DeHart warns. She recommends the following:

- Keep the evidence in your sight or in the sight of a person who agrees to protect it until it is placed in a secure, locked area or transferred to the receiving officer.
- If you must leave the evidence, ask another staff member to take possession of it, and then have that individual sign the kit or a chain-of-custody form.
- Sign, date, and time all packages containing evidence. Most kits will have a specific place to note these details.
- Place an evidence seal or patient label over the flap of the evidence envelope (or over the folded edge of a bag). Date and initial this seal so that your writing goes over the seal and onto the envelope or package. This shows not only that the evidence was collected by the person initialing it, but also that there has been no tampering with it.
- If you forget to place something in the kit, simply open it and include the item. Re-seal with new evidence tape, re-initial, and indicate in writing directly on the kit that this was done.

2. Label evidence properly.

Envelopes or boxes containing swabs and slides used to collect evidence must all be labeled with the patient's name, date and time of collection, and name of the nurse collecting the evidence, says **Valerie Sievers**, MSN, RN, CNS, CEN, SANE-A, clinical forensic nurse specialist and SANE Coordinator at Colorado Coalition Against Sexual Assault in Denver. She says that the goal is to show that evidence was accounted for at all times.

3. Avoid contaminating evidence.

Your goal should be to maintain the evidence in its original state, or as close to it as possible, says **Trudy A. Meehan**, RN, CHE, director of emergency services at East Jefferson General Hospital in Metairie, LA.

Cut clothing carefully, she advises. Ideally, clothing should be removed without being cut, so as not to destroy evidence such as knife and bullet damage, Meehan says. If you must cut garments, cut around damaged areas, she says.

Also, Meehan stresses the importance of wearing gloves, so your fingerprints don't end up next to or over evidence.

Change to a new pair of gloves for each site of collection, says DeHart. "This prevents transfer of DNA from one site to another, which may compromise the very reason for collection of evidence: corroboration of the victim's account of what happened," she explains.

4. Seal containers appropriately.

When evidence was collected in one suspected drug-facilitated sexual assault case, the urine container was not properly sealed, labeled, and bagged, recalls Sievers.

"During transport, urine leaked on the envelope containing the contents of the sexual assault kit, contaminating all the evidence," she says.

Evidence containers must be appropriately sealed to avoid contamination or loss, says Sievers.

"Clothing items should be packaged individually so as to eliminate the potential for cross-contamination of trace evidence and also should be dried as much as possible before packaging," she says.

To avoid cross-contamination, place all items in individually sealed evidence containers, she says. Envelopes that contain trace evidence or swabs must be sealed shut by moistening the adhesive with water, taping the flap shut with tape, and initialing the tape, says Sievers.

Cardboard slide carriers should be securely taped shut so the slides don't fall out into the bottom of the kit envelope, she adds.

All is not lost if you accidentally contaminate evidence, such as dropping a swab on the floor while carrying it to the drying area, DeHart emphasizes. A note on the evidence envelope will alert the criminologist to the possibility of foreign material and does not render evidence unusable, she says. ■

crime scene, stresses Meehan.

"Assume everything you can possibly collect is potential evidence," she says. "Let the people at the forensic laboratory exclude it."

• Work closely with SANEs.

An ED nurse once stopped DeHart in the hall to explain that an obtunded patient needed to be catheterized for a toxicology specimen, and the nurse was concerned that evidence might be lost.

"This was excellent information to have and resulted in us doing the procedure together," says DeHart. "I gathered the vulvar swabs for evidence prior to the application of Betadine solution for the catheterization."

• Follow instructions in the evidence collection kit.

If you don't routinely perform rape examinations,

What to Document for Sexual Assault

Patient Information

In addition to routine registration data, document:

- ☐ Person who accompanied patient and relationship to patient
- ☐ Police report if filed: police department and case number

History of Assault

Facts about assault:

- ☐ Source of information (patient, police, or accompanying person)
- ☐ Time and place of assault
- ☐ Hours since assault
- ☐ Number of assailants and sexual assailants, relationship to victim, and identity if known
- ☐ Brief narrative history of assault

Nature of force used:

- ☐ Patient had impaired consciousness
- ☐ Known or suspected drug or alcohol ingestion
- ☐ Verbal threats
- ☐ Perceived life threat
- ☐ Use of physical force
- ☐ Use of weapon

Physical facts of sexual assault:

- ☐ Which orifices assaulted
- ☐ By what (finger, penis, mouth, foreign object)
- ☐ If condom was used
- ☐ Physical injuries
- ☐ Sites where assailant's saliva may be on victim
- ☐ If ejaculation was noted, and where

Post-assault activity:

- ☐ Showered, bathed
- ☐ Douched, rinsed mouth, urinated, defecated
- ☐ Changed clothes, gave clothes to police at scene, or brought clothes worn at time of assault to emergency department

Risk factors of assailant regarding hepatitis B, syphilis, and HIV if known:

- ☐ Known or suspected intravenous drug use
- ☐ Man who has had sex with men
- ☐ Assailant from an endemic country

Source: Excerpt of Washington State Recommended Guidelines, Sexual Assault Emergency Medical Evaluation, Adult and Adolescent, Harborview Center for Sexual Assault and Traumatic Stress, Seattle.

Meehan recommends pulling out the directions of the 'rape kit,' rather than risk improperly performing the exam. "Share with the patient that you are following the directions exactly to ensure that all evidence is properly collected," she says.

It also will make the patient's case stronger in court if you can testify that you followed the printed guidelines, says Meehan. "Make note of this, since by the time the case comes to trial you will not recall," she adds. "Your documentation will aid in supporting that you gathered the evidence properly." **(See related steps to follow to protect forensic evidence on p. 36.)**

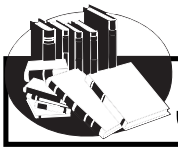
• Provide privacy during the examination.

You must ensure privacy for the victim and obtain consent before any collection or examination, stresses Sievers. "This exam is not a spectator sport, and there is no legal reason for an audience of people to be present during collection of evidence," she says.

References

1. Gray-Eurom K, Seaberg DC, Wears RL. The prosecution of sexual assault cases: Correlation with forensic evidence. *Ann Emerg Med* 2002; 39:39-46.

2. McGregor MJ, Du Mont J, Myhr TL. Sexual assault forensic medical examination: is evidence related to successful prosecution? *Ann Emerg Med* 2002; 39:639-647. ■



JOURNAL REVIEWS

Kontos MC, Anderson P, Ornato JP. **Utility of troponin I in patients with cocaine-associated chest pain.** *Acad Emerg Med* 2002; 9:1,007-1,013.

Troponin is equally useful as creatine kinase (CK)-MB in diagnosing necrosis in patients with cocaine-associated chest pain and possible myocardial infarction (MI), says this study from Medical College of Virginia Hospitals in Richmond.

The researchers examined outcomes in 246 patients who were admitted for possible MI after cocaine use. Over eight hours, all the patients underwent serial sampling of CK-MB and cardiac troponin I. Of this group, 34 patients (14%) met CK-MB criteria for MI, and 38 (16%) had cardiac troponin I elevations. Angiography was performed in 29 of these 38 patients, and significant disease was present in 25 (86%).

The researchers note that initial electrocardiogram and clinical factors are less useful for identifying MI in patients when recent cocaine use is a factor, which underscores the importance of using myocardial

markers in this group.

The researchers reported that most patients with cardiac troponin I elevations met CK-MB criteria for MI or had significant underlying coronary disease. "Troponin appears to have an equivalent diagnostic accuracy compared with CK-MB for diagnosing necrosis in patients with cocaine-associated chest pain and suspected MI," they conclude. ▼

Irons MJ, Farace E, Brady WJ, et al. **Mental status screening of emergency department patients: Normative study of the Quick Confusion Scale**. *Acad Emerg Med* 2002; 9:989-994.

A six-item scale is an effective way to screen emergency department (ED) patients for impaired mental status, says this study from the University of Virginia Health System in Charlottesville. During a nine-week period in 2000, the Quick Confusion Scale (QCS) was given to 731 adult ED patients. The following was said to patients, and correct answers were designated to receive a score of 1 or 2:

- What year is it now?
- What month is it?
- Repeat this phrase after me and remember it: John Brown, 42 Market St., New York.
- About what time is it?
- Count backward from 20 to one.
- Say the months in reverse.
- Repeat the memory phrase.

All individuals scoring less than the best possible score of 15 (a total of 295 patients) also were given the Mini-Mental State Examination (MMSE), and results correlated within acceptable limits.

The researchers argue that altered mental status often goes underrecognized and has direct implications for patient care in the ED. They explain that the QCS was developed to address time constraints and physical limitations of ED physicians.

The five- to 15-minute administration time of the MMSE too often exceeds the time physicians are able to spend on that aspect of the examination, and it requires physicians to provide patients with a pen, paper, and writing surface, say the researchers, whereas the QCS takes about two and a half minutes and requires no testing materials for the patient, since no written response is required.

The study's findings indicate that the QCS is an effective alternative to the MMSE, according to the researchers. "The QCS, in its focus on providing a quickly obtained, easily calculated, and readily interpreted score, presents a viable alternative to currently existing practices for assessing mental status," they conclude. ▼

Cole FL, Kuensting LL, MacLean S, et al. **Advanced practice nurses in emergency care settings: A demographic profile.** *J Emerg Nurs* 2002; 28:414-419.

The majority of advanced practice nurses (APNs) hold a master's degree, are certified, and provide services to both the ED and the fast track, says this study sponsored by the Des Plaines, IL-based Emergency Nurses Association. A total of 166 APNs (clinical nurse specialists or nurse practitioners) who work in EDs were surveyed about their education, experience, certification, and practice area. Here are key findings:

- Before becoming advanced practice nurses, they worked an average of 11.1 years as ED nurses.
- The advanced practice nurses worked mostly in urban facilities, with 50.9% working in urban areas, 32% in suburban, and 17% in rural areas.
- The APNs worked in the ED and fast track. "From an economic standpoint, it makes sense to have APNs who can provide health care and facilitate the efficient movement of patients in both areas," wrote the researchers.
- The majority of clinical nurse specialists were certified in critical care or medical-surgical nursing, and the majority of nurse practitioners were certified as family nurse practitioners.
- The APNs surveyed practiced in one to nine EDs, with an average of 1.7. The researchers suggest the APNs are working at multiple EDs because of merging of area of hospitals, and because of employment by physician groups that provide services at more than one ED.

"Continuing research is needed to identify the most effective utilization of APNs, document their contributions to patient care and outcomes, identify their continuing educational needs, and monitor the changing demographics of APNs in emergency care settings," the researchers state. ■

WEB ALERT

Don't risk violation of needlestick regs

Protecting yourself from a needlestick injury, evaluating safety devices, and complying with state and federal regulations. You'll find resources to help you achieve these three important goals at the Exposure

Vital Signs
Site: Exposure Prevention Information Network
Address: www.med.virginia.edu/epinet
Contact: Jane Perry, Director of Communications, International Healthcare Worker Safety Center, P.O. Box 800764, University of Virginia Health System, Charlottesville, VA 22908-0764. Telephone: (434) 982-3763. Fax: (434) 982-0821. E-mail: epinet@virginia.edu.

Prevention Information Network (EPINet) web site, from the University of Virginia's International Healthcare Worker Safety Center, based in Charlottesville.

Find these resources at site

The site includes the following resources:

• An updated list of safety devices organized by product type.

The list of safety devices is updated regularly as new products come on the market, says **Jane Perry**, director of communications. The list also includes links to manufacturers' web sites if available.

"We do not rate devices, and we do not conduct device evaluations," notes Perry.

• A sharps injury prevention checklist.

The "Checklist for Sharps Injury Prevention" is an easy-to-use tool for implementing safety devices.

"We focus on the procedures that have the highest risk for bloodborne pathogen exposure, such as blood-drawing, [intravenous] insertion, and injections," she says.

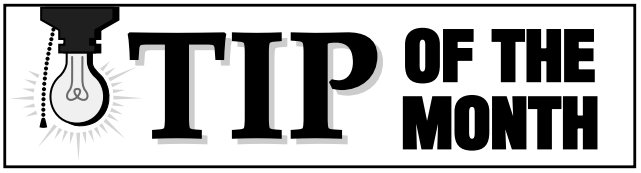
• Information on state and federal legislation.

Perry stresses that implementation of safety devices is required by federal and state Occupational Safety and Health Administration (OSHA) programs. "So is collection of sharps injury data," she adds. **(For more information on this topic, see "New regs require safer needle devices — Is your ED out of compliance?" *ED Nursing,* February 2000, p. 41.)**

The site provides resources to support the conversion to safety devices and offers a free download of the EPINet surveillance program for tracking sharps injuries and blood and body fluid exposures, says Perry. (Click on "About EPINet.")

The site highlights the specific interventions that are needed to comply with OSHA's Bloodborne Pathogens Standard, which was revised in 2001, she adds.

"We also review some of the nondevice-related requirements of the revised standard, such as maintaining a sharps injury log and including frontline health care workers in the process of evaluating safety devices," she says. ■



Use clothespins to signal other nurses

At the busy emergency department at Trinity Medical Center in Rock Island, IL, a rack system and clothespins help nurses to communicate, says **Cindy Wage**, RN, BSN, nurse educator.

A box of clothespins is kept at the nurse's station, and the clothespins are attached to a patient's charts to let nurses know that an order was written for a patient.

"It's a signal to anyone who's got a minute, that something needs to be done for a patient," Wage says.

In doing this, the physician or unit clerk doesn't have to try to find the nurse and tell them directly, she explains. "It's a nonverbal way of communicating," says Wage.

[Editor's note: For more information, contact Cindy Wage, RN, BSN, Trinity Medical Center, West Campus, 2701 17th St., Rock Island, IL 61201. Phone: (309) 779-3232. Fax: (309) 779-3232. E-mail: RCWAGE@cs.com.] ■

COMING IN FUTURE MONTHS

- How to avoid pediatric medication errors
- Strategies to improve assessment of meningitis
- New guidelines for acute myocardial infarction
- Improve care of children with psychiatric emergencies

CE objectives

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

1. Identify clinical, regulatory, or social issues relating to ED nursing. (See *New seizure meds will dramatically change your care; Use these hot tips to assess abdominal pain* in this issue.)
2. Describe how those issues affect nursing service delivery. (See *Are you ready for a 5-level triage scale? Be prepared: Most EDs will switch soon.*)
3. 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 mishandle forensic evidence: Take these 4 steps.*) ■

CE*questions*

1. Which is true regarding use of a five-level triage system, according to Jean A. Proehl, RN, MN, CEN, CCRN, emergency clinical nurse specialist at Dartmouth-Hitchcock Medical Center?
   A. Five-level systems have demonstrated validity and reliability.
   B. Use of a five-level triage systems decreases delays.
   C. No additional training is required to use the five-level system.
   D. Use of a five-level scale will reduce ED visits for nonurgent conditions.

2. Which of the following is recommended to manage pediatric seizures, according to Jennifer A. Disabato, RN, MS, CPNP, pediatric nurse practitioner for the Children's Epilepsy Program at the Children's Hospital?
   A. Advise parents not to use rectal diazepam gel at home.
   B. Ask parents how many doses of rectal diazepam gel were administered.
   C. Administer erythromycin with carbamazepine.
   D. Start patients with the maximum dose of lamotrigine.

3. Which is true regarding assessment of abdominal pain, according to Rebecca A. Steinmann, RN, MS, CEN, CCRN, CCNS, clinical nurse specialist for the emergency department at Northwestern Memorial Hospital?
   A. Abdominal symptoms are often more subtle in older patients.
   B. Fever and pain are more severe in older patients.
   C. Pain should not be treated until a definitive diagnosis is made.
   D. Short-acting opioids should not be used.

4. Which of the following is recommended when collecting forensic evidence for a sexual assault victim, according to Valerie Sievers, MSN, RN, CNS, CEN, SANE-A, clinical forensic nurse specialist at Colorado Coalition Against Sexual Assault in Denver?
   A. Use of a single pair of gloves for all collection sites.
   B. Use of plastic bags to contain potential evidence.
   C. Cutting off clothing if sexual assault is suspected.
   D. Packaging clothing items individually.

Answers: 1. A; 2. B; 3. A; 4. D.