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Don't let emergency patients be harmed by unsafe storage of meds

Careless storage by ED nurses puts patients at risk

To control a patient's blood pressure, an ED nurse began an infusion with a bag of dopamine from an automated dispensing cabinet (ADC), but the nurse failed to realize that instead of the usual concentration of 400 mg/250 mL, the bag contained 400 mg/500 mL that had accidentally been stocked there. Since the nurse thought the maximum dose of dopamine already was being given, other measures were taken to maintain the blood pressure. The patient arrested and couldn't be resuscitated.¹

Dopamine is one of the top 10 drugs involved in medication errors involving ADCs, according to the U.S. Pharmacopoeia — Institute for Safe Medication Practices (ISMP) Medication Errors Reporting Program. To prevent these errors, the ISMP recommends using a standard concentration of dopamine, bar-code technology, and a double-check process. The above case illustrates the devastating impact improper storage can have in the ED.

In addition, surveyors from The Joint Commission are looking closely at medication safety in the ED. "The Joint Commission has definitely impacted how we store medications for a number of reasons," says **Tracy Stark, RN**, education coordinator for the Emergency Trauma Center at St. John's Health System in Springfield, MO. **(See related story with questions asked by surveyors on p. 99.)**

"In the old days, we had medication bins of the most commonly used drugs," Stark says. "We took what was ordered, charted it, and then hopefully wrote it on the charge sheet." Now, medications are stored in an ADC, and there is nowhere

EXECUTIVE SUMMARY

Problems caused by unsafe medication storage and security in the ED include dosage errors, medication tampering, and use of outdated medications.

- Audit automated dispenser cabinets, and check for discrepancies.
- Secure medications stored on code carts with locked drawers.
- Require swipe badges to access narcotic storage areas.
- Give nurses courses in medication security.

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else in the ED that medications can be found with the exception of the code cart, says Stark.

To reduce risks involved with storage of medications in the ED, do the following:

- **Audit your ED's ADC.**

At St. John's, the ADC is audited each morning by members of the pharmacy staff and, if they see a consistent discrepancy, then that medication becomes one the nurse must count back.

"This can include aspirin and bags of saline," says Stark. "After the count is done for a specified amount of time, then we no longer have to do a count-back, except for narcotics."

If a count-back is not correct for a narcotic, the nurse puts the correct number in, and then the charge nurse has to resolve the discrepancy by determining who the last user was, says Stark. Most of the time, it is an error in count-back quantity. "The charge nurses check this

every 12 hours, or sooner if they notice a problem," says Stark. "If it is a medication that is not a narcotic, such as aspirin or [ondansetron], the same attempt to follow up is made."

- **Secure drugs on code carts.**

At Lacrosse, WI-based Franciscan Skemp Health-care, even medications kept on code carts are packaged in a secure wrap and stored in a locked drawer, says **Barbara Sue McBride**, RN, patient care director of the emergency and urgent care departments. "When used, the whole tray goes back to pharmacy, and medications are checked," McBride says. "A tag is placed on the outside of the cart with the date of the first drug to expire, and nursing keeps an eye on that."

- **Have a "one-use-only" practice.**

St. John's formerly kept open medications in the cabinet, and members of the staff would get multiple uses from medications such as acetaminophen bottles, nitroglycerin tabs, and even insulin in the refrigerator, says Stark. Now every medication is packaged for one dose, or if a vial is used, it is mandatory that it is opened, used, and any remainder returned to pharmacy or wasted, says Stark. Here are the steps taken by ED nurses:

1. The nurse signs into the ADC, selects a patient, chooses the medication, and selects the "remove" button.

2. Narcotics are counted back. If any waste takes place, the following process is required: Since one nurse already is signed in, he or she asks another nurse to be the witness and wastes the medication. Then, the other nurse signs as a witness, and documents the reason, such as "excess dose" or "refused by patient."

- **Give staff training.**

At Trident Medical Center in Charleston, SC, nurses and patient care technicians take mandatory courses in medication security, given by ED educators, who based the content on the hospital's policy and requirements from The Joint Commission, says **Mindi Huckabee**, RN, BSN, CEN, director of emergency services.

The courses are all computer-based, so nurses can complete a self-study module and post-test whenever it's convenient for them, says Huckabee. "The educational module and test cover the importance of medication security including intravenous [IV] fluids and the steps to take to ensure the correct procedures are being followed," she says. For example, the course reviews the process for opening a medication storage room for environmental services to clean the floor or take out the trash.

"This needs to be done in the presence of trained, authorized staff," says Huckabee. "The environmental services staff should not ever be left in the room alone."

- **Use swipe badges to lock down all storage areas.**

At Trident, ED nurses use key pads to access all

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supply rooms, but swipe badges are being implemented so that only specific individuals will have access, says Huckabee. In addition, doors are being installed to secure the medication area, which is in the middle of the nursing station.

“Although it is very obvious when someone is in the area that should not be, we want to lock the entire room down,” says Huckabee. “We use the AcuDose system [McKesson Corp.; Cranberry Township, PA] for medication storage, but in order to comply with IV fluids being secure, the doors and swipe badges systems are being added.”

If the area is open to the public there is always a risk that someone could tamper with the medications or fluids, explains Huckabee. “By restricting access to the storage areas, it automatically increases the safety for the patients,” she says.

• Check for outdated medications.

Pharmacists at Trident check the ADC and refrigerators in the ED routinely for expired medications, says Huckabee. All crash carts have a card attached to the front stating “first drug to expire” with the name of drug and the date of expiration, so the cart does not have to be routinely opened to check for the expiration dates, she adds.

ED nurses complete an occurrence report for any expired medication that is found, documenting what medication they found, the location, and any information regarding how the medication may have been missed during routine checks, says Huckabee. “The

pharmacy will follow up in collaboration with me when necessary, to complete any staff education that needs to occur,” she says.

Reference

1. Institute for Safe Medication Practices. ADC stocking error contributes to wrong strength dopamine infusion. *Nurse Advise-ERR* 2007; 5:2. ■

What surveyors asked ED nurses about drug storage

Accurate temperatures, outdated drugs are focus

Surveyors walking through an ED see medication by a patient's bedside table with no staff in the vicinity. Or a medication is lying in plain sight on a counter by the nurse's station, and visitors have full access to it.

These are two red flags that will alert Joint Commission surveyors that your ED is not ensuring that medications are securely stored, says **Pat Adamski**, director of The Joint Commission's Standards Interpretation Group. During surveys, ED nurses will be asked how it is determined who is going to have access to medications and how they are stored to ensure that the nurse gets what is needed, says Adamski.

“If it is determined that the housekeeper needs to have access to the medication room to clean, you can certainly do that. But since unlicensed people have access, all of the narcotics must be under lock and key,” she says.

Medication security can be a bigger challenge for some EDs than other hospital units, since EDs frequently have large, open areas without separation between treatment areas and patients or visitors, says Adamski. “As

EXECUTIVE SUMMARY

Surveyors from The Joint Commission will check for security and correct temperatures. Nurses will be asked to describe the process for ensuring no medications are outdated.

- Narcotics must be under lock and key if unlicensed individuals have access.
- Have a nurse check medication kits for outdated drugs on a monthly basis.
- Use automated monitoring systems to ensure proper temperature of refrigerated vaccines.

SOURCES

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newer EDs are built, more thought is given to security of medications," she says. "Back 30 years ago, people didn't really think about the fact that people would actually steal drugs or that a confused patient could pick up a medication that could harm them."

During a recent survey at Providence St. Vincent Hospital in Portland, OR, Joint Commission surveyors asked ED nurses about special medication kits created for easy access to certain drugs during an emergency, such as acute myocardial infarction and rapid-sequence intubation boxes. **Eileen Wheaton**, RN, ED nurse, says, "We comply by having the boxes checked for outdates, and we document this monthly."

Because these medications are kept outside of the automated dispenser unit, the surveyors were concerned that they might not be checked for outdates on a regular basis, says Wheaton. They were satisfied that a specific nurse is assigned all kits for checks on a monthly basis, she says.

At Anaheim (CA) Memorial Medical Center, surveyors checked for the proper temperature of vaccines in the ED's refrigerators, says **Angeli R. Leggitt**, MSN, RN, director of emergency services. "There are very specific procedures to ensure appropriate ranges, including that temperatures are to be checked twice daily and logged," she says. Temperature monitoring is a critical component of cold chain management, according to *Morbidity and Mortality Weekly Report*, she says.¹

One person should be assigned primary responsibility for maintaining temperature logs, with a second person assigned as backup to review the log each week, advises Leggitt. "The surveyor specifically asked how many times per day our refrigerator temperatures were checked," she says. Nurses explained that one person is assigned to be responsible each shift for checking the temperature logs of all refrigerators and warmers, and this check is documented on a shift assignment sheet.

In addition, temperature logs should be maintained for three years unless state or local statutes mandate a longer time period, says Leggitt. "An automated monitoring system that alerts staff when a temperature deviation occurs is optimal," she says. "However, even if an automated monitoring system is used, temperatures should still be manually checked and recorded twice a day."

Reference

1. Centers for Disease Control and Prevention. Notice to Readers: Guidelines for Maintaining and Managing the Vaccine Cold Chain. *MMWR* 2003; 52:1,023-1,025. ■

What surveyors want to see for review of med orders

Broader interpretation now is allowed

Most ED nurses breathed a sign of relief after The Joint Commission approved an interim action, effective Jan. 1, 2007, that changed the requirement for pharmacy review of ED medication orders (element of performance [EP] 1 for standard 4.10 of medication management). The new requirement allowed pharmacists to retrospectively review the orders, but just 14 weeks later, the action was suspended.

"I am extremely disappointed in the reversal of this action," says **Alisa Murchek**, RN, MS, associate director of nursing for the ED at University of Illinois at Chicago Medical Center. "This has been a huge challenge for our ED. To comply, we switched to an

EXECUTIVE SUMMARY

The Joint Commission has suspended its interim action allowing pharmacists to retrospectively review ED medication orders, but it is allowing broader interpretation of the exceptions to the requirement for prospective review.

- The medication can be processed by a nurse, and the licensed independent practitioner (LIP) will not be required to remain at the bedside while the medication is administered.
- The LIP must remain available to provide immediate intervention in the event that the patient experiences an adverse medication event.
- The LIP will be allowed to define when a clinical situation is urgent.

electronic fix, which interfaces pharmacy with the ED medication dispensing machine.”

Now, when a medication is ordered electronically, the order is first verified by a pharmacist and then sent to the ED’s automated medication dispensing machine. “A nurse can remove only verified medicines from the machine,” she says. “We have the capability to override the verification process for medications such as those needed for rapid intubation.”

The problem is that the new process causes delays, Murchek says. ED physicians can’t always drop what they are doing to enter a drug order on the computer terminal, and nurses are accustomed to working fast and concurrently; a physician asks for a medication, and a nurse is on the way to get it while he places the order, she says. “With this new interface, there is a three-minute delay between the time the physician orders the drug and it is verified by a pharmacist and sent to the machine,” she says. “It is amazing how an extra few minutes per patient can destroy an ED’s overall throughput.”

McKay-Dee Hospital Center in Ogden, UT, has been attempting to comply by staffing pharmacists in the ED. However, due to a shortage of pharmacists in Utah, they have coverage for only 12 hours a day, says **Kayleen L. Paul**, RN, CEN, director of emergency, critical care, and trauma services. “It’s been difficult, costly, extraordinarily frustrating, and I honestly believe that the evidence does not support a safety need for this in the ED,” she says. “Words cannot express the enormity of this challenge to our ED.”

What went wrong?

According to **Robert A. Wise**, MD, vice president of The Joint Commission’s Division of Standards and Survey Methods, the interim standard was put into effect because allowing retrospective review appeared to be a good solution. “We found that some people thought it was helpful, but we now had another group that told us we just made it worse,” he says.

That group reported that they didn’t have enough pharmacists to perform retrospective reviews of all the medication orders written in the ED. “We realized that there was no quick fix we could make that was going to clearly change for the better the processes going on in the ED,” says Wise. “So instead of continuing to tinker here and there, we decided to instead go through the systematic process.”

The Joint Commission is developing revisions to EP 1 for Standard MM 4.10 and will conduct a field review before finalizing those changes, he says. The revision process is expected to continue throughout 2007.

Since the interim action was suspended, the current standard now is reinstated as written in the 2007 accreditation manual. However, that standard has two exceptions for EP 1, and surveyors will be interpreting them more liberally. **Kelly Podgorny**, RN, MS, CPHQ, The Joint Commission’s project director for the Division of Standards and Survey Methods, says, “The Joint Commission will now allow a more broad interpretation of these two exceptions in the ED as we go through the process of revising the standard.”

The first exception allows for a prospective review to be bypassed if a licensed independent practitioner (LIP) controls the ordering, preparation, and administration of the medication. Now the medication can be processed by a nurse, and the LIP will not be required to remain at the bedside while the medication is administered.

“That is different from our previous position and allows a little bit more room for EDs to get that medication administered,” says Podgorny. However, the LIP must remain available to provide immediate intervention in the event that the patient experiences an adverse medication event. For example, if an ED doctor is always available within the emergency department and is in immediate contact by radios carried by all staff, the requirement is met.

The second exception is for urgent situations when the resulting delay could harm the patient, including situations in which the patient experiences a change in

SOURCE/RESOURCES

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The Emergency Nurses Association, American College of Emergency Physicians, and American Academy of Emergency Medicine jointly wrote a letter to The Joint Commission regarding standard MM 4.10. (To read the letter, go to www.ena.org/future/Issues/Joint_ltr_JCAHO_Med_Recon.pdf.)

To access The Joint Commission's Urgent Bulletin — Update on Standard MM 4.10, go to: www.jointcommission.org/AccreditationPrograms/Hospitals/urgent.htm.

clinical status. “What The Joint Commission will permit now, that we had not permitted previously, is to allow the LIP to define when a clinical situation is urgent. So whatever clinical situation the LIP determines is urgent and [thus] the prospective review is not conducted, The Joint Commission surveyors will accept this decision,” says Podgorny. ■

EDs are using new video tool instead of interpreters

Nurses ‘see the patient’s face light up’

A 40-year-old man approached triage nurses at Marion (OH) General Hospital’s ED clutching his chest, but he didn’t speak a word of English.

“We thought he was having chest pain, so we were going to treat him as such,” recalls **Erin Hansen, RN**, the nurse who cared for the patient.

Instead, nurses were able to access a translator in seconds using a portable video device, and they discovered the man actually had shortness of breath. This determination saved the man, who was discharged from the ED

EXECUTIVE SUMMARY

A growing number of EDs are using video technology to access interpreters for non-English-speaking patients. Nurses report that the tool cuts delays and improves communication.

- Videoconferencing is more accurate than family members.
- Extensive diagnostic work-ups can be prevented.
- One challenge is to coordinate the system with the patient and physician.

with a diagnosis of pneumonia, from undergoing a needless electrocardiogram (ECG), blood work, and oxygen.

“We put in the IVs and did chest X-rays but did not go down the cardiac pathway,” says Hansen.

The system is MARTI, which is an acronym for My Accessible Real-Time Trusted Interpreter, and it was developed by Columbus, OH-based Language Access Network. MARTI is a portable two-way, battery-operated, wireless video conference service with an adjustable camera. It looks like a TV screen on a wheeled stand. Nurses can use it anywhere in the ED

RESOURCES

- **The MARTI (My Accessible Real-Time Trusted Interpreter) system** includes video hardware solutions and interpreters trained in medical/health care vocabulary for more than 150 languages, including American Sign Language. The equipment enables access to real-time, on-demand remote video interpretation. The cost of the interpretation services varies depending on the language, but it is an average of \$2 per minute. For more information, contact Language Access Network, 111 W. Rich St., Suite 150, Columbus, OH 43215. Web: www.languageaccessnetwork.com.
- **Strong Connections Telehealth Sign Language Solutions** is a not-for-profit service based at the University of Rochester Medical Center using the hospital’s staff interpreters. Sign language interpretation is provided to other hospitals through videoconferencing technology. The cost of the service consists of a monthly subscription fee and a charge for each minute on line. There are two different pricing plans for low- and high-volume situations. The low-volume monthly fee is \$200 with zero “free minutes” per month and a per-minute cost of \$3.75, and

the high-volume monthly fee is \$800 with 200 “free minutes” per month and \$3.50 per minute charge for additional minutes. For more information, contact: **Kathy Miraglia**, Strong Connections, 601 Elmwood Ave., Box 602, Rochester, NY 14642. Phone: (585) 275-9200. Fax: (585) 244-8483. E-mail: StrongConnections@urmc.rochester.edu. Web: www.urmc.rochester.edu/strongconnections.

- **DT Interpreting provides a mobile videophone conference unit** that connects to interpreters certified in American Sign Language within minutes of a request. The hospital pays a monthly subscription fee for use of the equipment and for standby capacity, and the cost of the actual interpretation is charged at \$3 per minute. The minimum monthly access fee is approximately \$400, which may increase based on the number of mobile video units and connectivity options for wireless and computer networks. For more information, contact DT Interpreting, 607 Washington Road, Suite 302, Pittsburgh, PA 15228. Phone: (877) 229-8119 or (412) 563-3177. Fax: (412) 563-0488. E-mail: info@dtinterpreting.com. Web: www.deaf-talk.com.

SOURCES

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to access interpreters in 150 languages.

Marion's ED has a large Spanish-speaking population who sometimes bring in their own interpreters, but the policy is to use the MARTI regardless, to ensure accurate and impartial translations. "Finding an interpreter who is certified who we can legally use takes a lot of time," says Hansen. "With a click of a button, we can be communicating effectively."

At Los Angeles-based Olympia Medical Center's ED, the system has bridged the language barrier for patients who speak Russian, Korean, and Farsi. **Gerald Gabriel**, RN, charge nurse in the ED, says in the past, they had access to translators, but sometimes waited hours with devastating effect. "If the patient comes in and you don't know where they are hurting, you can get more information through the [MARTI] interpreter," Gabriel says. "As a result, you may end up doing an ECG and find out they are having a mild heart attack. This may well have saved their life."

Similarly, you may learn that a patient has been double-dosing on digoxin, and that dosage is causing an adverse cardiac reaction. "Otherwise, we'd have to run a battery of tests to find out exactly what is going on, and we would have to wait for those tests to come back," says Gabriel.

At Boston Medical Center, ED nurses "care for a huge number of non-English-speaking people, which makes everything harder from start to finish," says **Martha Eldessoky**, RN, an ED nurse at the hospital.

Using MARTI, patients are treated much more efficiently with less frustration, says Eldessoky. "This in turn has a long-term affect," she says. "Patients are more likely to seek treatment, knowing that they can

communicate their needs, problems, and concerns."

MARTI also has improved care of deaf patients, says Eldessoky. In the past, nurses called a service and an American Sign Language interpreter came to the ED, which took up to several hours.

"In the meantime, the stable patient waited, sometimes unable to make their problem or complaint known, much less receive treatment for it," she says. In one case, nurses were unable to fully assess the complaint of a deaf man until an interpreter showed up. As a result, a full work-up was done, including lab work, starting an intravenous line, and an abdominal computerized tomography scan — an expensive and time-consuming process, says Eldessoky. "When the interpreter arrived, it became apparent that his pain briefly felt better after eating, was worse when lying down at night, and was aggravated by certain foods," says Eldessoky. "This is a classic description of gastroesophageal reflux disease, which required no emergent work-up and is fairly simple to treat."

ED nurses set up the equipment; initiate the call; and coordinate the patient, physician, and translator, says Eldessoky. However, because only two rooms in the ED are wired for MARTI, this coordination involves the cooperation of other nurses, the movement of patients out of these rooms, and physicians being available when it all comes together, she says. "This occasionally doesn't go as smoothly as we'd like, but it is still a big improvement," says Eldessoky.

With the MARTI, the language barrier is bridged even if the patient speaks a language you have never heard of, says Gabriel. "It's scary enough to go to an ED, but not being able to communicate can be emotionally taxing," he says. "You can see the patient's face light up when they are able to talk with somebody in their native tongue." ■

Pediatric sedation course make procedures safer

With education, ED staff are 'on the same page'

Would you like to increase your knowledge and confidence in caring for children undergoing procedural sedation?

"Whether it is the nurse's first or 50th time doing a sedation, all the necessary steps and checks need to be done like it was their first," says **Michele Morin**, RN, MSN, clinical nurse specialist for emergency services at Children's Hospital Boston.

After a pediatric procedural sedation program was

EXECUTIVE SUMMARY

Pediatric sedation courses for emergency department nurses can improve compliance, increase consistency of practice, and clarify individual roles.

- Develop a sedation handbook and pocket card.
- Nurses are able to better address emergency situations.
- Documentation should include who was given discharge instructions.

implemented at the Hospital for Sick Children in Toronto, random chart audits showed that almost all procedural sedations are being performed according to the ED's protocol.¹ **Savithiri Ratnapalan**, MBBS, MEd, MRCP, FRCPC, FAAP, the study's lead author and an ED staff physician at the hospital, says, "I believe the success of the program is due to team learning and teamwork. It is a shared responsibility for sedation."

Here are the steps that were taken:

- Needs assessment surveys and focus group interviews were conducted by the two ED physicians, to identify educational needs of ED staff. Four group sessions were held in the ED conference room, with two physician groups and two nursing groups. "Results of the focus groups were used to develop the content and format of the sedation course," says Ratnapalan.

- All ED nurses and physicians attended a half-day sedation course given by Ratnapalan and another ED physician, and completed a multiple-choice examination. Below are the course objectives:

- discuss pediatric emergency procedural sedation guidelines;

- identify common sedative agents including indications and side effects;

- recognize potential complications that may occur as a result of emergency procedural sedation;

- identify innovative strategies for procedural pain management.

- Pediatric sedation guidelines for the emergency department were developed, based on practice guidelines from the American Association of Pediatrics, the American College of Emergency Physicians, and the American Society for Anesthesia.

Linette Margallo, RN, BScN, advanced nursing practice educator for the Division of Pediatric Emergency Medicine, thinks it is important that all new staff attend this pediatric sedation course. "I have received very good feedback from the new nurses after they attend this course," Margallo says. "They enjoyed the multidisciplinary approach, and the course content

is very relevant to their practice."

The course allows nurses to be exposed to the same information that physicians are taught, which helps them understand why a particular medication is used, how to anticipate care needed, and how to address emergency situations, says Margallo. "Everyone is on the same page," she says. Nurses are able to advocate for appropriate resources to safely manage sedation in the ED, Margallo says. "They are familiar with the medications used and how children will recover from these medications," she says.

There also is a clearer understanding of individual roles, says Margallo. "The role clarity and consistency comes from the multidisciplinary approach to education," she says. "This is possible because all disciplines attend the same course: physicians, nurses, respiratory therapists, and child-life specialists."

At Children's Hospital Boston, ED nurses are required to attend a three-hour course about procedural sedation, says Morin. The course stresses the importance of safety for the patient and covers medication administration, end-tidal monitoring, emergency reversals, emergency interventions, and proper positioning during the procedure. Staff also must take an annual course developed by the hospital's sedation committee, and take a test with a passing grade of 80% or better.

"Nurses are also preceptored for one sedation," says Morin. "If they feel confident, have attended the didactic, and passed the online class, they are deemed

SOURCES

For more information on pediatric sedation in the ED, contact:

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competent.” ED nurses do the following:

- Administer the drugs, with the physician present.
- Monitor the patient’s cardiac status, end tidal, and blood pressure.
- Prepare the room with necessary emergency equipment.
- Complete the “timeout” verification procedures, and document this timeout on the patient’s chart.
- Continue monitoring until discharge criteria are met.

Nurses document vital signs, the time of the first medication, the time the procedure was started, the level of sedation, any adverse effects, post-sedation discharge scores, education, and disposition. “The area that most frequently goes undocumented is who was given the discharge education and by whom,” says Morin. “We stress the importance of complete documentation for all sedations.” Compliance has improved with the implementation of online documentation, she adds.

Reference

1. Ratnapalan S, Schneeweiss S. Guidelines to practice: The process of planning and implementing a pediatric sedation program. *Ped Emerg Care* 2007; 23:262-266. ■

Stop delays in treatment of sickle cell pain patients

Believe what the patient tells you

Imagine being in horrible pain and knowing exactly what medication you need to control it, coming to an ED . . . and waiting an hour and a half for relief. Researchers recently looked at 612 patient visits for sickle cell disease (SCD) having an acute pain episode, and they found that took an average of 90 minutes for administration of an initial analgesic.¹

Emergency clinicians often perceive patients to be drug seeking, says **Paula Tanabe**, PhD, RN, the study’s lead author and research assistant professor in the department of emergency medicine at Northwestern University in Chicago. “Nurses must begin to believe the patient,” says Tanabe. “Patients with sickle cell disease do not want to come to the ED. By the time they do, they have exhausted all other interventions under their control.”

Provide better care to patients with SCD by increasing their personal knowledge base of the pathophysiologic complications and course of the disease, advises Tanabe. “ED clinicians receive very little education about sickle cell anemia. Until recently, the average age of death was in the 40s,” she says.

EXECUTIVE SUMMARY

Patients with sickle cell disease coming to EDs with an acute pain episode waited an average of 90 minutes for the first analgesic to be given, says a new study.

- Patients may not appear to be in severe pain because they have chronic pain.
- High triage scores and individual care plans can speed treatment.
- Remember that patients are at high risk for infection.

SCD is a serious chronic disease often associated with many serious physiologic complications including strokes, acute chest syndrome, pulmonary complications, and acute pain episodes, says Tanabe. Two common mistakes are making wrong assumptions about the severity of their pain and not being aggressive enough in managing it, says **Kathleen A. Delaney**, MD, vice chair of the Division of Emergency Medicine at the University of Texas — Southwestern Medical Center at Dallas. “Sometimes they don’t look like they’re in pain because they are chronically in pain,” she says. “There is no particular test that tells us whether they are having a crisis or not. We need to accept what the patient is saying and treat the pain aggressively.”

To improve care of SCD patients, do the following:

- **Develop an individual care plan for patients.**

“All patients deserve excellent pain management,” says Tanabe. For patients with frequent visits to your ED, create an individual care plan with them, ED clinicians, and the patients’ primary care provider, advises Tanabe.

Emergency nurses can be important members of teams to establish individual patient care plans that outline analgesic management specific to each patient, she adds.

- **Assign a high triage score.**

The study showed that a low triage score was the strongest predictor of long waits to receiving an initial analgesic. Rapid and aggressive analgesic management has been associated with decreased need for hospitalization, says Tanabe.

“At a minimum, it is important to assign the correct high-priority score and do whatever possible to facilitate placement in a treatment space,” Tanabe says.

- **Do a thorough assessment.**

Don’t make the mistake of assuming this is “just another pain episode,” warns Tanabe. Patients often present with chest pain that may indicate acute chest syndrome, which is associated with high mortality, and other-life threatening complications include sepsis and stroke, she says.

SOURCE

For more information on sickle cell disease and pain management, contact:

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Often patients with SCD are labeled as “difficult” or “drug-seeking,” says Tanabe. “Emergency nurses can help contribute to softening this attitude,” she says. Ask patients these questions: What methods did you use to control your pain at home? When did the pain episode begin? Where is the pain? Is this typical of your pain episodes? Do you require transfusions? When was the last time you were transfused? Do you have a health care provider that you see on a routine basis? What analgesic agents are usually effective to decrease your pain in the ED? How many and what doses?

“Typically, we are very impressed when patients can remember their medications and doses,” says Tanabe. “The same should be true for patients with SCD.”

- **Do frequent reassessment of pain after analgesic administration.**

This reassessment can help achieve rapid pain control and help decrease the need for hospitalization, says Tanabe. “Additional doses should be provided within five to 10 minutes,” she says.

- **Be concerned about infection.**

SCD patients are susceptible to multiple bacterial infections including salmonella and pneumococcal sepsis, warns Delaney. “They develop infarctions of their spleen, so they are essentially asplenic,” she says. “They should get pneumococcal vaccine, which is not usually done in the ED — but sometimes we act as their primary care doctors.”

Reference

1. Tanabe P, Myers R, Zosel A, et al. Emergency department management of acute pain episodes in sickle cell disease. *Acad Emerg Med* 2007; 14:419-425. ■

Update on antibiotics for ED pneumonia patients

New timeframe makes it easier for EDs to comply

If your ED has been struggling with The Joint Commission’s requirement that antibiotics be given within four hours of presentation for patients diagnosed with community-acquired pneumonia (CAP), you now have some more breathing room. The standard has been changed to require antibiotic administration within six hours.

This change will make it easier for EDs to comply with the standard, and it also will be better for patients, says **Victoria Leavitt**, RN, CEN, BSN, MSN, regional nurse educator for emergency services for Federal Way, WA-based Franciscan Health System. “One of the problems that our three EDs faced was the rush to diagnosis,” she says. “It is simply not feasible to accurately diagnose all patients within that timeframe, as well as hang the appropriate antibiotic.”

Most EDs struggle to meet the four-hour timeframe, because the only other option was to use the antibiotic “shotgun” approach, says Leavitt. “This approach is in direct conflict with the call to decrease the number of antibiotics that are unnecessarily prescribed,” she says.

The initial impression might be that the patient doesn’t have pneumonia. However, later in the ED visit, the physician decides it could be, or is, pneumonia, and orders the antibiotics — which might be longer than four

EXECUTIVE SUMMARY

The Joint Commission’s requirement for antibiotic administration to community-acquired pneumonia (CAP) patients has been expanded from four hours to six hours.

- The pneumonia diagnosis isn’t always readily apparent in the ED.
- Be on the alert for inappropriate antibiotic use.
- Hang a colored card with lungs pictured on the patient’s chart.

COMING IN FUTURE MONTHS

■ Update on approaches for sudden cardiac arrest

■ Strategies for competencies for five-level triage system

■ Steps to take for drug-resistant tuberculosis cases

■ Interventions for life-threatening heat injuries

Protocol for Community-Acquired Pneumonia (CAP)

Symptoms: Fever, cough, shortness of breath, CAP history, weakness, symptoms of sepsis, rales

Testing and Treatment:

- Intravenous of 0.9 normal saline at Keep Vein Open (KVO) rate (Draw bloods for labs.)
- Chest X-ray (Two-view if possible.)
- Complete blood count
- Pulse oximetry (If < 90%, ask physician about arterial blood gases.)
- Comprehensive panel
- Blood cultures x 2
- Suggest antibiotics to physician (after blood cultures ordered and done)
- See fever protocol for administration of antipyretics as needed.

Source: CGH Medical Center, Sterling, IL.

hours later, says **Nina M. Fielden**, MSN, RN, CEN, clinical nurse specialist for emergency and critical care services at Cleveland Clinic. Another problem is the attending physicians may decide that it is pneumonia and the patients need to be admitted, so they write orders for admission and intravenous antibiotics at the same time, she says.

“The chart goes to our secretary, and by the time the admission is arranged, the nurse then finds the antibiotic orders,” says Fielden. “We’ve asked the docs to let the nurse know they are writing for antibiotics so they can get them started before the admission is arranged by the secretary.”

The ED is trying a new process of having the radiologist call the physician when he or she finds an infiltrate, says Fielden. Chest X-rays and labs are initiated from triage if no room is available in the ED, so the X-ray results can come back while the patient still is in the lobby, she explains. “If the radiologist notifies us, we can move the patient back to the ED and start antibiotics.”

For many years, Fielden posted the results of the ED’s quality monitoring every quarter. “But we are doing so well now that we just review the delays with the nurse or physician,” she says. “I have gotten to know the data abstracter very well, so I can question him about why a patient was considered a failure.”

At CGH Medical Center in Sterling, IL, door-to-antibiotic time was reduced after the following changes were implemented:

- If a patient presents to triage with pneumonia-type symptoms, the nurse initiates the advanced triage

protocols for CAP. (See the ED’s protocol, left.)

- A blue card with a picture of lungs is placed on the front of the patient’s chart to remind all staff and physicians that the clock is ticking for treatment for this patient.

- Radiology technicians are encouraged to notify the ED physician immediately if they notice markings in the chest film that might indicate the patient has pneumonia.

The physician knows to read that film right away and order an antibiotic if necessary, says **Rhonda Miller**, RN, MS, CEN, CCRN, TNS, education/quality improvement coordinator for the ED. “When the nurses see the lung card on the patient’s chart, they also remind the physician that we may need to order an antibiotic immediately,” Miller says. ■

SOURCES

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CE instructions

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

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

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

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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.

1. Which is recommended for medication storage in the ED, according to Tracy Stark, RN?
 - A. If a vial is used, any remainder should be returned to pharmacy or wasted.
 - B. Get multiple uses from refrigerated insulin.
 - C. Use medication bins for commonly used drugs.
 - D. Environmental services staff can be unattended in medication storage areas if narcotics are not present.
2. Which is a red flag for noncompliance for The Joint Commission surveyors regarding medication storage in the ED?
 - A. That all narcotics are kept under lock and key.
 - B. That medication kits are used for rapid sequence intubation.
 - C. That medications for myocardial infarction are stored together for easy access.
 - D. That refrigerator temperatures are checked only if a problem is identified.
3. Which is accurate regarding treatment of ED patients with community-acquired pneumonia?
 - A. Antibiotics must be given within four hours.
 - B. Antibiotics must be given within six hours.
 - C. The new required timeframe will result in more inappropriate antibiotic use.
 - D. Guidelines recommend that nurses avoid initiating chest X-rays from triage.
4. Which is recommended for pain management of patients with sickle cell disease, according to Kathleen A. Delaney, MD?
 - A. Administer the initial analgesic 90 minutes after the patient's arrival to see if the crisis subsides.
 - B. Avoid administering high doses of pain medications unless patients appear to be in severe pain.
 - C. Accept what the patient tells you and treat the pain aggressively.
 - D. Assign a low triage score unless infection is present.

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

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