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Are you really ready for *any* child in your ED? New guidelines can tell you

Make your emergency nursing care consistent

If a woman came to your ED with suspected stroke or acute myocardial infarction, her treatment would be based on standards of care from Centers for Medicare & Medicaid Services (CMS) and The Joint Commission. “But those haven’t been established yet for children,” says **Michael Vicioso**, RN, MSN, CCRN, CPEN, pediatric nurse manager of the ED at Children’s Hospital of Orange County in Orange, CA. “There is much more variability in treatment in the pediatric world than the adult world.”

New guidelines on care of children in the ED have been published jointly by The American Academy of Pediatrics, American College of Emergency Physicians, and Emergency Nurses Association (ENA). According to ENA president-elect **Diane Gurney**, RN, MS, CEN, ED nurses should use the guidelines “to address safety issues with regard to staffing, equipment, medication administration, patient identification issues, and other processes that support pediatric patient care.”

As an ED nurse, “your professional responsibility is to be prepared to handle anything that walks in the front door, whether your hospital supports you in that or not,” warns Vicioso. “Community EDs don’t have the same resources they have in the big centers. You have to figure out how to take care of patients without all the bells and whistles. The question may be, ‘What can I do with what little I have to save this patient’s life?’”

Less than 10% of the patients seen by ED nurses at Philadelphia-based Thomas Jefferson University Hospital are children. “The challenge is for each

EXECUTIVE SUMMARY

New guidelines for emergency care of pediatric patients can be used to assess whether emergency nurses are prepared to care for any child who arrives. To improve care of children:

- perform mock codes and drills using equipment;
- obtain specialized pediatric training;
- use standing orders.

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and every ED nurse to get hands-on experience in caring for pediatric patients and feel comfortable with the care of these patients as well as the pediatric equipment,” says **Jenny Bosley**, RN, MS, CEN, ED clinical nurse specialist. “We do not have a designated pediatric section or room in the ED. Therefore, any ED nurse, at any given time, may be faced with caring for an acutely ill or injured child.”

To improve care of pediatric patients in your ED:

- **Ensure nurses receive hands-on experience with rarely used equipment.**

The guidelines state that pediatric equipment, supplies, and medications should be appropriate for children of all ages and sizes and easily accessible. “Once you get the proper-sized equipment and it’s available to you and your ED is fully stocked, do you know how

to use it? The next step is to do a lot of drills and mock codes,” says Vicioso. “That’s really the meat of what’s going to take your community hospital up to the level that’s needed to care for pediatric patients.”

He says to “do whatever it takes to get familiar with it, because the one or two times that you need to use it, will really have an impact on that patient’s life.”

Vicioso notes that it isn’t very often that a community ED nurse is confronted with a decompensating pediatric patient with a known congenital anomaly. For example, children with congenital heart defects or children with metabolic disorders who are in acute crisis will present to smaller community EDs.

“They sometimes present with a similar profile to sepsis or acute gastroenteritis,” says Vicioso. “Unless you are looking for these particular diseases and some of the subtle findings associated with them, you may miss the diagnosis or not provide the appropriate care.”

ED nurses might be unfamiliar with devices such as an intraosseous drill for placing an intraosseous needle in a decompensating child, or they might be unable to recognize the proper size endotracheal tube for a child with Down syndrome. “[Short] change-of-shift briefings on evidence-based practices and treatment modalities, as well as case study presentations, have helped some facilities keep up with the latest trends,” says Vicioso.

- **Use standing orders.**

Thomas Jefferson’s ED nurses can implement orders to initiate care for pediatric fever, sickle cell crisis, and pediatric extremity injury. “These save time and decrease ED throughput for all ED patients,” says Bosley.

- **Review “missed opportunity” cases.**

At Thomas Jefferson’s ED, pediatric cases involving delayed care or improper dosages by ED nurses are flagged by the hospital’s department of pediatrics. “Feedback is then shared one-on-one with the providers,” says Bosley.

- **Make age-appropriate supplies easier to find.**

The guidelines specify that pediatric supplies must be “clearly labeled, and safely and logically organized.” Thomas Jefferson’s ED nurses are redesigning their pediatric supply cart to make locating and restocking equipment simpler. Baskets are being added to the side of the cart to store commonly used items such as bag valve masks and manual ventilation systems. “Once this is complete, the ED nursing staff will be inserviced on the new setup of the cart,” says Bosley.

- **Make weight-based dosages easier.**

Vicioso says, “The weight based-issue is what separates pediatric care from adult ED care. Children need different size equipment and different dosages of medication.”

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ED nurses at Thomas Jefferson use a code sheet that lists all the dosages for medications that would be used in a code for a particular weight. "For example, a sheet for a 20 kg child has the specific dosages for epinephrine, lidocaine, and atropine, for that child's weight," says Bosley. **[A sample code sheet used by Thomas Jefferson's ED nurses is included with the online version of this month's *ED Nursing*. For assistance, contact customer service at (800) 688-2421 or customerservice@ahcmedia.com. Also see related stories on obtaining pediatric-specific training, below, and care of children in nonpediatric EDs, below right.] ■**

How you can address pediatric-specific training

New guidelines on care of children in the ED, published jointly by The American Academy of Pediatrics, American College of Emergency Physicians, and Emergency Nurses Association, say competency evaluations for ED nurses should be age-specific and include neonates, infants, children, adolescents, and

children with special health care needs.

Barbara Schuessler, RN, BSN, MSN, MBA, an ED nurse at University of Iowa Hospitals and Clinics in Iowa City, says "while we do not have any protocols or standing orders for pediatric patients, we have high educational and skill set standards for the nurses working in our ED." All ED nurses are certified in Emergency Nursing Pediatric Course (ENPC), Trauma Nursing Care Course (TNCC), and advanced cardiac life support (ACLS).

"We have two 12-hour educational retreats every year covering a broad range of topics, including best practices for the pediatric patient," adds Schuessler. ED nurses recently covered pediatric sedation, pediatric resuscitation, and proper pediatric medication dosages, and they attended a skill lab on heel sticks.

Michael Vicioso, RN, MSN, CCRN, CPEN, ED pediatric nurse manager at Children's Hospital of Orange County in Orange, CA, says that on blogs and listservs, "there's a lot of debate on which course is best: ENPC vs. pediatric advanced life support [PALS]. But ultimately, if you take something and then apply it to your workplace, the information you're going to get there is going to be accurate and evidence-based."

Both courses provide basic fundamental elements of emergency pediatric care. "If forced to choose one, I would go with ENPC since it provides more than just the 'rescue' aspect of pediatric care," says Vicioso.

At Thomas Jefferson University Hospital in Philadelphia, all ED nurses are required to maintain PALS certification. "Because we are a trauma center, all of our nurses are required to complete a minimum amount of trauma continuing education hours. This includes a minimum of two hours of pediatric trauma credits," says **Jenny Bosley**, RN, MS, CEN, ED clinical nurse specialist.

ED nurses are also required to read a monthly article and complete a post-test on an age-specific topic, such as inhalant abuse by adolescents. "The nurse then prints the certificate out and hands it in for tracking," she says. ■

Don't buy into these myths on ED nursing care of kids

Every year, ED nurses at St. Joseph's Children's Hospital in Paterson, NJ, care for about 30,000 pediatric patients, which is far more children than the average community ED nurse sees.

"The beauty of a pediatric ED is that all of the supplies and medications are specific to the pediatric

population,” says **Maria Christensen**, RN, an ED nurse at the hospital. “Appropriate sizes are readily available. Nurses are familiar with weight-based dosing and management of pediatric illness and injury.”

In looking at new guidelines on care of children in the ED, published jointly by The American Academy of Pediatrics, American College of Emergency Physicians, and Emergency Nurses Association, **Alfred Sacchetti**, MD, FACEP, chief of emergency medicine at Our Lady of Lourdes Medical Center in Camden, NJ, says, “The one message that comes through very, very clearly is: If you are going to be in a facility that hangs the word ‘emergency’ anywhere outside its door, you are going to encounter children. And you should be prepared for how to stabilize them.”

The guidelines don’t say that every ED nurse should know all the latest developments on how to care for a child with special needs, such as a liver transplant. “But if you are an ED nurse, you should understand the basic differences in physiology between the different age groups,” says Sacchetti.

Gabe Campos, RN, an ED nurse at University of Chicago Medical Center, says that while working at a general ED, he was intimidated by caring for the pediatric population. “So that became my challenge,” he says. “Whenever I worked the pediatric rooms, I tried to learn as much as possible. Whenever there was a class geared toward pediatrics, I was there.”

Sacchetti warns that these two misconceptions involving ED nurses and pediatric patients can be dangerous:

• **Community ED nurses don’t care for many children.**

“In fact, the vast majority of children *are* treated in community EDs,” says Sacchetti. “That is something that general ED nurses kind of sell themselves short on. In fact, community nurses are the No. 1 providers of care for children in the United States.”

• **ED nursing care in community EDs can’t be as good as pediatric EDs.**

You might see a smaller volume of pediatric patients, but that doesn’t mean that a child can’t get good care in your ED. Sacchetti says there are some EDs that give poor care to children.

“There’s no denying they exist. But painting *all* community EDs with that broad brush stroke is dangerous,” he says. “To tell ED nurses that ‘you’re not as good as a children’s hospital’ puts a kernel of doubt in the back of everybody’s mind when a sick child comes in.”

Sacchetti says that in fact, community ED nurses “are as dedicated and as good as any nurses in big teaching hospitals. In fact, they tend to be a little bit less confident, and as a result, a little bit more careful with management of sick children. They tend to double- and triple-check their doses of medicine.” ■

Don’t let violence happen to you, your staff

Over half of ED nurses have been attacked

More than half of ED nurses have experienced physical violence at work in the past three years, says a new study from the Emergency Nurses Association (ENA) that surveyed 3,465 nurses.¹ One in four was assaulted 20 times in that time frame, and one in five had experienced verbal abuse more than 200 times.

These findings were not at all surprising, however, to **Karen Wiley**, RN, MSN, CEN, chairwoman of the ENA’s ED Violence Work Team. “We expected that with appropriate reporting, we would find *higher* incidences than what is represented in the study,” she says.

Wiley stresses that “it is not only the psychiatric patients who may have no insight into their behavior who become violent and cause injury. Anyone who walks through or is brought through our doors is capable of becoming violent.”

Because EDs with policies for reporting violence had fewer violent incidents, the researchers recommend developing clear and consistent procedures for this. “To prevent verbal and physical assaults, reporting is imperative,” says Wiley. “To know the full extent of the problem and prevent it, we need to report it. If it is not reported, then it did not happen.”

Wiley says in her 20-bed ED, nurses are to report all incidences of injury, whether verbal or physical. “Our process, if injured, is to notify our manager immediately to report the facts,” says Wiley. However, while a nurse will take the time to complete an incident report if injured, many do not when verbally abused. “ENA’s Violence Work Team is planning to develop a short incident reporting tool to make it easier for nurses to complete,” reports Wiley. “There is no magic tool. It is

EXECUTIVE SUMMARY

More than half of emergency nurses surveyed reported physical violence in the past three years, and 25% had been assaulted more than 20 times in that time frame. To protect yourself:

- recognize that any ED patient is capable of becoming violent;
- report all incidences of injury, both physical and verbal;
- actively assess patients for possible violence.

still up to the nurse to report. Encourage co-workers to report *all* verbal and physical abuse.”

Trust your instincts when dealing with potentially violent patients, says **Pam Turner**, RN, BSN, assistant nurse manager of the ED at Harborview Medical Center in Seattle. “Our ‘nurse sense’ is there for a reason. Have a plan *before* approaching a potentially violent patient,” she says. “Never approach such a patient without other staff members nearby who are aware of the situation and ready to intervene.”

Wiley says, “Do not be alone or trapped in a room. If you have an impression that a patient may become violent or abusive, have security present in the ED.” However, the ENA’s study reported that 5% of hospitals had no security, and 13% relied on local police or the sheriff to respond. One rural ED nurse informed Wiley that the hospital’s maintenance department doubled as security, and if state police are called, it might be 20 minutes before they respond. This underscores the fact that “ED nurses *must* be equipped with the necessary training and tools to recognize and de-escalate triggers and precursors to violence,” says Turner.

Wait times are a factor

ED nurses reported one or more of these precipitating factors when they experienced abuse: Patients or visitors under the influence of alcohol or illicit drugs, psychiatric patients being treated in the ED, crowding, and prolonged wait times.

“Be aware of the anxiety and reduced coping mechanisms already present in ED patients,” says Turner. “Actively assess patients for possible violence, especially in the presence of risk factors such as alcohol or illicit drug intoxication, mental illness, dementia, and other causes of altered mental status.”

You also need specific techniques to protect yourself and your patient in the event of a violent incident, Turner says. “Intervention to prevent and/or deal with a violent outburst should be thought of as therapeutic and goal-directed, much as any other nursing process you perform,” she says. Turner says these ED nursing

interventions might include decreasing surrounding stimuli, communicating with the patient to lessen fear of the unknown, and intervening pharmacologically as soon as it is warranted.

“Be careful how you approach a patient, even if they seem aloof,” says **Barb Morgan**, MSN, RN, nursing director of emergency services at Cleveland Clinic. “Explain exactly what you are doing so the patient is not surprised by your actions, such as drawing blood.” (See related story, below, on debriefing and training.)

Reference

1. Gacki-Smith J, Juarez AM, Boyett L, et al. Violence against nurses working in U.S. emergency departments. *J Nurs Admin* 2009; 39:340-349. ■

Debrief and train to prevent violence

A plan to prevent assaults by patients, and a plan for what to do if despite your best efforts, violence occurs. Your ED needs both of these in place to protect ED nurses, says **Pam Turner**, RN, BSN, assistant nurse manager of the ED at Harborview Medical Center in Seattle.

“Your ED should have specific policies and training procedures in place that outline techniques for staff to deal with patients at risk for becoming violent,” says Turner. You also need a plan in place for debriefing staff after violent incidents when they *do* occur.

Turner says debriefing should achieve these three goals:

- ensuring that the patient and staff members are OK;
- helping staff focus on what they can learn from the incident;
- allowing staff to improve the way their team addresses violent incidents.

At Harborview’s ED, nurses receive specific training and physical competencies that focus on de-escalation techniques. “We also equip our nurses and other ED staff with personal protective actions and nonviolent physical intervention plans,” says Turner.

The Cleveland Clinic ED has a work force violence strategy in place, says **Barb Morgan**, MSN, RN, nursing director of emergency services. “We also send our emergency department employees across the health system to different courses depending on the location,” she reports. These include internal courses through the hospital’s psychology department, as well as outside programs such as

SOURCE

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RESOURCES

Non Abusive Psychological & Physical Intervention (NAPPI) International offers a safety training program that covers assessing and preventing escalating behavior, manual and mechanical restraint, safely de-escalating and defusing, and self-protection skills. A one-day course is \$299. For more information, contact:

- **NAPPI**, Fort Myers, FL. Phone: (800) 358-6277. Fax: (800) 693-9848. E-mail: info@nappi-training.com. Web: www.nappi-training.com. Select “Get NAPPI” and “Public Training Seminars.”

Nonviolent Crisis Intervention training demonstrates how you can use empathic listening skills, verbal intervention strategies, and limit-setting techniques to calm hostile and agitated individuals. A one-day seminar costs \$459. For more information, contact:

- **Crisis Prevention Institute**, Brookfield, WI. Phone: (262) 783-5787. Fax: (262) 783-5906. E-mail: support@iancici.org. Web: www.crisisprevention.com. Click on “Training Programs.”

courses offered by Fort Myers, FL-based Non Abusive Psychological & Physical Intervention (NAPPI) International and the Brookfield, WI-based Crisis Prevention Institute. (For information on these courses, see resource box, above.)

“These courses help hospital employees identify the people who are potentially violent and learn techniques of dealing with violent patients,” says Morgan. ■

Repeat chronic pain visits reduced from 19 to 2

Six out of the top 10 chief complaints of frequent ED users are related to pain, according to a new study.¹ To reduce repeat visits of chronic pain patients, ED nurses at University of Wisconsin (UW) Hospital and Clinics in Madison use a “non-narcotic protocol.” Of 15 patients who averaged 19 ED visits over the previous year for pain-related complaints who were notified about the new protocol, ED visits decreased to an average of two visits per year.²

“Some patients with chronic pain may need to be on

narcotics,” says **Tom Meyer**, MD, an ED physician at UW and coordinator of the Madison Citywide ED Chronic Pain Quality Improvement Initiative. “But these should be prescribed by a single practitioner. The patient should be monitored to be sure that the medication is enhancing function both at home and at work. And if we have evidence that the patient is acquiring drugs from other physicians in order to increase their dose, then they should be reassessed.”

If ED nurses identify patients at risk for inappropriate use of narcotics, they alert Meyer by e-mail or verbally and ask him to review the patient’s chart. According to **Sue Wolfe**, RN CEN, care team leader for the UW’s ED, at times ED nurses “begin to get that ‘I know I’m being taken for a ride’ feeling, and the patient may be abusing the system. This gives the doc a heads up to look a bit further into this, or we may talk to the person’s primary care physician to come up with a plan.”

She adds, “The computer system that we use is very helpful in alerting the staff that the patient may have a pain contract with another physician. We are also able to see easily the number of ED visits and the reason they are coming.”

Next, Meyer assesses whether the patient is primarily coming in for chronic management of pain. If that is the case, the patient is sent a letter stating that narcotics no longer will be given in the ED.

After the patient receives the letter, he or she often comes back to the ED seeking narcotics once or twice afterward.

“The ED nursing role is to explain that we want to help the patient and assign them a practitioner,” says Meyer. “We’d do the same thing if a patient asked for antibiotics every time he or she had an earache, sore throat, or congestion.”

If the patients return with a complaint of chronic pain, they are reminded by ED nurses or physicians that they have been sent a letter stating that they will not get narcotics while in the ED. Instead, the patient may be

EXECUTIVE SUMMARY

By using a “non-narcotic protocol” for some chronic pain patients, the average number of repeat ED visits in a year was reduced from 19 to two at University of Wisconsin Medical Center in Madison. Here is what ED nurses do:

- Alert ED physicians about patients at risk for inappropriate use of narcotics.
- Help patients to set up a patient management contract with a physician.
- Explain that escalating doses are unsafe.

CLINICAL TIP

Include this info in your triage notes

If an ED nurse at St. Joseph Regional Medical Center in South Bend, IN, is aware a patient has had several repeat visits for chronic pain, this information is included in the triage notes.

“The doctors are then able to see this information when they review the chart prior to seeing the patient, if there is not a chance for verbal communication between the nurse and physician,” says **Kirsten Rohrscheib**, RN, an emergency nurse at the hospital. ■

given a non-narcotic medication along with a nonpharmacologic intervention. For example, a migraine patient may be placed in a quiet, dark room, given cold packs to the head and neck, and given instructions on dietary changes.

“The patient is discharged to follow up with their primary care physician,” says Wolfe. Many of the ED’s chronic pain patients *did* set up a pain management contract with their personal physician.

“When patients come in asking for pain medications right away, we need to be more aware of the possible need for education and behavior modification for pain control,” says Wolfe. “It is very hard to take care of patients with a recurring pain problem that they feel would best be served with additional narcotics, knowing that this does not seem to help in the long run in many cases.”

As for patient reactions to the ED’s new protocol, these vary widely. “Some do get angry, though not nearly as many as we would have guessed,” says Meyer. “We explain that we really are not trying to stop the use of medication. We are just trying to do the safest thing for them, which is *not* escalating doses.” (See clinical tip, above, on ED nursing triage notes.)

References

1. Milbrett, P, Halm, M. Characteristics and predictors of frequent utilization of emergency services. *J Emerg Nurs* 2009; 35:191-198.
2. Svenson JE, Meyer TD. Effectiveness of nonnarcotic protocol for the treatment of acute exacerbations of chronic nonmalignant pain. *Am J Emerg Med* 2007; 25:445-449. ■

The way you manage pain in kids may need revamping

Is pain managed well in your ED? Unfortunately, the answer to that question might depend on the *age* of your patient.

“In general, vulnerable populations such as children and elderly receive poor pain management by nurses and physicians,” says **Sylvie LeMay**, RN, PhD, a researcher at the University of Montreal in Canada. “Both groups have similarities. They rely on health professionals to evaluate and manage their pain, they require an appropriate scale to measure their pain, and they do not express their pain in a direct manner — more as a change in behavior.”

To assess how well ED nurses managed pediatric pain at University of Montreal’s ED, LeMay performed a retrospective chart review of 150 children who presented with a painful diagnosis, including acute abdomen, burn, fracture, sprain, and deep laceration. Only 59% (89) had their pain evaluated, and of this group, only 3% (3) had a pain score documented. Only 36% were given an analgesic before a painful procedure.

Next, the researchers evaluated ED nurses’ knowledge of pain management. They identified four misconceptions:

- Children exaggerate their pain.
- Administration of an opioid to a child will induce respiratory depression.
- Pain associated with a fracture is mild and should not require an opioid.
- A child can’t be in pain when playing in the waiting room.

ED nurses were given three 20-minute educational

EXECUTIVE SUMMARY

When children present with a painful diagnosis, only 59% had pain evaluated by ED nurses, and only 3% of those had a pain score documented, according to a recent study. Also, only 36% were given an analgesic before a painful procedure. After an intervention, documentation of pain improved by 30%, administration of analgesics improved by 16%, and use of nonpharmacological interventions increased by 22%. To improve pain management of children:

- target education to specific problem areas;
- show ED nurses their own patient charts;
- make inservices convenient for nurses.

“capsules” covering evaluation of pain, the physiology of pain, and pain pharmacology. **(To access the capsules, contact LeMay. See source box, below.)**

After this intervention, researchers compared the scores of the previous group with 50 nurses who cared for a total of 450 children with a painful diagnosis. Documentation of pain improved by 30%, administration of analgesics improved by 16%, and use of non-pharmacological interventions increased by 22%.¹

LeMay credits the ED’s success to these three factors:

- **Education targeted the areas that nurses scored poorly on.**

“Education on pain management can be very broad. We focused on specific topics related to nurses’ needs,” says LeMay.

- **She showed ED nurses their own results.**

Instead of general findings from pain management studies, LeMay presented the actual retrospective chart reviews from the ED.

- **The educational intervention was made convenient for nurses.**

Before coming to the ED, LeMay called the assistant head nurse to ask if it was a particularly hectic day or night. If so, she would come at another time. Also, each “capsule” was repeated about 10 times over a three-week period. “So, if a nurse missed the first session, she could then attend the second or third session,” she says. “Also, I did not plan my interventions during their break and lunch period. That was very much appreciated.” **(See related story on improvements in ED nursing pain management, below.)**

Reference

1. Le May S, Johnston CC, Choiniere M, et al. Pain management practices in a pediatric emergency room (PAMPER) study: Interventions with nurses. *Ped Emerg Care* 2009; 25:498-503. ■

ED nurses make changes for pain interventions

At Johns Hopkins Hospital Children’s Center in Baltimore, “a big push right now is to improve pain control,” reports **Gail Schoolden**, RN, MS, an ED nurse at the hospital. ED nurses now do the following interventions to manage pain:

- Apply lidocaine, epinephrine, and tetracaine (LET) topical anesthetic at triage for lacerations that need to be cleaned and repaired.
- Apply lidocaine topical anesthetic on abscesses

SOURCES

For more information on improving pain management of pediatric patients, contact:

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prior to incision and drainage procedures. Also apply it to the site used for lumbar punctures.

- Administer intranasal fentanyl for quick pain relief. “This will sometimes help us avoid starting an intravenous line. It will sometimes help with calming a patient prior to a painful procedure,” says Schoolden.

- Use standing orders at triage for acetaminophen and ibuprofen, to help with fever and pain. “We have fairly strict guidelines about when we can give these medications, when they are contraindicated, and a chart for dosing based on weight,” says Schoolden. “The patient will have some relief of pain while waiting to be seen, or they may start to feel better when febrile while waiting to see a provider.”

Jesse Pallada, RN, ED nurse at Long Island College Hospital in Brooklyn, NY, says lidocaine was previously injected around a child’s laceration, but now LET gel is applied. “We apply the gel topically to the laceration, let it sit for 30-45 minutes, and then start suturing. This is much more comfortable for the patient,” he says.

Whenever a child undergoes a painful procedure at Johns Hopkins, moderate sedation is considered, says Schoolden. “It increases patient comfort and decreases anxiety,” she says. “Typical procedures that we would sedate for include fracture reduction, burn debridement, incision and drainage of a large abscess, repair of a large laceration in a young child, or if it is a laceration that involves the face and requires that the child be very still.”

Long Island College Hospital’s ED nurses recently began using moderate sedation for procedures such as closed reduction of fractures and dislocations. “It makes it easier and less terrifying for the kid, easier and faster for the treating doctor and nurse, and less stressful for the parents,” says Pallada. ■

Poor self-management can harm your asthma patient

An asthma patient was told frequently by ED nurses at St. Vincent's HealthCare in Jacksonville, FL, that his condition was cold-induced.

"His job was in a warehouse that was a freezer for food items. He made frequent visits due to his work environment, until he finally realized he had to make a career change," says **Diane Fox**, RN, BSN, CEN, clinical resource coordinator for the ED.

If you assumed that your long-time asthma patient doesn't need specific instructions about self-management of their condition, you might be wrong. In fact, low-income, minority patients often use alternative therapies instead of medications, which can result in acute exacerbations necessitating an ED visit, according to a new study.¹

When researchers interviewed 25 urban, low-income asthma patients, they found that only one had received asthma self-management training. Only 10 used short-acting beta₂-agonists, and none used a peak flow meter or an asthma action plan. In fact, most (52%) chose to initially treat acute asthma with complementary and alternative medicine, due to a belief that this approach was safer than traditional medication.

Even adults with a long-standing history of asthma likely don't correctly assess or manage their condition at home, warns **Maureen George**, PhD, RN, the study's lead author and an assistant professor at the University of Pennsylvania School of Nursing in Philadelphia. "Specifically, they may not have a peak flow meter, asthma action plan, or knowledge of how to perform repetitive albuterol dosing," says George. "This can mean delays in conventional medical care, underuse of albuterol in acute asthma, and poor

differentiation of milder vs. more severe asthma symptoms."

At St. Vincent's, ED nurses review detailed, printed instructions with every asthma patient. The instructions include what asthma is, what to do, what not to do, when to return if symptoms increase, and follow-up care. Nurses make sure that when an inhaler is prescribed, the patient knows how to use it. "We call the respiratory therapists and have them teach the patient the correct method of use," says Fox. **(See clinical tip on use of epinephrine, p. 22, and related story on improving asthma care in your ED, below.)**

Reference

1. George M, Campbell J, Rand C. Self-management of acute asthma among low-income urban adults. *J Asthma* 2009; 46:618-624. ■

Tell asthma patients this to avoid tragedy

Diane Fox, RN, BSN, CEN, clinical resource coordinator for the ED at St. Vincent's HealthCare, Jacksonville, FL, often sees asthma patients who overuse their inhalers.

"We used to see patients using over-the-counter inhalers. That is not common anymore, but they do have a tendency to overuse prescribed inhalers when having an attack," says Fox.

Fox also sees patients with asthma is triggered by pet dander who refuse to give up their pets, and children whose asthma is triggered by cigarette smoke whose parents refuse to quit.

"The patients that are at risk for poor management are the ones that do not continue with follow-up care," says Fox. "This is due to many reasons — the main one being no health insurance and lack of funds. These patients tend to use the ED for their primary care."

However, even patients who are financially secure and educated might not adhere to good self-management practices. Fox recalls a man in his 30s who was brought to the ED by ambulance after failing to receive any relief from his inhaler all night. "His wife finally convinced him to call rescue. When he arrived, he was cyanotic and was in bronchospasm. We were unable to intubate, and he died shortly after arrival despite all our efforts," says Fox. "This patient was a college-educated professional who was under the care of a primary physician for his asthma."

For every asthma patient, ED nurses emphasize the importance of obtaining follow-up care with a primary

EXECUTIVE SUMMARY

Even patients with long-standing asthma might lack basic knowledge of self-management, including use of short-acting beta₂-agonists and peak flow meters. To improve their care:

- Review detailed instructions with every asthma patient.
- If an inhaler is described, be sure the patient knows how to use it.
- Stress the importance of follow-up care with a primary care physician.

CLINICAL TIP

Avoid dangerous side effects of epinephrine

Giving epinephrine to adult asthma patient can increase the heart rate and cause an elevated blood pressure, warns **Diane Fox**, RN, BSN, CEN, clinical resource coordinator for the ED at St. Vincent's HealthCare in Jacksonville, FL.

"Since most asthma patients are usually already tachycardic and can be hypertensive, this is a problem," she says.

Instead, on occasion, ED nurses might have to give racemic epinephrine to adults, which previously was administered only to pediatric patients. Racemic epinephrine in a nebulizer can cause tachycardia, but not as severely as the injectible, says Fox. It is most likely to be given if albuterol and atrovent nebulizer treatments are ineffective and the patient already has received a steroid and magnesium.

"Racemic epinephrine is used mainly for children with stridor or croup for the constricting properties, but it can be used for the lower airway edema and act as a dialator on smooth muscle," she explains. ■

care physician. If the patient is financially unable to do this, a referral is made to a clinic. "Make the patient realize that this is not going to go away, and that they do need to be followed," says Fox. "Emphasize that the patient should *not* wait until they are in status asthmaticus or severe distress before seeking treatment." ■

3 ways to protect yourself from H1N1

Recently, more than 16,000 nurses threatened to strike at 37 California hospitals due to concerns about what they said were lax safety standards putting them at risk of catching H1N1. This threat of strike occurred after a nurse who was a triathlete and marathon runner died of severe respiratory infection, pneumonia, and H1N1 flu, possibly contracted at her workplace.

This situation underscores the increased vigilance

of ED nurses in protecting themselves during the 2009-2010 H1N1 flu pandemic. At The Hospital of Central Connecticut in New Britain, ED nurses are being "more diligent with [hand sanitizer], they have no problem with wearing N-95s, and they are receiving their flu shots," says **Nancy Giardina**, RN, MSN, ED educator. "No one wants to get sick! We're prepared for the worst, and meanwhile we just see one patient after another."

As a result of the H1N1 pandemic being declared a national emergency, hospitals can apply for waivers allowing them to establish alternate patient screening locations for H1N1 patients. Giardina says her ED has developed plans to care for H1N1 patients at an off-site clinic away from other ED patients, "but we aren't acting on anything, until and if we get inundated with patients."

The key: Be consistent

At Saint Louis University Hospital, ED nurses have been practicing respiratory etiquette year-round on any patient with respiratory symptoms. "Being consistent in practice is the only way to decrease the spread of respiratory illnesses," says **Helen Sandkuhl**, RN, MSN, CEN, FAEN, director of nursing for emergency services at Saint Louis University Hospital. "This practice should be followed consistently and not just during flu season." Here are three ways ED nurses are protecting themselves from H1N1:

- **Patients with respiratory symptoms are masked before entering the ED.**

However, patients might not always be cooperative. Giardina says, We give them a surgical mask as they walk in the door having symptoms or when they tell the triage nurse they're having symptoms. Then they go to the waiting room and take the masks off! Many patients don't want to wear them."

EXECUTIVE SUMMARY

To protect against H1N1, ED nurses are practicing respiratory etiquette year-round, masking patients before they enter the ED, and developing plans for possible off-site clinics. Some tips for wearing N-95 respirators when caring for suspected patients:

- Follow the practice year-round.
- Change masks between patients, unless supply does not meet demand.
- Avoid touching your N-95 respirator before completing tasks that require its use.

Saint Louis' ED has a "greeter nurse" stationed just inside the ED entrance, before the entrance to triage and the waiting room. "She screens all patients for any life-threatening processes that may be occurring," says Sandkuhl. "With ED overcrowding, this is the only sure way to make sure that patients do not fall through the cracks before triage or before being placed in a room for evaluation." If the patient's chief complaint falls into any of the areas of upper respiratory illness — fever, cold, runny nose, cough, or body aches — the patient is placed in a mask.

• **ED nurses wear N-95 respirators when appropriate.**

The Centers for Disease Control and Prevention reaffirmed its recommendation for health care workers to wear N-95 respirators when caring for suspected H1N1 patients, but these might be in short supply in your ED. Sandkuhl's ED nurses have followed this practice since the beginning of the 2009 flu season.

"Since our nurses follow this practice year round, it has not been a compliance issue," she says. "N-95 masks will become a premium item as the season goes on. At this time, we change masks between patients. If supply does not meet demand in the future, the practice may have to change."

ED nurses have done annual fit testing for N-95 respirators for many years. "St. Louis has a high concentration of TB patients, so this has come naturally to them," says Sandkuhl. "We say if you cannot take care of yourself, you cannot take care of others." (See **clinical tip, right, to avoid contamination of your N-95.**)

• **The basics are done consistently.**

"Hand washing is one of the most important ways to stop the spread of respiratory illnesses," says Sandkuhl. "There has been some difficulty obtaining hand sanitizer in some areas, but that should not be a reason not to have clean hands. Before hand sanitizer, we had soap and water, which did the job well."

Ten "spot checks" are done every month by the nurse manager or director, who checks to ensure that ED nurses are putting on masks and washing hands. "If someone is not compliant, we stop them and have an educational moment with them," says Sandkuhl. "This is all educational, never punitive." (See **H1N1 update inserted in this issue.**) ■

CLINICAL TIP

Don't contaminate your N-95 respirator

Avoid repositioning or touching your N-95 respirator before completing tasks that require its use, says **Helen Sandkuhl, RN, MSN, CEN, FAEN**, director of nursing for emergency services at Saint Louis University Hospital.

"If repositioning of the respirator is unavoidable, this should be done in a way that avoids touching unprotected portions of the face or margins of the respirator," she says. "Gloves should be removed and hand hygiene should be performed before and after touching the respirator. If removal must be performed, the respirator should be considered to be contaminated." ■

CNE instructions

Nurses participate in this continuing nursing 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.

The semester ends with this issue. You must complete the evaluation form provided in that issue and return it in the reply envelope provided in order to receive a certificate of completion. When your evaluation is received, a certificate will be mailed to you. ■

COMING IN FUTURE MONTHS

■ Proven tips to improve triage of infants and children

■ Stop practices that put older patients at risk for drug errors

■ What ED nursing interventions for heart failure *must* include

■ How to handle dangerous clinical conflicts with physicians

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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.

21. Which is recommended to improve care of pediatric patients in general EDs?
 - A. It's a mistake to use limited resources to familiarize nurses with rarely used equipment.
 - B. ED nursing standing orders should not be used for pediatric fever.
 - C. The pediatrics department should not be involved in identifying "missed opportunity" ED cases.
 - D. ED nurses should be given short briefings during change of shift on evidence-based practices.
22. Which is an accurate statement regarding pediatric pain management?
 - A. Lidocaine, epinephrine, and tetracaine (LET) topical anesthetic can be applied by ED nurses at triage for lacerations that need to be cleaned and repaired.
 - B. Administration of an opioid to a child will induce respiratory depression.
 - C. Pain associated with a fracture is mild and should not require an opioid.
 - D. A child can't be in pain if visualized playing in the waiting room.
23. Which is true regarding long-term asthma patients, according to a study published in *Journal of Asthma*?
 - A. ED nurses can safely assume that patients with long-standing asthma don't need instructions on self-management.
 - B. Even adults with a long-standing history of asthma might not have a peak flow meter or know how to perform repetitive albuterol dosing.
 - C. Virtually no patients used alternative therapies for asthma.
 - D. All patients used short-acting beta₂-agonists, so there is no need to educate patients on this.
24. Which is recommended for emergency nurses, according to Karen Wiley, RN, MSN, CEN, chairperson of the ENA's ED Violence Work Team?
 - A. Avoid developing specific policies for reporting violence.
 - B. Do not complete incident reports for verbal abuse.
 - C. Report physical abuse, but not verbal abuse because it is too common.
 - D. Encourage emergency nurses to report all verbal and physical abuse.

Answers: 21. D; 22. A; 23. B; 24. D.

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Pediatric Emergency Medications

Revised 3/09

Patient Name _____ Physician Signature _____
 Weight= 3.0 kg RN Signature _____

MEDICATION	STANDARD DOSE	PATIENT DOSE	VOLUME OF DOSE
Adenosine IV 3 mg/ml	0.1 mg/kg (Up to 6 mg) If no effect, increase to 0.2 mg/kg Maximum dose of 12 mg	Rapid IV push Flush with 5-10ml NS 0.3 mg	0.1 ml
Amiodarone IV 50 mg/ml	5 mg/kg/dose May repeat up to total dose of 15 mg/kg	Max: 300 mg/dose 15 mg	0.3 ml
Atropine IV, ET 0.1 mg/ml	0.02 mg/kg/dose Minimum dose 0.1 mg Maximum dose 0.5 mg	0.06 mg	0.6 ml min = 1.0 ml
Calcium Chloride IV 100 mg/ml (10%)	20 mg/kg/dose	60 mg	0.6 ml
Calcium Gluconate IV 100 mg/ml (10%)	100 mg/kg/dose Max infusion rate 100 mg/min	300 mg	3 ml
Dextrose IV	2 ml/kg/dose of D25 Dilute D50 vials 1:1 with sterile H2O		D 25 6 ml
Diazepam IV, ET 5 mg/ml	0.04 to 0.25 mg/kg/dose Max IV Push Rate: 1-2 mg/min	0.12 mg 0.75 mg max = 10 mg	0.024 0.15 ml max = 2.0 ml
Epinephrine IV, ET	0.1 ml/kg of 1:10,000 May 10x dose: Use 0.1 ml/kg of 1:1000 (ET Doses) May 20x dose: Use 0.2 ml/kg of 1:1000		0.3 ml 0.3 ml 0.6 ml
Lidocaine IV, ET 20 mg/ml	Bolus 1 mg/kg/dose Drip see below	Max = 100 mg/dose 3 mg	0.15 ml
Lorazepam IV, ET 2 mg/ml	Neonate 0.05 mg/kg/dose Children 0.1 mg/kg/dose	0.15 mg 0.3 mg max = 4 mg/dose	0.075 ml 0.15 ml max = 2.0 ml
Magnesium sulfate IV 500 mg/ml (50%)	25 to 50 mg/kg/dose	Max = 2 grams/dose (For Torsades) 75 mg	0.15 ml
Naloxone IV, IM 1 mg/ml	0.1 mg/kg/dose	0.3 mg	0.3 ml
Pancuronium IV 1 mg/ml	Neonate/Infant: 0.1 mg/kg/dose Children: 0.15 mg/kg/dose	0.3 mg 0.45 mg	0.3 ml 0.45 ml
Sodium Bicarbonate IV 1 mEq/ml (8.4%)	1 mEq/kg/dose or base deficit x kg x 0.3 1/2 strength under 1 yr old (4.2%)	3 mEq	3 ml
Succinyl Choline IV 20 mg/ml	Load 1 to 2 mg/kg/dose Max = 150 mg/dose	3 mg 6 mg	0.15 0.3 ml
Cardioversion	0.5 to 1 Joules/kg	1.5 J to	3 Joules
Defibrillation	2 Joules/kg		6 Joules May double for next dose

Suggested Initial Dosages:

Epinephrine- 0.1 mcg/kg/min
 Dopamine- 5 mcg/kg/min
 Dobutamine- 5 mcg/kg/min
 Lidocaine- 20 mcg/kg/min
 Isoproterenol- 0.1 mg/kg/min

INFUSION RATE (ml/hour) $\frac{\text{Weight (kg)} \times \text{Dose (mcg/kg/min)} \times 60 \text{ min/hour}}{\text{Concentration (mcg/ml)}}$

Ett size Newborn 3.0 - 3.5 mm Above 2 years: $\frac{\text{Age(in years)}}{4} + 4 = \text{mm}$
 1 to 2 yr 4.0 to 4.5 mm 4

3/09 LC/JO

Source: Thomas Jefferson University Hospital, Philadelphia.

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OSHA enforcing N95 respirators for HCWs treating H1N1 flu patients

OSHA: 'We're looking for a good-faith effort.'

By **Gary Evans** and **Michelle Marill**
Editors

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Particulate respirators — a controversial step beyond common surgical masks — are now mandated by the Occupational Safety and Health Administration (OSHA) to protect health care workers from acquiring H1N1 pandemic influenza A from patients. With respirator shortages feared, “good-faith efforts” by health care employers will be recognized by OSHA, which nevertheless is warning that citations and fines may result from inspections that will be primarily prompted by employee complaints.

“Employers should do everything possible to protect their employees,” said **Jordan Barab**, acting assistant secretary of labor. He emphasized, however, that where respirators are not commercially available, an employer will be considered to be in compliance if the employer made every effort to acquire respirators. Health care employers will need to be able to show documentation of orders that have been placed or statements from a manufacturer that the respirators are on back order. N95 respirators — already used by many hospitals for the treatment of tuberculosis patients — are the minimum level acceptable for H1N1.

“We’re looking for some evidence that the employer has attempted to purchase N95 respirators,” Barab said. “We’re looking for a good-faith effort.”

OSHA is issuing a compliance directive to enforce the Centers for Disease Control and Prevention’s recently issued “Interim Guidance on Infection Control Measures for 2009 H1N1 Influenza in Healthcare Settings, Including Protection of Healthcare Personnel.” (Available at http://www.cdc.gov/h1n1flu/guidelines_infection_control.htm.)

The CDC disappointed infection preventionists in the guidance by reaffirming its stance that surgical masks are not sufficient to protect workers from

H1N1 patients. The CDC recommends the use of respiratory protection that is at least as protective as a fit-tested disposable N95 respirator for health care personnel who are in close contact (within 6 feet) with patients with suspected or confirmed 2009 H1N1 influenza. The president-elect of the Society for Healthcare Epidemiology of America said the CDC decision appeared to be made for reasons other than science, which has not shown burdensome, scarce N95s to be more effective in clinical studies.

“They are recommending a respirator that is not readily available, for transmission that has never been shown to be clinically relevant,” said **Neil Fishman**, MD. “It presents a hardship to health care workers and health care providers that is unnecessary and offers nothing in [additional] degree of protection.”

On the other hand, the CDC is under considerable pressure from health care unions and worker safety advocates since at least four nurses nationally have reportedly died of complications related to H1N1. Noting that H1N1 surveillance systems do not provide occupational data, the National Institute for Occupational Safety and Health (NIOSH) is asking for information from the public on health care worker H1N1 illnesses and deaths. (Information can be e-mailed to nioshh1n1data@cdc.gov.) NIOSH is asking for contact information so the agency can follow up on cases that have primarily been reported through the media.

“Once we get that information, we can make decisions about whether we want to do a more thorough investigation, whether it is a Health Hazard Evaluation or another kind of study,” says **Christina Spring**, health communications specialist with NIOSH in Washington, DC.

Meanwhile, OSHA inspectors will ensure that health care employers implement a hierarchy of

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controls, including source control, engineering, and administrative measures, and to encourage vaccination and other work practices recommended by the CDC. Where respirators are required to be used, the OSHA Respiratory Protection standard must be followed, including worker training and fit testing. While the ruling clearly applies to hospitals, as this report was filed OSHA had not responded to a written request for clarification regarding other medical settings. Employee complaints from clinics and physician offices could potentially result in an inspection because OSHA's respiratory protection standards also apply to small businesses.

CDC casts wide net

The CDC clarified that the scope of its guidance includes a wide range of medical settings: "This guidance provides general recommendations for health care personnel in all health care facilities," the CDC stated. "For the purposes of this guidance, health care personnel are defined as all persons whose occupational activities involve contact with patients or contaminated material in a health care, home health care, or clinical laboratory setting."

Since a shortage of disposable N95 respirators is possible, employers are advised to monitor their supply, prioritize their use of disposable N95 respirators according to guidance provided by CDC, and to consider the use of reusable elastomeric respirators and facemasks if severe shortages occur, OSHA advised. Health care workers performing high-hazard, aerosol-generating procedures (e.g., bronchoscopy, open suctioning of airways, etc.) on a suspected or confirmed H1N1 patient must always use respirators at least as protective as a fit-tested N95, even where a respirator shortage exists. In addition, an employer must prioritize use of respirators to ensure that sufficient respirators are available for providing close-contact care for patients with aerosol-transmitted diseases such as tuberculosis.

Where OSHA inspectors determine that a facility has not violated any OSHA requirements but that additional measures could enhance the protection of employees, OSHA may provide the employer with a Hazard Alert Letter. OSHA will inspect health care facilities under the Respiratory Protection Standard "to ensure that health care workers are protected and that protection is in line with CDC [guidance]," Barab said.

The CDC guidance to use respirators has been controversial and hotly debated almost since the onset of H1N1 last spring. Many infection

preventionists argue that H1N1 is comparable to seasonal influenza in its virulence and transmission routes, and that droplet precautions (e.g., surgical masks) are sufficient. In fact, some state health departments diverged from CDC and called for surgical masks unless health care workers were performing aerosol-generating procedures.

The Healthcare Infection Control Practices Committee, a CDC advisory panel, endorsed the use of surgical masks rather than respirators. But an Institute of Medicine (IOM) panel charged with reviewing the available science concluded that surgical masks would not protect workers from airborne influenza particles. "[T]here is evidence that work-related exposures to patients infected with H1N1 virus result in health care workers becoming infected," the IOM report stated.

The answer, decided CDC director **Thomas Frieden**, MD, is to use respirators but to limit their use through other measures. "Use a scarce resource carefully," he said in a briefing on the guidance. "Follow a hierarchy of controls and limit the number of people who are potentially exposed and would need a higher level of protection."

The CDC is no longer recommending contact precautions — the use of gowns and gloves — but Frieden noted that influenza is spread through droplet, fomite, and aerosol transmission. "It is an unfortunate fact that we do not have definitive evidence on the portion of transmission that occurs from each of those three routes," said Frieden, noting that "the preponderance of belief" was that droplets were the most common route. "With that lack of knowledge and with the newness of H1N1 . . . we are recommending that N95s . . . would be clearly superior to surgical masks."

Still, CDC is providing some flexibility to hospitals. That means in some circumstances, health care workers may reuse respirators, continue to wear them while caring for more than one patient, or may even wear surgical masks as a last resort option. CDC states that extended use (in which the respirator is not removed while the health care worker cares for more than one patient) is preferred over reuse.

"We recognize that there may be shortage situations," said Frieden. "The need is for us not just to provide respiratory protection now, but the flu season lasts through May. We need to ensure we have a reliable supply."

The CDC guidance states that "when in prioritized respirator use mode, respirator use may be temporarily discontinued for employees at lower risk of exposure to 2009 H1N1 influenza or lower risk of complicated infection." ■