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Don't use outdated approaches for critically ill infants and children

New guidelines for pediatric advanced life support provide fresh options

Do you know if high-dose epinephrine is recommended for children in pulseless arrest? Would you use the intraosseous route to obtain vascular access in an 8-year-old? Should you use an adult-size or infant-size resuscitation bag in a newborn?

If you're unsure of these answers, you'll need to revamp your practice based on new guidelines for pediatric advanced life support (PALS) from the Dallas-based American Heart Association (AHA). (See excerpt on use of laryngeal mask airways, p. 47, and new recommendations for ventilation bags and masks, p. 48.)

Attend a PALS course as soon as the new materials are available in your area, urges **Teresa Ostler, RN**, ED educator and PALS coordinator at Primary Children's Medical Center in Salt Lake City. "There are so many exciting

EXECUTIVE SUMMARY

New guidelines for pediatric advanced life support (PALS) from the American Heart Association give you innovative approaches, medications, and techniques.

- Use pediatric- and adult-sized resuscitation bags for infants or children, instead of infant resuscitation bags.
- The guidelines recommend an intraosseous route as an alternate for vascular access in children of any age with shock, and automatic external defibrillators are recommended for children 8 years and older.
- The new PALS course includes more practice time and addresses specific resuscitation situations such as drug toxicity, electrolyte emergencies, and poisoning.
- Use the method of "two hands encircling the chest" for infant chest compression instead of the traditional "two-finger" method.

changes in the PALS program." (See story on how a critically ill child should be managed according to the new guidelines, p. 50.)

The AHA's new PALS guidelines are now the standard for resuscitation of critically ill infants and children around the world, emphasizes Ostler. "These are the standards of care that our smallest patients deserve, that all professional nurses should strive to attain, and that our communities will expect from us."

All nurses who care for children at risk for respiratory failure, shock, cardiac rhythm disturbances, and/or cardiopulmonary arrest must become familiar with the new PALS guidelines, Wolff urges.

Guidelines published by the AHA are generally considered to be "standard of care," notes **Barbara Weintraub**, RN, MPH, MSN, pediatric critical care nurse practitioner at Northwest Community Hospital in Arlington Heights, IL. "Most lawsuits involving nurses concern a failure on the part of the nurse to meet the standard of care," she warns. "Many potential lawsuits can be avoided by ED nurses familiarizing themselves with the new PALS guidelines."

Here are some of the key practice changes recommended by the guidelines:

- **Infant resuscitation bags are no longer recommended for infants or children.**

Use pediatric- and adult-sized resuscitation bags instead, says **Michele Wolff**, RN, MSN, CCRN, professor of nursing at Saddleback College in Mission Viejo, CA. "The minimum recommended volume for resuscitation bags is 450 mL-500 mL," she adds. "The neonatal-size ventilation bag delivers only 250 mL."

This volume might be inadequate to provide effective tidal volumes in term newborns and infants, Wolff explains. "Regardless of the size of the bag used, visual chest rise should be used to guide the force of bag compression."

- **Endotracheal suctioning might not be necessary in the apparently vigorous infant with meconium-stained fluid.**

Perform direct endotracheal suctioning, using the endotracheal tube as a suction catheter, only if the infant is not moving and crying vigorously, or shows other signs of respiratory depression, recommends Weintraub.

- **The use of automatic external defibrillators (AEDs) has expanded.**

Use of AEDs has been expanded for use in children

SOURCES AND RESOURCES

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The *Guidelines 2000 for Cardiopulmonary Resuscitation and Emergency Cardiovascular Care* include a chapter on pediatric advanced life support. The guidelines were published in the Aug. 22, 2000, issue of *Circulation*, the official journal of the American Heart Association. Reprints are available for \$20 plus \$7 shipping and handling. To order, contact:

- **Channing L. Bete Co.**, 200 State Road, S. Deerfield, MA 01373-0200. Telephone: (800) 611-6083 or (413) 665 7611. Fax: (800) 499-6464 or (413) 665 2671. E-mail: custsvcs@channingbete.com. Web: www.channingbete.com.

Key changes are outlined in the AHA Web site (www.cpr-ecc.americanheart.org). Click on "What's New." The Fall 2000 issue of *Currents* contains a 28-page summary of the new guidelines. Individual copies are available for \$5 including shipping and handling. To order a copy, contact:

- **Pro Education International**, 27500 I-45 N., Suite 124, Spring, TX 77386. Telephone: (888) 999-4210 or (281) 419-8596. Fax: (281) 419-8238. E-mail: support@currentsonline.com.

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Laryngeal Mask Airway (Excerpt)

The laryngeal mask airway (LMA) is a device used to secure the airway in an unconscious patient. The LMA consists of a tube with a cuffed mask-like projection at the distal end. The LMA is introduced into the pharynx and advanced until resistance is felt as the tube locates in the hypopharynx. The balloon cuff is then inflated, which seals the hypopharynx, leaving the distal opening of the tube just above the glottic opening and providing a clear, secure airway.

LMAs are widely used in the operating room and provide an effective means of ventilation and oxygenation, but LMAs are contraindicated in an infant or child with an intact gag reflex. They may be useful in patients with difficult airways, and have been used successfully in emergency airway control of adults in hospital and out-of-hospital settings.^{1,2} They can be placed safely and reliably in infants and children,³ although data suggest that proper training and supervision are needed to master the technique.^{4,5}

Data also suggest that mastering LMA insertion may be easier than mastering endotracheal intubation.⁶ Indeed, nurses have been successfully trained to perform LMA insertion in adults in cardiac arrest,⁷ and paramedics have been trained to insert an LMA with a higher success rate than endotracheal intubation.⁸

Although LMAs do not protect the airway from aspiration of refluxed gastric contents, a meta-analysis shows that aspiration is uncommon with LMA use in the operating room⁹ and was less common than with bag-mask ventilation in adults undergoing in-hospital CPR.¹⁰ Therefore, in the setting of cardiac or respiratory arrest, LMAs may be an effective alternative for establishing the airway when inserted by properly trained health care providers, but limited data comparing LMAs to bag-mask ventilation or endotracheal intubation in emergency pediatric resuscitation preclude a confident recommendation. Training for health care providers in the use of the LMA should not replace training to use bag-mask ventilation effectively.

An LMA may be more difficult to maintain during patient movement than a tracheal tube, making it

problematic to use during transport. Careful attention is needed to ensure that the LMA position is maintained if the LMA is used in the out-of-hospital setting. Furthermore, the LMA is relatively expensive, and a number of sizes are needed to provide airway support to any child at risk. The cost of equipping out-of-hospital providers with LMA devices must be considered.

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8 years and older, says Wolff. "It has been found that the incidence of defibrillation, while still relatively rare in children, is actually higher than once believed."

It has been extrapolated from the adult data that fewer minutes to defibrillation will increase the survival rates of children with ventricular fibrillation, Wolff explains.

• The use of the intraosseous route as an alternate for vascular access in children with shock has been expanded.

You can use intraosseous access with any age patient if vascular access is not readily available and

(Continued on page 49)

Ventilation Bags and Masks (Excerpt)

Ventilation with a bag-mask device requires more skill than mouth-to-mouth or mouth-to-mask ventilation. A bag mask device should be used only by personnel with proper training. Training should focus on selecting an appropriately sized mask and bag, opening the airway and securing the mask to the face, delivering adequate ventilation, and assessing the effectiveness of ventilation. We recommend periodic demonstration of proficiency.

Types of Ventilation Bags (Manual Resuscitators)

There are two types of manual resuscitators: self-inflating and flow-inflating. Ventilation bags used for resuscitation should be self-inflating and should be available in child and adult sizes, suitable for the entire pediatric age range.

Neonatal-size (250 mL) ventilation bags may be inadequate to support effective tidal volume and the longer inspiratory times required by full-term neonates and infants.¹ For that reason, resuscitation bags used for ventilation of full-term newborns, infants, and children should have a minimum volume of 450 mL to 500 mL. Studies using infant manikins showed that effective infant ventilation can be accomplished using pediatric (and larger) resuscitation bags.² *Regardless of the size of the manual resuscitator, take care to use only that force and tidal volume necessary to cause the chest to visibly rise.* Excessive ventilation volumes and airway pressures may compromise cardiac output by raising the intrathoracic pressure and by distending alveoli, increasing afterload on the right heart. In addition, excessive volumes may distend the stomach, impeding ventilation and increasing the risk of regurgitation and aspiration. In patients with small-airway obstruction (e.g., asthma and bronchiolitis), excessive tidal volumes and rate can result in air trapping, barotraumas, air leak, and severe compromise to cardiac output. In head-injured and post-arrest patients, excessive ventilation volumes and rate may result in hyperventilation, with potentially adverse effects on neurological outcome. Therefore, the routine target in postarrest and head-injured patients should be physiological oxygenation and ventilation.

Ideally, manual resuscitators used for resuscitation should have either no pressure-relief valve or a pressure relief valve with an override feature to permit use of high pressures to achieve visible chest expansion if necessary.³ High pressures may be required during bag-mask ventilation of patients with upper or lower airway obstruction or poor lung compliance. In those patient, a pressure-relief valve may prevent delivery of sufficient tidal volume.⁴

Self-Inflating Bags

The self-inflating bag delivers only room air (21% oxygen) unless supplemental oxygen is provided. At an oxygen inflow of 10 L/min, pediatric manual resuscitator devices without oxygen reservoirs deliver from 30% to 80% oxygen to the patient. The actual concentration of oxygen delivered is unpredictable because entrainment of variable quantities of room air occurs, depending on the tidal volume and peak inspiratory flow rate used. To deliver consistently higher oxygen concentrations (60% to 95%), all manual resuscitators used for resuscitation should be equipped with an oxygen reservoir. An oxygen flow of at least 10 L to 15 L/min is necessary to maintain an adequate oxygen volume in the reservoir of a pediatric manual resuscitator; this should be considered the minimum flow rate.⁴ The larger adult manual resuscitators require at least 15 L/min of oxygen to deliver high oxygen concentrations reliably.

To provide bag-mask ventilation, open the airway, seal the mask to the face, and deliver an adequate tidal volume. To open the airway and seal the mask to the face in the absence of suspected neck trauma, tilt the head back while two or three fingers are positioned under the angle of the mandible to lift it up and forward, moving the tongue off the posterior pharynx. Place the thumb and forefinger in a "C" shape over the mask and exert downward pressure on the mask while the other fingers maintain the jaw thrust to create a tight seal. This technique of opening the airway and sealing the mask to the face is called the "E-C clamp" technique. The third, fourth, and fifth fingers (forming an E) are positioned under the jaw to lift it forward; then the thumb and index finger (forming a C) hold the mask on the child's face.

Determine appropriate mask size by the ability to seal it around the mouth and nose without covering the eyes or overlapping the chin. Once the mask is properly sealed, the other hand compresses the ventilation bag until the chest visibly rises.

Self-inflating bag-mask systems that contain a fish-mouth or leaf-flap outlet valve cannot be used to provide continuous supplemental oxygen to the child with spontaneous respirations. The valve in the self-inflating bag opens only if the bag is squeezed or the child's inspiratory effort is significant. If the bag is not squeezed, the valve usually remains closed, so the child receives only a negligible amount of escaped oxygen and rebreathes the exhaled gases contained within the mask itself.

(Continued)

Flow-Inflating Bags

Flow-inflating bags (also called "anesthesia bags") refill only with oxygen inflow, and the inflow must be individually regulated. Since flow-inflating manual resuscitators are more difficult to use, they should be used by trained personnel only.⁵ Flow-inflating bags permit the delivery of supplemental oxygen to a spontaneously breathing victim.

Two-person Bag-Mask Ventilation

Superior bag-mask ventilation can be achieved with two persons, and this technique may be necessary when there is significant airway obstruction or poor lung compliance.⁶ One rescuer uses both hands to open the airway and maintain a tight mask-to-face seal while the other rescuer compresses the ventilation bag. Both rescuers should observe the chest to

ensure chest rise with each breath.

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cardiopulmonary arrest or decompensated shock is present, says Weintraub. "This was previously recommended only in children 6 years of age and under."

The age range was extended because of reports of successful use of intraosseous access in patients older than 6 years, Wolff explains. "Although it may be more difficult to obtain intraosseous access in older children because of the bone thickness, this route should be considered a viable alternative when vascular access cannot be rapidly achieved."

Peripheral vascular access can be difficult in children with shock due to increased peripheral vascular resistance, says Wolff. "Rapid access to the circulatory system is critical to effective treatment of children of all ages with shock," she says.

• **Use the method of "two hands encircling the chest" to do chest compressions in newborns and infants.**

Use this method instead of the traditional technique of two fingers on the chest, says Weintraub. "It has been found to provide greater effective cardiac output."

• **The use of hyperventilation is no longer recommended to protect the brain.**

It has been found that hyperventilation can actually lead to decreased brain perfusion, says Wolff.

• **There are new recommendations for post-resuscitation care.**

If hypotension persists after filling pressure is optimized and adequate fluids are ensured, use dobutamine,

norepinephrine, nitroprusside, or nitroglycerine, says Weintraub. "High-dose, single-agent dopamine should be avoided."

Don't actively rewarm hemodynamically stable children who spontaneously develop a mild degree of hypothermia, Weintraub advises. "Mild hypothermia in the immediate post-resuscitation time frame may improve neurologic outcome and is likely to be well-tolerated," she says.

• **Amiodarone has been added to treat supraventricular tachycardia, ventricular tachycardia (VT), and ventricular fibrillation (VF).**

Amiodarone has been found to be effective in patients who are refractory despite three shocks, says Wolff. "Much of the data available on the use of amiodarone are in adult patients. This information has been extrapolated for use in pediatric patients." (See story on how to perform vagal maneuvers in children with supraventricular tachycardia, p. 50.)

Amiodarone now is recommended for pulseless VF/VT as an antiarrhythmic before the use of lidocaine, Ostler notes.

• **The use of high-dose epinephrine is de-emphasized for children with pulseless arrest.**

There are changes in the epinephrine doses for pulseless arrest, says Ostler. "There is a decreased emphasis on the use of 1:1000 epinephrine 0.1 mg/kg."

Wolff cautions that the use of high-dose epinephrine can lead to several adverse effects, including increased

myocardial work load, hyperadrenergic state, hypertension, and myocardial tissue damage.

High-dose epinephrine may be considered for second and subsequent doses of epinephrine in refractory pediatric arrest, advises Weintraub. "High-dose epinephrine does not appear to offer routine benefit, but may be acceptable. Therefore, high-dose epinephrine is not automatically given, but it may be considered."

- **Care of family members is emphasized.**

Family presence during resuscitation has been shown to have a positive impact on families, and is recommended in the guidelines, says Wolff. "When families are present at the bedside during resuscitation, a designated staff member should remain with them to provide information and support." (**For more information on family presence in the resuscitation room, see *ED Nursing*, November 2000, p. 15.**)

- **The PALS course format has changed.**

The new format includes more practice time and less traditional lecturing, says Wolff. It also has been modified to include special resuscitation situations such as drug toxicity, electrolyte emergencies, and poisoning, she adds. "There is an increased emphasis on tailoring the course to meet the individual needs of the students," Wolff says. ■

Do you know how to perform vagal maneuvers?

When caring for a child with supraventricular tachycardia, you should consider performing vagal maneuvers, according to new guidelines for pediatric advanced life support (PALS) from the Dallas-based American Heart Association (AHA).

The recommended technique is to apply a glove filled with crushed ice and water to the face, says **Michele Wolff, RN, MSN, CCRN**, professor of nursing at Saddleback College in Mission Viejo, CA. Take care to apply the ice water mixture to the face without obstructing ventilation, she cautions.

"If a child is hemodynamically unstable, synchronized cardioversion remains the first-line treatment," Wolff notes.

Vagal maneuvers have been shown to successfully convert a supraventricular tachycardia rhythm, which is the most common nonarrest arrhythmia during childhood, says Wolff.

The guidelines recommend the use of synchronized cardioversion and/or adenosine for children with supraventricular tachycardia and poor perfusion, notes Wolff. "It is noted that the success rates with vagal

maneuvers may vary based on the underlying condition, child's age, and ability to cooperate."

If no contraindications are present, all patients with supraventricular tachycardia should be initially treated with vagal maneuvers or adenosine, calcium channel blockers such as verapamil or diltiazem, beta blockers, or digoxin, says **Barbara Weintraub, RN, MPH, MSN**, pediatric critical care nurse practitioner at Northwest Community Hospital in Arlington Heights, IL. "Electrical cardioversion can be utilized when atrioventricular nodal agents are unsuccessful."

Many pediatric care centers and physicians have used vagal maneuvers in children with supraventricular tachycardia, Wolff emphasizes. "This new AHA recommendation helps bridge the gap between PALS guidelines and reality that is sometimes experienced when nurses are caring for ill children." ■

2 scenarios demonstrate how care will change

New guidelines for pediatric advanced life support (PALS) from the Dallas-based American Heart Association (AHA) will have a major impact on the way you treat critically ill infants and children, stresses **Michele Wolff, RN, MSN, CCRN**, professor of nursing at Saddleback College in Mission Viejo, CA. Here, Wolff presents hypothetical "before" and "after" scenarios that illustrate how your practice should change.

Here's how a critically ill child might have been cared for before the new PALS guidelines were published:

A 10-year-old child was found floating facedown in a wave pool at a water park. Cardiopulmonary resuscitation (CPR) was begun by one of the water park employees. When the paramedics arrived, she was found to be pulseless and apneic with a ventricular fibrillation rhythm. She was successfully defibrillated on the third attempt using 4 J/kg of a standard defibrillator. She was intubated and hyperventilated during transport. Visual cues (chest rise, vapor in the tube, breath sounds) were used to confirm proper placement. Several attempts were made at IV access before a small butterfly needle was placed in her right hand.

Upon arrival to the ED, the child was placed under heat lamps to treat her hypothermia. Shortly after arrival, the child converted back to a ventricular fibrillation rhythm. During multiple attempts to defibrillate, standard-dose epinephrine, high-dose epinephrine, and lidocaine were administered. When the child's parents arrived, they were told that their daughter was critically

ill and to wait for more information in the family conference room. They sat alone in a conference room crying during the resuscitation.

Here's how this case would be managed utilizing recommendations from the new guidelines:

A 10-year-old child was found floating facedown in a wave pool at a water park. She was transported and admitted to the ED. CPR was begun by one of the water park employees. Another employee trained in the use of automatic external defibrillators (AEDs) obtained the water park's biphasic AED and placed it on the child. The AED identified a ventricular fibrillation rhythm. The water park employee followed the AED audio prompts and delivered two shocks. After the second shock, the AED advised the bystanders to continue CPR and no additional shocks were advised. When the paramedics arrived, the child had weak pulses with a bradycardic rhythm. The paramedics began ventilation at a normal rate using a resuscitation bag and the E-C clamp technique. The child's heart rate increased to sinus tachycardia after the airway was established. An intraosseous needle was placed when initial attempts at peripheral vascular access were unsuccessful.

Upon arrival to the ED, a tracheal tube was placed. An exhaled CO₂ colorimetric devise confirming the presence of CO₂ was used in addition to visual cues for tube placement confirmation. Although the child was mildly hypothermic, she was not actively rewarmed. Shortly after arrival, the child converted back to a ventricular fibrillation rhythm. During attempts to defibrillate, standard-dose epinephrine and amiodarone were administered. When the child's parents arrived, they were told that their daughter was critically ill and that they could be present at the bedside during resuscitation. They were escorted to their daughter's bedside during resuscitation. One of the nurses took on the role of designated support person to stay with the parents while providing ongoing support and information. ■

Know these basic EMTALA terms

Do you think you know the meaning of "stabilize" or "transfer?" You might know the obvious medical definitions, but don't assume they're the same under the Emergency Medical Treatment and Active Labor Act (EMTALA), warns **Gloria Frank, JD**, owner of EMTALA Solutions, an Ellicott City, MD-based consulting firm, and former lead enforcement official on EMTALA for the Health Care Financing Administration (HCFA).

EXECUTIVE SUMMARY

Commonly used medical terms often have different meanings under EMTALA, and those different meanings can put you at risk for violations.

- An "emergency medical condition" includes labor (whether or not active), drug abuse, psychiatric illness, and intoxication.
- To transfer a patient, you must expect stabilization to last through the transfer.
- Triage alone does not constitute a medical screening examination.

Many of the terms used in EMTALA regulations also have commonly used medical definitions, which are very different, says **Charlotte Yeh, MD, FACEP**, medical director for Medicare Policy at the National Heritage Insurance Co. in Hingham, MA. "In order to comply, you must be sure to understand the *legal* definitions that are used," she urges.

The legal definitions are frequently different than what you'd assume, warns **Grena Porto, ARM, CPHRM**, director of clinical risk management for VHA, a Berwyn, PA-based alliance of health care organizations. "Recent case law and advisory bulletins have defined some of these terms." (**See story on the basic rules of EMTALA, p. 53.**)

Here are some terms and their definitions under EMTALA:

• Emergency medical condition.

According to EMTALA, emergency medical condition includes labor (whether or not active), drug abuse, psychiatric illness, and intoxication, says Porto. "Most nurses think of an emergency medical condition as something that is serious and life-threatening in the short term, but not according to EMTALA."

• Stabilization.

Stabilized means no material deterioration of the condition is likely to occur during or as a result of the transfer or discharge of the patient, Frank says. "Most ED nurses would think of "stable" very differently: They would look at the patient's vital signs at that moment."

This means that you have a duty to provide treatment that ensures that deterioration is unlikely after transfer or discharge, Porto underscores. "For pregnant patients, this means the delivery of baby and placenta."

The law does not require the final resolution of the emergency medical condition, just that deterioration during the process is unlikely, says Porto. "Also [the law requires] that the receiving facility can manage the condition and complication which arise," she adds.

SOURCES

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"You are not required to guarantee the outcome, but you do have to reasonably foresee what might happen and plan for that."

The transferring facility must provide appropriate equipment and qualified personnel for transfer, says Porto. The receiving hospital must accept the patient unless it can prove it does not have capacity or sufficient resources, she adds.

• Medical screening exam.

This exam includes not only the physical assessment, but also any X-rays, lab tests, or other diagnostics necessary to determine whether the patient has an emergency medical condition, Porto explains.

"The main thing to remember is that triage is *not* a medical screening exam, even though many nurses may think of it that way," she says.

The exam has to be performed by an individual granted authority under the hospital's bylaws, she adds.

While nonphysicians can give medical screening exams, this practice has resulted in numerous citations and litigation, says **Stephen A. Frew**, JD, president of Rockford, IL-based Frew Consulting Group, which specializes in EMTALA compliance. "Typically, the problems arise from an assumption that nurses can simply be assigned to triage, and that triage classifications are sufficient for medical screening," he explains.

Every person who presents must get triage *and* a

medical screening examination, stresses Frew. "This generally amounts to a full ED visit."

He says the following areas fall under EMTALA and are required to give a medical screening examination:

- EDs;
- hospital-owned urgent care centers; walk-in clinics; obstetrics, newborn, employee health, and psychiatric assessment units; and anywhere patients present for unscheduled care;
- as of Jan. 10, 2001, all off-site locations that are covered by the new outpatient prospective payment system within a 250-yard zone surrounding the main hospital. (**See story on the recent expansion of EMTALA to include remote sites, below.**)

The medical screening exam must include all tests necessary to rule out the emergency medical condition, says Porto. "If the patient presents with abdominal pain, and the eventual diagnosis is appendicitis, the medical screening exam may include X-rays, blood work, and so on."

If the standard of care requires an MRI to rule out a particular condition, then all patients have to receive it regardless of whether payers will reimburse you for it, says Porto. "You *cannot* get financial authorization before the medical screening exam unless you are prepared to show that it in no way delayed treatment, and that may be a huge hurdle to overcome." ■

EMTALA now covers hospitals' remote sites

When you hear the term "coming to the ED," you might not think that term means the parking lot, alley, or surgical centers, but the Emergency Medical Treatment and Active Labor Act (EMTALA) recently has expanded its scope to include those remote sites, says **Gloria Frank**, JD, owner of EMTALA Solutions, an Ellicott City, MD-based consulting firm, and former lead enforcement official on EMTALA for the Health Care Financing Administration (HCFA).

The term "coming to the ED" sounds simple and clear, yet it's been the subject of a heated debate, reports **Grena Porto**, ARM, CPHRM, director of clinical risk management for VHA, a Berwyn, PA-based alliance of health care organizations.

"According to the law, the ED is not just four walls," Porto says. Under EMTALA, "coming to the ED" includes all hospital property, ambulances owned and operated by the provider, and parking lots or walkways adjacent or near to the ED.

Under EMTALA, "the ED" actually means any part

of the hospital property, including offsite outpatient areas if they are owned by the hospital, says Porto. "This includes outpatient PT areas, outpatient blood collection centers, and owned physician offices."

"The ED" also includes anything that is within 250 yards of the hospital main building, even if it is not hospital owned, Porto explains. "This is the famous '250-yard rule,'" she says. "So while most of us might not think of the back alley near the hospital as being part of the emergency room, according to EMTALA, it is."

The outpatient prospective payment system regulations issued by HCFA have expanded EMTALA to include remote sites, which now are required to give anyone with a potential emergency condition a medical screening exam. Staff at those remote sites must also stabilize, and if necessary, transfer the patient. The new regulations went into effect Jan. 10.

"Anything within 250 yards of the ED is now fair game and subject to EMTALA," says Porto.

"Comes to the ED" means all outpatient departments and anywhere on the hospital campus (250-yard rule), according to HCFA, notes Frank.

However, Frank reports that the courts look at it differently. "Some courts require actual presentation to the ED," she explains. "Other courts will apply the stabilization requirement only if the patient presents somewhere in the hospital other than the ED, such as the labor and delivery department." ■

Warning: You must follow these 3 EMTALA rules

When an ED nurse failed to follow triage protocols and sent a child out to a private physician, there were tragic results.

The child was brought to the ED due to fever, lethargy, vomiting, and poor feeding. The child was given an initial triage but was sent to the doctor's office without the scope of assessment required by the Emergency Medical Treatment and Active Labor Act (EMTALA). This situation occurred because the ED was not able to obtain prior approval for the ED visit from the gatekeeper physician in the patient's Medicaid plan, according to **Stephen Frew, JD**, president of the Rockford-IL based Frew Consulting group, which specializes EMTALA compliance.

"Several hours later, the child returned, dead from meningitis," he says.

The hospital was cited for failure to have proper policies and procedures in place and allowing a nurse to discharge a patient without being seen by a physician for a

medical screening examination, Frew says.

"In the subsequent suit, the hospital was named for EMTALA violations and lack of proper policies and procedures. The nurse and outside physician were named in malpractice counts," he adds.

The confidential settlement was seven figures and resulted in dismissal of the case and all defendants, says Frew.

Trends show that there is a clear increase in enforcement of EMTALA over the past two years, warns **Charlotte Yeh, MD, FACEP**, medical director for Medicare Policy at the National Heritage Insurance Co. in Hingham, MA.

"There have been 70 cases filed, with \$2 million in penalties and settlements, which is more than 10 times the amount of penalties in the previous 10 years combined," she says. Clearly, the Health Care Financing Administration (HCFA) and Office of Inspector General mean business. "EMTALA remains a top priority, second only to fraud and abuse," she says.

You face stiff penalties under EMTALA, Yeh cautions. "Congress enacted a big stick to ensure compliance, and the penalties are indeed significant." A single violation can result in a fine of up to \$50,000 per incident for hospitals with 100 or more beds. "HCFA can also exclude the hospitals from the Medicare program, which can be the death knell of a hospital."

EMTALA may be confusing and at times frustrating, but don't forget the principle behind the law, urges Yeh. Before the law was passed, Yeh recalls being unable to treat a young woman who was bleeding. "The clerk told me 'You will not treat her; you will transfer her.'"

You should follow these general rules to steer clear of violations, according to **Gloria Frank, JD**, owner of EMTALA Solutions, an Ellicott City, MD-based consulting firm, and former lead enforcement official on EMTALA for HCFA:

1. Document all interactions with patients.
2. Try to get written refusals of care if the patient wants to leave without being seen or against medical advice.
3. If all else fails, do what's best for the patient.

There are three basic requirements of EMTALA, according to Yeh:

1. When a patient presents to the ED (which is defined as coming to hospital property), you are required to provide a medical screening examination to determine the presence or absence of an emergency medical condition, regardless of the patient's ability to pay.

Make sure that the patient's care is consistent from the medical screening examination, all the way through to stabilization, says Yeh. "Never discriminate based on the patient's ability to pay."

If you are doing a financial screening before the medical screening examination, you are in trouble."

2. If an emergency condition is found, then the hospital is required to stabilize the patient within the capability of that facility.

A patient certainly has the right to refuse treatment, notes Yeh. "However, it's really important that there is no intimation that elopement or refusal of treatment occurred because of the patient's ability to pay."

Yeh recommends documenting attempts to reach those patients to ask them to come in to be seen, and that the medical screening examination, stabilization, and treatment were offered, and the risks and benefits to leaving were explained.

3. The hospital may transfer the patient only when it is medically necessary or the patient requests. The medical necessity is defined as when a physician can certify that the benefits outweigh the risks.

All of those three key requirements have the same underpinning, emphasizes Yeh: Screening and stabilization cannot be delayed by any financial screening, and there can be no indication that there will be discrimination based on ability to pay. "The obligations of EMTALA will end only if there is no emergency medical condition or once the patient has been stabilized." ■

Know when to remove restraints

You'll need to help patients to meet behavior criteria for the discontinuation of restraint or seclusion to comply with new guidelines from the Joint Commission on Accreditation of Healthcare Organizations,

EXECUTIVE SUMMARY

You'll need to help patients meet behavior criteria so that restraint or seclusion can be discontinued, according to new guidelines from the Joint Commission on Accreditation of Healthcare Organizations.

- Assess a patient's ability to agree that they will not engage in self-harm.
- Speed the process of removal by trying alternatives to restraint, consulting with friends and family members, and administering medications for underlying disorders.
- Restraints cannot be reapplied without a new order.

SOURCES AND RESOURCE

For more information on removal of restraints, contact:

- **Kathleen Catalano, RN, JD**, 7307 Boxwood Court, Irving, TX 75063. Telephone: (972) 409-1251. Fax: (972) 409-1252. E-mail: kathijoe@worldnet.att.net.
- **Carrie McCoy, PhD, MSPH, RN, CEN**, Associate Professor of Nursing, Department of Nursing, 346 AHC, Northern Kentucky University, Highland Heights, KY 41099. Telephone: (859) 572-6541. Fax: (859) 572-6098. E-mail: mccoy@nku.edu.

The complete new restraint and seclusion standards are currently available on the Joint Commission's Web site (www.jcaho.org — Search for "Restraint and Seclusion Standards"). The manuals that include the standards can be purchased by calling the Joint Commission's Customer Service Center at (630) 792-5800, between 8 a.m. and 5 p.m. Central Time on weekdays.

says **Carrie McCoy, PhD, MSPH, RN, CEN**, associate professor of nursing at Northern Kentucky University in Highland Heights.

"The intent of this standard is that patients be made aware of the rationale for restraint or seclusion, and the behavior criteria for its discontinuation," she explains. **(For more information on the new restraint and seclusion requirements, which went into effect on Jan. 1, 2001, see *ED Nursing*, October 2000, p. 149.)**

Here are ways to comply:

- **Assess a patient's ability to agree that they will not engage in self-harm.**

In the case of a confused, intoxicated patient, assess whether the individual is oriented to the environment and able to follow directions, McCoy explains.

If a patient has displayed violent behavior, the ability to agree not to engage in harmful acts might be judged by cessation of verbal threats, McCoy states.

- **Consult with friends or family members.**

If an elderly patient is confused, or a patient has a mental health disorder, family members or individuals who are familiar with the patient should be consulted, McCoy recommends. "They may have suggestions for interventions that have been successful in the past with the patient."

- **Administer medications for underlying disorders to help the patient meet behavioral guidelines.**

To discontinue restraint use, you may need to administer antipsychotic medications for a patient with a mental health disorder, says McCoy. Or you may need to treat an underlying metabolic disorder that results in confusion and inability to meet behavioral criteria.

• Don't reapply restraints without a new order.

Orders for restraints cannot be written as standing orders, warns McCoy. "You need to obtain a new order if restraints must be reapplied after the initial order has expired. [As needed] orders are *not* acceptable."

When a restraint or seclusion is terminated before the time-limited order expires, that original order can be used to reapply the restraint or seclusion if the individual is at imminent risk of physically harming himself or herself or others and nonphysical interventions are not effective, McCoy explains. "However, if the original order has expired, a new order must be obtained."

• Remove restraints as soon as the patient meets behavior criteria for discontinuation.

Discontinue restraint use when it becomes evident that the patient is no longer a danger to himself/herself

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CE objectives

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

1. Identify clinical, regulatory, or social issues relating to ED nursing. (See *Don't use outdated approaches for critically ill infants and children*, p. 45; *Know these basic EMTALA terms*, p. 51; *Know when to remove restraints*, p. 54; and *Journal Reviews*, p. 56 in this issue.)

2. Describe how those issues affect nursing service delivery.

3. Cite practical solutions to problems and integrate information into the ED nurse's daily practices, according to advice from nationally recognized experts. ■

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or others, says **Kathleen Catalano**, RN, JD, director of administrative projects at Children's Medical Center of Dallas. "Your assessment should note whether or not the patient is calmer, not thrashing around, not yelling, etc."

- **Help patients to meet behavior criteria.**

You can help the process along when you check on the patient, says Catalano. "With behavioral restraint, the patient must be checked on every 15 minutes. During that time, talk with the patient to see how he/she is responding," she recommends.

- **Try alternatives to restraint.**

After a 49-year-old patient was electrocuted, his mental capacity diminished to that of a 2-year-old, says Catalano. "The staff at the hospital couldn't understand his behavior. They tried releasing him from restraints and found that he crawled around on the floor," she reports.

The restraints were completely removed, and the floor was padded with mats, says Catalano. "They left balls and other soft objects on the mats," she explains. "The patient no longer needed to be restrained because the alternatives to restraints the staff had used worked." ■



JOURNAL REVIEWS

Yam M. Seen but not heard: Battered women's perceptions of the ED experience. *J Emerg Nurs* 2000; 26:464-470.

Battered women are dissatisfied with the care they receive in the ED, according to this study from the department of nursing at St. Peter's College in Englewood Cliffs, NJ. Five women who had been to the ED for abuse-related injuries in the previous 12 months were interviewed by the researcher.

The women reported difficulty in disclosing the abuse to staff. They also wanted to be interviewed privately, have compassion expressed by staff, and to have an advocate available in the ED so they could explore all their options, according to the study's findings.

The researcher suggests the following:

- having on-site battered women's advocates to augment the services provided by ED staff;
- providing frequent staff education to ensure that new staff are adequately trained and the skills of staff are maintained;
- encouraging staff to examine their beliefs about abuse and inviting advocates to training sessions to discuss issues with staff members. ▼

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Plint AC, Osmond MH, Klassen TP. The efficacy of nebulized racemic epinephrine in children with acute asthma: A randomized double-blind trial. *Acad Emerg Med* 2000; 7:1,097-1,103.

Nebulized epinephrine is not a better treatment than salbutamol in children 1 to 17 years with mild to moderate acute asthma, according to this study from the Department of Pediatrics at the University of Ottawa in Ontario and the University of Alberta in Edmonton, Alberta, Canada.

Both medications appear to be equally efficacious, but the following make salbutamol the treatment of choice in children with known asthma, say the researchers:

- Racemic epinephrine costs two to 10 times as much as salbutamol.
- Salbutamol is the same medication that most parents have at home and are comfortable using.
- Salbutamol has a good safety profile and has been widely used.

"We recommend that the current use of aerosolized β_2 agonists in known asthmatic patients should not change," write the researchers. ■