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Partnering, Positioning, and Political Awareness: A Plan to Prosper

Patricia Kunz Howard, PhD, RN, CEN, Lexington, Ky

As I write this second editorial, I have been the 2005 ENA President for only a week, but what an eventful week! Many persons have asked me what my vision is for ENA in 2005. Ensuring that ENA will continue to meet member needs is not just my vision, but a vision shared by all of us.

How can we be successful? Partnering with groups that have similar values and interests will help position ENA to prosper now and in the future. Partnering may imply to some persons that we are not able to succeed on our own; however, I believe that working together—whether within our states, regions, with other organizations, or with corporate partners—provides us with greater resources to accomplish our goals. ENA has weathered difficult financial times as a result of stringent fiscal oversight. We have shown that as an organization we are resilient and able to overcome obstacles. This should not be surprising, because we are emergency nurses! Confidence in our ability to withstand significant challenges places us in a perfect position to be even more successful through collaborative partnerships.

Strategic partnerships such as the 2005 Benchmarking Guide being sponsored by Stryker ultimately will provide us with greater results. This study of ED characteristics and staffing patterns will be used to determine guidelines for exemplary emergency departments. This project is just one example of how beneficial partnering can be to our members. The Stryker sponsorship provides the resources needed to collect and analyze the benchmarking data, and Stryker professionals will be in a position to remind their customers to complete the survey. This is a wonderful win-win opportunity for both ENA and Stryker, because both organizations will gain meaningful data from the final product.

As we move forward in the development of new products or courses, additional partnering opportunities may arise. ENA has an obligation to our members to develop the highest quality products, to be resource conscious, and to maintain a constant environmental scan to ensure that we are aware of current practice issues. Expertise is essential to grow the many courses and products that ENA provides to members. Each new venture demands that we utilize the excellent knowledge of you, our members. ENA leadership recognizes the importance and value of input from members; you are the secret to our success.

Our advocacy efforts have been positioned to accomplish more through partnering with other organizations. The Americans for Nursing Shortage Relief (ANSR) Alliance is a perfect example of what can be achieved when 50 nursing organizations work together with one voice to
support improved funding to address the nursing shortage. ENA and the American College of Emergency Physicians partnered with Pfizer to present an educational offering to the public about the dangers of the unsupervised use of over-the-counter pain medications, an issue that has been highlighted extensively by the media recently. Positioning may heighten awareness of what ENA has to offer. The public and health care organizations should automatically look to ENA and want to know what we have to say about emergency care issues. This is long overdue.

Political awareness may seem unimportant after having just completed one of the most debated presidential elections in memory. However, emergency nurses need to focus on issues that have an impact on our practice. One such issue is the need to repeal statutes that deny insurance coverage for injuries involving alcohol. The Uniform Accident and Sickness Policy Provision Laws (UPPL) stipulate that insurance companies do not have to pay if a person’s injuries result from an event where any alcohol is present. ENA and ENCARE remain very committed to discouraging alcohol-related incidents through education and to supporting responsible alcohol use by adults. However, the UPPL statutes create financial hardships for patients as individuals, are often sources of lost revenue for our emergency departments, as well as the entire hospital, and do not prevent habitual offenders from being involved in alcohol-related events. The 2005-2006 ENA Public Policy Agenda highlights this issue and others that emergency nurses need in order to be knowledgeable and effective advocates in their communities.

We have made significant progress in our efforts to be more visible to our peers, our customers, and other professionals. This 35th anniversary year should be a time to reflect on what we have accomplished together while focusing on our dreams for the future. Whether all our dreams come true or not, of one thing we can be sure: There will always be a need for emergency nurses.
Day in, day out, it is hard to think of the big picture—people, patients, colleagues, coming and going, sometimes at remarkable speed. Your practice is a kaleidoscope of experience, and each day you need much more information than you ever received during basic nursing education. You have probably experienced a number of “Aha’s!” that you could share, and we count on you to do just that, to help shape our knowledge base and, ultimately, our practice because no one has the time or opportunity to learn every lesson on his or her own.

The signature characteristic of the very best of journals is how much original material it publishes—studies for sure, but also Case Reviews, new protocols, reports of strategies to fight overcrowding, perhaps, an ED nurse internship program, or how to implement a new triage system, new insights from experienced emergency nurses, clinical “pearls of wisdom,” and “pitfalls to avoid,” Triage Decisions, or Managers’ column answers. Every article in this Journal should change behavior and improve the care of emergency patients and/or significantly add to our understanding of an issue.

The Journal has helped to “grow the science” of emergency nursing. It has inspired prevention and advocacy for the most vulnerable of our patients and garnered wide acclaim for its narratives. No narrative was more important than Barbara Fassbinder’s moving account of becoming infected with HIV. In 1986, in the middle of the night shift at a rural Iowa ED, she pressed a gauze pad on the site of a withdrawn arterial line, with a cut on her finger, as the young man she would later learn had AIDS lay dying. For one reason and one reason only—to prevent it from happening to even one more ED nurse, she described the nightmare that unfolded afterward.

Two emergency nurses also shared an original article—their experience after SARS hit Toronto in 2003. Similar to AIDS, there was a poorly understood causative agent and transmission, no diagnostic test, no established treatment regimen, no immunization…and patients were dying. In less than 2 months, 51% of the SARS cases at their hospital were nurses and physicians. Nurses were working 12-hour shifts, in stifling heat, with N95 masks, double gloves, face shields, and gowns. Twenty-one staff members of a single ED were quarantined for 4 days. And what Carolyn Farquharson and Karen Baguley did afterward was what we hope all emergency nurses will do—they “wrote it up,” and told us what happened, allowing others around the globe to learn what they had learned.

The Journal was one of the first priorities of the early ENA boards of directors who knew that our peers could and would define our practice. It was important to document in some tangible and lasting form what we have learned, how we adapt, and why we change. The first journals were well shepherded by earlier editors, Barbara Herrick, Janet Barber, and Diann Anderson. Originally self-published from the ENA office, the Journal is now published, and championed, by Elsevier, the giant, global leader in health care publishing, which has also opened the doors to the World Wide Web for us (www.JENonline.org). The articles you read in the Journal are carefully, critically peer reviewed; biases are vigilantly screened and fully disclosed, and articles are edited to deliver the most information as succinctly and clearly as possible.

Thank you to each of those who has tackled the universally difficult but crucial work of writing. The Journal of Emergency Nursing, the journal of record for emergency nursing for 30 years, will continue to be your account of how the fast-paced and ever-amazing specialty of emergency nursing evolves. It will continue to be your voice.
Changing ED Culture to Improve Care for Patients with STEMI: The Primary PCI Project. Janet Parkosewich, RN, MSN, CCRN, Bertie Chuong, RN, MS, CCRN, Margot Verveis, RN, MSN, Linda Konet, RN, MA, Jaime Gerber, MD, Harry Moscovitz, MD, Yale-New Haven Hospital, 20 York St, New Haven, CT 06510

Purpose: The American College of Cardiology and the American Heart Association (ACC/AHA) recommend treating ST-segment elevation myocardial infarction (STEMI) with primary percutaneous coronary intervention (PCI) within 90 (± 30) minutes of ED arrival. To reduce treatment delays created by inefficient hospital systems, a performance improvement team was convened. The purpose of this study was to examine the effect that ED professional practice and system changes had on reducing time to primary PCI.

Design: A descriptive study was conducted to determine adherence to the ACC/AHA standard and hospital performance measures (≤ 50 minutes ED door-to-laboratory time and ≤ 40 minutes laboratory-to-balloon time).

Setting and Subjects: All patients with STEMI admitted from December 1998 to December 2003 to this emergency department, a level I trauma center located in the Northeast, were included. Approval for conducting this study was obtained from this institution’s Human Subjects Research Review Committee.

Methods: Five key success factors for accelerating improvement were applied, including committed nurse-physician champions, shared goals, system solutions to eliminate barriers, credible and timely data feedback, and substantial administrative support. The ED nursing director and cardiac clinical nurse specialist, having expert knowledge and skill in practice and performance improvement, served as clinical champions. Collaborating with physician champions, the ED culture transformed from one of inertia to urgency. Project interventions included implementing the STEMI protocol with explicit goals from ED arrival (EKG ≤ 10 minutes, ED attending diagnosis ≤ 20 minutes, and patient transfer to laboratory ≤ 45 minutes), staff education, establishing a system to assure credibility of data, prospective data collection with real-time performance feedback, root-cause analysis of delayed cases, implementation and evaluation of improvement interventions, and ED nursing administrative support by holding staff meetings and interventions to refine and improve performance.
accountable for performance. Intervals that measured ED performance were: ED arrival to first EKG, EKG to diagnosis, and diagnosis to laboratory. Total time to PCI (minutes) was measured from time of ED arrival to first balloon inflation.

**Results:** Approximately 125 primary PCIs were performed annually. By the second year, ED performance improved from a mean of 103 to 47 minutes. Total time to PCI improved from a mean of 162 to 79 minutes. ED performance contributed significantly to the overall reduction in time to PCI, because laboratory performance was consistently within 40 minutes. Improvements were sustained over time.

**Recommendations:** Clinically significant improvement in performance was accomplished using a model that emphasized the role of nurse champions. Nurses selected for this role must have proven ability to navigate the health care system, build trust across disciplines and departments, be innovative, maintain momentum for change, remain focused on the shared goal, and foster a blameless culture that is patient-centered with zero tolerance for missed opportunities to provide excellence in nursing care. This model may be replicated to other practice environments and disease conditions.


**402-C**

**The Effectiveness of Chloraprep in the Reduction of Blood Culture Contamination Rates in the Emergency Department.**

Dwayne Tepus, RN, BSN, Sandra R. Cox, RN, BSN, Susan Hazelett, RN, MS, Summa Health System Hospitals, 525 E Market St, Akron, OH 44309

**Purpose:** Contamination of blood cultures by coagulase-negative staphylococci on the skin has been associated with increased length of stay, in addition to increased hospital, laboratory, and pharmacy charges. Poor skin preparation is usually the cause of contamination. A newer product made of 2% chlorhexidine and 70% isopropanol (Chloraprep) requires a 15-second drying time, compared with 2 minutes for the widely used povidone-iodine solutions, making it an attractive candidate for improved clinical effectiveness. The purpose of this study was to compare blood culture contamination rates in samples obtained in the emergency department for 1 year using a tincture of iodine skin preparation technique with the contamination rate for 1 year using the Chloraprep skin preparation technique. Previous studies have shown that both techniques are efficacious; however, studies of the effectiveness of one technique compared to the other in an ED setting are lacking.

**Design:** This was an observational study.

**Setting:** The setting was a 963-bed community teaching hospital’s emergency department in the Northeastern United States.

**Sample:** All blood cultures drawn in the emergency department 1 year prior to and 1 year following the implementation of the Chloraprep skin preparation technique.

**Method:** This study used a pre-implementation/post-implementation design. All blood cultures obtained via a peripheral vein or femoral vein were included in the comparison. Data regarding blood culture contamination rates are routinely tracked by our institution’s clinical laboratory. All staff (registered nurses and licensed practical nurses) who previously obtained blood cultures using the tincture of iodine preparation received in-service instruction individually on use of the Chloraprep skin preparation product by the principal investigator. Chi-square analysis was used to compare the pre-implementation and post-implementation proportion of contaminated blood cultures.

**Results:** In the year prior to implementation of the Chloraprep technique, 251 of 7158 blood cultures (3.5%) were contaminated, compared with 169 of 7606 blood cultures (2.2%) in the year after implementation of the Chloraprep technique. This difference was statistically significant ($P < .0001$). Contamination rates did not differ substantially between individual nurses with use of either technique. Skin preparation costs using Chloraprep increased $.48 per sample ($2.00 for the tincture of iodine and $.68 for Chloraprep, excluding nursing time).

**Recommendations:** Although there are numerous skin preparation techniques for blood culture collection with proven efficacy, in busy clinical settings, proper site preparation may be difficult. Although this was not a randomized trial, our results show a statistically significant improvement in contamination rates using the Chloraprep technique. Two studies in the 1990s showed that the extra costs associated with contaminated blood cultures were in excess of $4000 per patient. Thus, the increased costs associated with the Chloraprep technique ($7606 \times .48 = 3650$) are easily absorbed by the savings associated with the lower contamination rate (approximately 100 fewer contaminated samples $\times 4000 = 400,000$). Based on these findings, we recommend the use of the Chloraprep technique in the ED setting.


**403-C**

**Painless Stitches.** Kim Riecks Esposito, RN, BSN, Aultman Hospital, 2600 Sixth St SW, Canton, OH, 44710

**Purpose:** Review of the existing wound anesthesia protocol revealed liquid-LET (lidocaine, epinephrine, and tetracaine) as the treatment of choice for wound anesthesia prior to lidocaine administration. Historically, it has been observed that lidocaine injected into the wound is perceived to be a painful experience for children and their families. The purpose of this research project was to introduce an alternative to wound anesthesia, a gel-LET product, yielding the “painless stitches” concept. This method of wound repair decreases pain and makes the ED experience less traumatic for children, their families, and staff.

**Design:** A performance improvement project was implemented to introduce the gel-LET product and method of application to ED personnel.

**Setting and Subjects:** The gel-LET protocol was applied to pediatric patients, ages 14 years and younger, in this urban, level II trauma center with 75,000 patient visits annually. A total of 5217 of the 8327 year-to-date (2004) pediatric ED visits were seen in the dedicated pediatric emergency department.

**Methods:** Six surrounding area pediatric emergency departments were benchmarked. Literature was reviewed for best practice. Collaboration included the director of pharmacy, the ED medical director, ED physicians, and ED physician assistants. Cost analysis was completed. ED staff received in-service instruction
Setting: An urban, level II trauma center with 75,000 visits per year.

Participants: All patients presenting with CP and/or STAMI.

Methods: The Six Sigma methodology was utilized. The Six Sigma approach to problem solving includes using data and statistical analysis to decrease defects and reduce the variability in a process. A Six Sigma process is nearly perfect with only 3.4 defects per million opportunities. This disciplined and structured methodology includes 5 phases: Define, Measure, Analyze, Improve, and Control. Sigma for door to EKG turnaround time was established through before and after sampling of data with n = 52 and n = 70, respectively. Baseline Sigma for door-to-reperfusion turnaround time was established by chart review for calendar year 2003 (N = 117). Postimplementation chart review is ongoing.

Results: Door-to-EKG mean turnaround time decreased from 21.7 minutes to 5.0 minutes, while Sigma increased from 0.62 to 2.87. Door-to-reperfusion mean turnaround time decreased from 119.0 minutes to 84.9 minutes, while Sigma increased from 1.10 to 1.90. Furthermore, the integration of EMS and data transmission technology decreased door-to-perfusion times to an average of 84.0 minutes with individual door-to-perfusion times of 17 minutes and 26 minutes.

Recommendations: Teamwork and technology can be combined to positively influence patient outcomes. Department management and staff should cultivate mutually beneficial relationships with both internal and external entities to positively affect patient outcomes. In addition, management should seek and employ the latest technology to serve our patients’ needs.


406-O

Emergency Nurses Education Consortium. Sharon Walsh-Hart, RN, BSN, CEN, Matthew Gunderman, RN, BSN, EMT-P, Carol Buschur, RN, SANE, Gail Merritt, RN, BS, ENEC, Tri-Health, Inc, 619 Oak St, Cincinnati, OH 45206

Purpose: Previously, no educational offering existed in this region for nurses who are new to the ED environment. Traditionally, such nurses attended critical care classes, which covered only a small percentage of the core knowledge needed by the ED nurse. The purpose of this project was to develop and deliver education classes specifically for ED nurses that will benefit the Greater Cincinnati and Northern Kentucky hospitals. The first project was to develop an ED nursing course that provides basic ED curriculum to nurses who are new to the ED environment.

Design: This is a staff development project.

Setting: Emergency Nurses Education Consortium (ENEC) is a group of ED educators from hospitals in the Greater Cincinnati and Northern Kentucky area. There are 10 member hospitals, of which 6 are rural and 4 are urban. Three of the hospitals are trauma centers (one level 1 and 2 level III). The smallest hospital has 25 beds and the largest has 500 beds. ED visits at these hospitals range from 20,000 to 75,000 annually. The initial course for new ED nurses would be held multiple times per year at a central location, with instructors from the various member hospitals. Member hospitals can send participants at no charge; hospitals that are not members may register participants for a fee.

Participants: The participants are nurses who are new to the ED environment, which can include newly graduated registered nurses (RNs) to RNs with 20 years of nursing experience who have no experience in the ED setting.

Methods: A 100-question pretest is given to each participant before he or she attends the program. The program is currently 5 days long over a 5-week period. The program consists of didactic lecture and skills demonstrations. Upon course completion, each participant takes a 50-question posttest at his or her respective institution. Areas of weakness are identified and the participant’s ED educator develops an individualized educational plan.

Results: Three sets of classes have been presented. Course evaluation summaries from the first set of classes yielded an overall program evaluation average of 4.16 (83%) on a 1 to 5 Likert scale (5 scoring the highest). Lectures were modified based on participant feedback. The second set of classes yielded an overall program evaluation average of 4.4 (88%). Based on feedback from participants and ED managers, further modifications were made to the course, decreasing lecture time and increasing the skills experiences. The third set of classes yielded an overall average of 4.6 (92%).

Recommendations: For 2005, the course will be decreased to 4 days. This change is due partly to the difficulty nurses have in getting the time away from the department; also, some participants believed the 5 days was too long. A postcourse survey is being developed that will be sent out 6 months after the course is completed. A concurrent evaluative process will be put in place to assess skills, core knowledge, and the applicability of information learned during the course to the work setting.


407-O

The Competency Project. Diana Meyer, RN, MSN, CCRN, CEN, S. Lynne Brengman, RN, BSN, MBA, Carrie Walljasper, BA, St Joseph Hospital, 2901 Squalicum Parkway, Bellingham, WA 98248

Purpose: The numerous hours, days, and weeks spent in ensuring that employee files accurately reflect the completion of orientation is frustrating and a poor use of time. The purpose of this project was to develop an electronic system for tracking and documenting the completion of the orientation competency checklist.

Design: This quality improvement project was a collaborative effort between management, education and training specialists, information technology, human resources, and the clinical nurse specialists.

Setting: A 253-bed, 2-campus medical center in the Pacific Northwest that is the pilot region for the systemwide competency project.

Methods: The project development began by creating an electronic database of our nursing job descriptions that are based on Nursing Interventions Classifications (NICs). Although each NIC from the job description is represented on the electronic orientation competency checklist, it is not necessary to validate all of them during orientation. Under the guidance of the clinical nurse specialists, more than 100 nurses (13% of total staff nurses), representing 20 clinical areas, participated in the development
Setting: An urban, level II trauma center with 75,000 visits per year.

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Setting: Emergency Nurses Education Consortium (ENEC) is a group of ED educators from hospitals in the Greater Cincinnati and Northern Kentucky area. There are 10 member hospitals, of which 6 are rural and 4 are urban. Three of the hospitals are trauma centers (one level 1 and 2 level III). The smallest hospital has 25 beds and the largest has 500 beds. ED visits at these hospitals range from 20,000 to 75,000 annually. The initial course for new ED nurses would be held multiple times per year at a central location, with instructors from the various member hospitals. Member hospitals can send participants at no charge; hospitals that are not members may register participants for a fee.

Participants: The participants are nurses who are new to the ED environment, which can include newly graduated registered nurses (RNs) to RNs with 20 years of nursing experience who have no experience in the ED setting.

Methods: A 100-question pretest is given to each participant before he or she attends the program. The program is currently 5 days long over a 5-week period. The program consists of didactic lecture and skills demonstrations. Upon course completion, each participant takes a 50-question posttest at his or her respective institution. Areas of weakness are identified and the participant’s ED educator develops an individualized educational plan.

Results: Three sets of classes have been presented. Course evaluation summaries from the first set of classes yielded an overall program evaluation average of 4.16 (83%) on a 1 to 5 Likert scale (5 scoring the highest). Lectures were modified based on participant feedback. The second set of classes yielded an overall program evaluation average of 4.4 (88%). Based on feedback from participants and ED managers, further modifications were made to the course, decreasing lecture time and increasing the skills experiences. The third set of classes yielded an overall average of 4.6 (92%).

Recommendations: For 2005, the course will be decreased to 4 days. This change is due partly to the difficulty nurses have in getting the time away from the department; also, some participants believed the 5 days was too long. A postcourse survey is being developed that will be sent out 6 months after the course is completed. A concurrent evaluative process will be put in place to assess skills, core knowledge, and the applicability of information learned during the course to the work setting.


407-O

The Competency Project. Diana Meyer, RN, MSN, CCRN, CEN, S. Lynne Brengman, RN, BSN, MBA, Carrie Walljasper, BA, St Joseph Hospital, 2901 Squalicum Parkway, Bellingham, WA 98248

Purpose: The numerous hours, days, and weeks spent in ensuring that employee files accurately reflect the completion of orientation is frustrating and a poor use of time. The purpose of this project was to develop an electronic system for tracking and documenting the completion of the orientation competency checklist.

Design: This quality improvement project was a collaborative effort between management, education and training specialists, information technology, human resources, and the clinical nurse specialists.

Setting: A 253-bed, 2-campus medical center in the Pacific Northwest that is the pilot region for the systemwide competency project.

Methods: The project development began by creating an electronic database of our nursing job descriptions that are based on Nursing Interventions Classifications (NICs). Although each NIC from the job description is represented on the electronic orientation competency checklist, it is not necessary to validate all of them during orientation. Under the guidance of the clinical nurse specialists, more than 100 nurses (13% of total staff nurses), representing 20 clinical areas, participated in the development
of the electronic checklist by identifying which NICs needed validation during the orientation process. The clinical nurse specialist determined which competencies could be validated by self-assessment and which needed to be validated by observation of practice. All competencies requiring validation by observation need both the orientee and the preceptor to electronically sign off that the required performance standard has been met. NICs identified as needing validation are linked to resources (policies, procedures, and educational material) and to requirements (eg, must-read policies and computer based training) that must be completed during orientation.

**Results:** The first phase of feedback on the electronic orientation competency checklist consisted of 50 nurses, representing both preceptors and orientees, who evaluated the tool to ensure that the clinical needs in their units were represented. Most notably, while 95% found that the electronic orientation competency checklist was inclusive of all the orientation needs, 82% found the navigation in the tool to be awkward and not intuitive. One of the most frequent feedback statements was that it "took too many clicks to get where I wanted to be." After revising the tool based on first feedback, 2 preceptor/orientee pairs piloted the electronic orientation competency checklist in the emergency department. Despite a few technical glitches, the staff involved evaluated this method of documenting and tracking the needs of orientation as superior to the standard paper format. The staff has made excellent suggestions for improvement that are currently being integrated into the revised electronic tool.

**Recommendations:** Providing preceptors and orientees with electronic tools for orientation competency validation will eliminate one of the major frustrations for managers and human resources: the tracking of the paperwork proof that the goals of orientation have been met. Further development of this format for ensuring accurate record keeping of annual and just in time competency validation is the next step.

A 56-year-old woman presented to the emergency department with a complaint of fever, generalized body aches, and weakness for 7 days. She was seen by a family physician 3 days before her ED visit and was given a prescription for amoxicillin. At that time, the results of a complete blood cell count and chest radiograph were within normal limits.

On arrival at the emergency department, the patient was awake, alert, oriented, and slightly jaundiced. Her vital signs were as follows: heart rate, 94 beats per minute; respirations, 20 breaths per minute; and blood pressure, 134/74 mm Hg. Her temperature was 37.3°C (99.1°F), but she had taken ibuprofen 3 hours before her arrival. We noted petechiae on her lower legs, but there was no ecchymosis. The findings from the remainder of the physical examination were unremarkable. The patient’s medical history included a splenectomy following a motor vehicle crash. The patient was from Florida but was visiting New Jersey to care for her daughter, who had Lyme disease.

Because of her overall appearance and the fact that she was still sick despite taking antibiotics, the patient was triaged to the “urgent category” (class II), using a 3-level acuity system. The triage nurse suspected that the patient had sepsis with liver involvement.

During her ED visit, results of the patient’s complete blood cell count, coagulation studies, chemistry panel, and routine urinalysis were negative, with the exception of the following: red blood cells (RBCs), $3.36 \times 10^6$ /L (normal, 4.2-5.4 $\times 10^6$ /L), hemoglobin, 10.6 g/dL (normal, 12-16g/dL); hematocrit, 32.6% (normal, 37%-47%); mean corpuscular volume (MCV), 96.3 $\mu$m$^3$ (normal, 80-95 $\mu$m$^3$); total protein, 5.4 g/dL (normal,
6.4-8.3 g/dL; albumin, 2.1 g/dL (normal, 3.5-5.0 g/dL); direct bilirubin, 4.3 mg/dL (normal, 0.1-0.3 mg/dL); total bilirubin, 6.0 mg/dL (normal, 0.3-1.0 mg/dL); and aspartate aminotransferase, 102 U/L (normal, 0-35 U/L). We admitted her to a medical-surgical unit for supportive therapy with a diagnosis of fever of unknown origin.

Results from Rocky Mountain Spotted Fever, Lyme disease, and West Nile Virus titers were negative. However, 24 hours after the patient presented to the emergency department, her blood smears for *Babesia* revealed “overwhelming parasitemia with *Babesia* in greater than 50% of the RBCs with infiltration.” The patient was transferred to the ICU 2 days after admission with overwhelming sepsis and hemolytic anemia requiring multidrug antibiotic therapy (ie, clindamycin, azithromycin, and doxycycline), and multiple transfusions of packed red blood cells and fresh frozen plasma.

**Quinine sulfate is an antimalarial medication used to inhibit the growth of the parasite, whereas antibiotic therapy inhibits secondary infection.**

**Discussion**

Babesiosis is a tick-borne illness caused by the parasite *Babesia*. Although the disease frequently affects cattle in the eastern and midwestern United States, babesiosis has been known as a human disease for the past 30 years. A person contracts babesiosis through the bite of a *Babesia*-infected *Ixodes* (deer) tick that remained on the body for at least 24 to 48 hours. In those who become ill, the parasite infects RBCs, causing symptoms within 1 to 4 weeks of the tick bite.

Although our patient could not recall a recent tick bite, she had the typical malaria-like and hemolytic symptoms, including fever, back aches, weakness, jaundice, anemia, elevated liver enzymes and bilirubin, and a positive blood smear for the *Babesia* parasite. She also had a history of a splenectomy (making her more prone to infection) and presented to the emergency department during peak tick season in New Jersey (May to September).

The treatment of choice for human babesiosis is quinine sulfate combined with clindamycin. If there is a contraindication to clindamycin, azithromycin may be used. Quinine sulfate is an antimalarial medication used to inhibit the growth of the parasite, whereas antibiotic therapy inhibits secondary infection. Initially we treated our patient empirically with ceftriaxone and doxycycline but changed to clindamycin and quinine sulfate when we received the positive blood smear results. Supportive therapy also included transfusions with packed red blood cells and fresh frozen plasma.

Despite 6 weeks of aggressive therapy, our patient succumbed to babesiosis. Because there is no vaccine, prevention of tick bites, such as checking skin and clothing for ticks and using skin and clothing repellants, is the key to preventing the disease.

**REFERENCES**


This section features actual emergency situations with particular educational value for the emergency nurse. Contributions (4 to 6 typed, double-spaced pages) should include a case summary focused on the emergency care phase, accompanied by pertinent case commentary. Submit to:

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A Descriptive Study of Heavy Emergency Department Users at an Academic Emergency Department Reveals Heavy ED Users Have Better Access to Care Than Average Users

Introduction: Emergency department (ED) overcrowding has been a significant problem for the last 10 years. Several studies have shown that a relatively small number of ED patients are responsible for a disproportionate amount of ED visits. This study aims to describe the frequent users of our emergency department.

Methods: This was an institutional review board–approved descriptive study performed by a retrospective review of electronic records. This pilot describes and compares patients who had 12 or more ED visits during the study year with those who visited less.

Results: The 234 patients who met criteria for high-frequency use (HFU) of the emergency department were responsible for a total of 4633 visits. Sex, race, and age distribution of HFU patients were similar to those of general ED patients. Eighty-four percent of HF users have insurance and 93% have primary care providers. A relatively small percentage of HFU visits, 4%, were mental health–related visits and 3% were alcohol- and drug-related visits. The HFU visits are socially connected: 93% have their own homes; 94% have relatives or friends; 73% have a religious affiliation. Pain or pain-related conditions are the most common diagnoses. These patients are also frequent users of ambulatory care services.

Conclusion: The similarities between our HFU and the general ED population are more numerous than their differences. The HFU patients of our emergency department are different in terms of age, employment status, and type of insurance.
Implications for Nurses: A detailed description of local HFU may help to inform planning and better meet ED patients’ needs. As one of many results of this study, the ED chairman met with the Hematology-Oncology team and reviewed the protocol for ED management of sickle cell crisis. The meeting resulted in a revised protocol, including an immediate change in their pain medication from meperidine to either morphine or hydromorphone.

Nationwide emergency departments (EDs) are dangerously overcrowded. A small but significant component of patient volume in the ED is the group of patients who frequently use the ED. Several studies have shown that a relatively small number of ED patients are responsible for a disproportionate amount of ED visits and costs. One study found that 4% of the ED patients accounted for 18% of the total number of ED visits; 100 patients (0.2%) had 12 to 74 visits.

Most frequent users of EDs have acute and chronic medical problems as evidenced by multiple ED visits, hospital admissions, and visits to their primary care physicians. They more often self-report fair to poor health status compared with non-ED users or those who use the ED only once or twice in a given year. Frequent ED users also perceive their pain or other symptoms as a threat to life or personal autonomy. Previous studies suggest that heavy users of EDs are likely to have serious social problems including alcohol abuse and psychiatric dysfunction.

Our study identifies and describes a small number of high-frequency users (HFU) of ED services as the first step in organizing an approach to these special-needs patients.

Methods

STUDY DESIGN
This was a descriptive study using a retrospective review of hospital and departmental administrative databases. The study describes and compares patients with 12 or more ED visits during a given year with those patients with 4 to 11 visits and those with 1 to 3 visits. The study was approved by the hospital Institutional Review Board and was granted a waiver of informed consent. Patient privacy was protected. Patient identifiers were stored in a separate database from other patient information, and a password was required to access the database. Data were shared only with physicians and staff who had direct care responsibilities with patients. Patient identifiers are not included in material for publication.

STUDY SETTING AND POPULATION
The setting is an academic ED of a 600-bed, academic, urban, tertiary-care facility in Massachusetts, from October 1, 2002, through September 30, 2003. The general ED population at that time was 57% white, 27% Hispanic, and 13% African-American, almost equally divided by sex—males 49%, females 51%. By use of insurance as a proxy for income level, 31% either were self-pay or had Medicaid, 45% had private insurance, and 13% had Medicare. Age distribution was 24% less than age 18 years, 63% age 18 to 65 years, and 13% greater than age 65 years. The ED has an annual census of more than 100,000 patient visits, with an admission rate of approximately 20%. The facility is the only level 1 trauma and pediatric referral center for the region. Patient visits are defined as all visits where the patient registered to be seen in the ED and includes visits where patients left without being seen.

STUDY SAMPLE AND RATIONALE
The majority of published studies define “heavy use” of an ED as four or more visits per year. If we used this definition, we would be looking at 3666 patients. We felt the group to be too large for future intervention. On the basis of the frequency of visits in our setting, we decided to refine the definitions as follows: HFUs as patients with 12 or more visits per year, moderate-frequency users (MFU) with 4 to 11 visits per year, and low-frequency users (LFU) with 1 to 3 visits per year. The grouping allows us to compare the HFUs with the two other groups in our setting and compare our results with the published studies on heavy ED use. It also allows us to focus on a smaller group of HFUs for future intervention.

MEASURES
The following variables were retrieved from the database for all patients: (1) frequency of visits and walk-out rates, (2) demographics (age, sex, and ethnicity), (3) ED diagnoses, (4) acuity of medical condition—facility billing level (rated 1 through 6 with 1 being lowest and 6 being highest; facility billing level rates the amount of resources [eg, staff time, materials, number of procedures] expended for patient care; we used this measure as a surrogate for...
acuteness level), (5) health care access (insurance and primary care provider status), and (6) social variables (presence or absence of a home address, next of kin, religion, and employment status).

We also retrieved the number of clinic visits made by HFU patients to our health system’s 3 clinics during the same 1-year study period and the volume of blood tests (complete blood cell counts and electrolytes) and radiologic procedures (chest x-ray examination; computed tomographic scan of the abdomen, pelvis, and head) done per patient.

DATA ANALYSIS
Microsoft Excel 2002 SP-1 (Microsoft, Redmond, Wash) and Stata SE 8 (Stata Corporation, College Station, Tex) were used to describe and analyze the data. Chi-square tests were used to compare the groups on race, sex, age category, insurance status, ED level of service, primary care provider status, homelessness, unemployment, and next-of-kin status. A P value of less than .05 was considered statistically significant. An a priori sample size was not calculated.

Results and Discussion
See Table 1 for a summary of the characteristics of the LFUs, MFUs, and HFUs of the ED (frequency of visits: 1 visit/y, 73% of total patients; 2 visits/y, 16% of total patients; 3 visits/y, 5% of total patients; and 4 or more visits/y, 6% of total patients).

The 6% accounted for 22,795 visits (22% of total patient visits). Of the 3666 patients making up the 6%, 234 are HFUs, responsible for 4633 visits.

DEMOGRAPHICS
The ethnicity and sex distribution of the ED heavy users were similar to that of the general ED population. A greater percentage (92%) of HFU patients were 18 to 65 years old versus 63% in the general population.

ACUTENESS OF MEDICAL CONDITION
There were 374 diagnoses for the 4633 visits. The top 10 diagnoses using Agency for Healthcare Research and Quality diagnostic categories are shown in Table 2 for HFU and non-HFU patients. Diagnostic categories more common in frequent ED users are abdominal pain, chest pain, and asthma.

We found pain of all kinds the most common reason for the HF users’ ED visit. Pain-related conditions accounted for 27% of the HFU visits. These included headaches and migraines (500 visits), abdominal pain (223 visits), various myalgias/neuralgias (461 visits), and joint pains (67 visits). Sickle cell disease, which is also a painful condition, accounted for an additional 5% of total visits (219 visits) made by only 7 patients. If we added...
other conditions also associated with pain, such as injuries of all kinds (abrasions, sprains, contusions, etc) (8% of total visits) and cardiac problems (chest pain, acute infarction) (6% of total visits), we are looking at 46% of total visits associated with pain. This puts pain management at the forefront of nursing care in the ED.

ACCESS TO CARE
Two variables were used to measure “access to care”—having some form of insurance and having a primary care provider. This study showed that 84% of the HFU patients versus 72% of the general ED patients had insurance coverage and that HFU patients had a primary care provider 93.2% of the time versus 76.1% for the LFUs. Solely on the basis of these two measures, we can say that “access” is better for the HFUs than for the general population.

However, a closer look at the figures show that the general ED population had greater private insurance coverage at 45% versus 20% for the HFUs; the HFU group had greater Medicaid coverage, 44% versus 13% for the general ED patients. This replicates the finding of a study looking at insurance coverage and access to care among ED users that showed that publicly insured adults were 2.08 times more likely to be frequent users. Is there a hidden access problem for patients with public insurance? How many private physicians do not accept Medicaid? Forty-four percent of our HFU patients are clinic patients, and our clinics are open only at certain hours. In addition, when our clinic patients say they have a physician, they actually mean they are assigned a resident who cares for them, until that resident rotates to another service for training. These confounders make “access to care” less clear cut than what the numbers suggest.

SOCIAL SUPPORT
Home. Of the 234 HFU patients, only one consistently did not have any address for the 18 times that he came to the ED; 47 other patients reported no address during 1 to 8 visits to the ED (average of 2 visits/patient).

Social Connectedness. Three factors were considered: Is there a next of kin or friend identified? Is the patient a member of a church group, or at least lists a religion? Is the patient employed? Of 234 HFU patients, 3 said “none” when asked to list “next of kin” or a friend as a contact; 10 patients listed relatives or friends who are from out of state.

Malone cited a study where 87% of heavy users of an ED had a history of alcohol abuse, whereas 80% had moderate psychiatric dysfunction; they were also found more likely to be unemployed, homeless, and socially isolated. We did not review the charts of all 234 patients; they may in fact have alcohol, drug, or psychiatric problems that did not require an ED visit and hence was not apparent in this review. What we found was a relatively small number of ED visits for these problems: 4% mental health–related visits and 3% alcohol- and drug-related visits out of 4633 visits made by the HFUs for the entire year. The majority of our HFUs are socially connected: most have homes, friends or relatives, and a church or religion. However, they fared worse than the general population in terms of employment: 88% of HFU patients versus 12% in the general population were unemployed or too old or too young for employment.

Previous studies report that frequent ED users use all aspects of the health care system more frequently: more ambulatory care visits and more admissions than non-ED

<table>
<thead>
<tr>
<th>TABLE 2</th>
<th>Top 10 Agency for Healthcare Research and Quality diagnostic categories</th>
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<tr>
<td><strong>HFU patients</strong></td>
<td><strong>Non-HFU patients</strong></td>
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<tr>
<td>Headache, including migraine</td>
<td>Sprains and strains</td>
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<tr>
<td>Spondylosis, intervertebral disc disorders, other back problems</td>
<td>Superficial injury, contusion</td>
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<tr>
<td>Nonspecific chest pain</td>
<td>Nonspecific chest pain</td>
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<tr>
<td>Abdominal pain</td>
<td>Abdominal pain</td>
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<tr>
<td>Sickle cell anemia</td>
<td>Open wounds of extremities</td>
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<tr>
<td>Sprains and strains</td>
<td>Other upper respiratory infections</td>
</tr>
<tr>
<td>Asthma</td>
<td>Spondylosis, intervertebral disc disorders, other back problems</td>
</tr>
<tr>
<td>Superficial injury, contusion</td>
<td>Open wounds of head, neck, and trunk</td>
</tr>
<tr>
<td>Other mental conditions</td>
<td>Fracture of upper limb</td>
</tr>
<tr>
<td>Other connective tissue disease</td>
<td>Headache, including migraine</td>
</tr>
</tbody>
</table>
users or patients who visit the ED twice or less in a given year.\textsuperscript{4,6,7} This study also showed high ambulatory care visits: 74% of HFU patients have used the clinics affiliated with the hospital. And of those HFUs who use the hospital clinics, 15% visit at least once a month.

### Preliminary Interventions

Findings of this study were presented to the leadership of the ED—the chairman, the vice-chairman, the director, the manager, and the head of case management. During the meeting, it was decided to involve the heads of the hospital clinics because 58% of our HFUs are managed by these clinics and practices owned by the health system. The chairman shared the study findings with the Chairman of Medicine, who oversees the outpatient clinic. Primary care providers of all HFUs were notified of the frequency and dates of their patient visits to the ED. Case managers and hospitalists were also made aware of the list of HFUs.

One of the smallest groups of HFUs was the 7 patients with sickle cell disease who visited 219 times. The ED chairman met with the hematology-oncology team and reviewed the protocol for ED management of sickle cell disease. The meeting resulted in a revised protocol, and one of the concrete suggestions that can be implemented immediately was to change the medication that is usually given to patients with sickle cell disease from meperidine to either morphine or hydromorphone hydrochloride for pain management.

The ED team also met with systems health insurance and informed them of all patients seen in the ED >4 times in fiscal year 2003. They will assign case managers to those patients to better meet their health needs.

We are also in the process of developing a multidisciplinary team that will spearhead creation of individualized care plans for a subset of patients. This intervention has shown some promise in other settings.\textsuperscript{13}

This descriptive study has served as a catalyst for looking at the problem of heavy users of the ED more closely. However, it will be at least 2 more years before we can fully implement the interventions we have set in motion.

### Limitations

This study has several important limitations. Our study only looked at frequent users of a single ED in a single region. We did not determine the subgroup of HFUs of ED services within the entire community. EDs in other regions may have a different subset of HFUs of their services.

We used administrative databases for our study, and we cannot attest to the overall accuracy of data entry; medical records were not reviewed to verify information.

### Implications for Emergency Nursing

A significant finding of this study is that pain, either as a chief complaint or a significant symptom accompanying the chief complaint, is the reason for almost half of the HFU visits. Pain management in the ED has been the focus of several studies.\textsuperscript{14-16} To date, a majority of ED nurses now have the skills to assess pain, although we still need to increase our understanding of the different pharmacologic and nonpharmacologic interventions for pain. The HFUs who continually come back with complaints of pain present a more difficult challenge. This subset of patients causes a tremendous amount of frustration among the ED staff and in some cases precipitates violence in the ED.\textsuperscript{14} The episodic nature of ED interaction with these patients may work against the effective management of their care; episodic care meant lack of continuity, lack of consistency, and lack of integration with other aspects of these patients’ care management. It is a challenge tailored for emergency nurses.

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Primary Reasons for ED Visits and Procedures Performed for Patients Who Saw Nurse Practitioners

**Introduction:** Little is known, from a national perspective, about what types of patients are seen by nurse practitioners in the emergency department.

**Methods:** Data from 1545 participating emergency departments across the United States during 1997, 1998, 1999, and 2000 were collected from nationally representative samples of urban and rural hospitals using the National Hospital Ambulatory Medical Care Surveys.

**Results:** Nurse practitioners saw 5.76 million ED patients during the 4-year period. Using the Reason for Visit Classification developed by the National Center for Health Statistics, the primary category for patients seen by nurse practitioners was classified as “Injury by type and/or location.” The types of injuries in this category were lacerations and cuts to an upper extremity and facial area; injuries to the head, neck, and face; and foreign bodies in the eye. The next most common category was classified under “General symptoms.” Nurse practitioners saw patients in this category with symptoms of chest pain, side or flank pain, fever, and edema.

**Discussion:** The findings from this study provide insight into the types of patient visits seen by nurse practitioners in emergency departments in the United States and the services and procedures that were received by patients.
Nurse practitioners are used increasingly as health care providers in emergency departments, and the contribution of nurse practitioners to health care delivery in primary, acute care, and emergency care has been widely recognized. From an educational perspective, the work activities of nurse practitioners have been delineated and related to their knowledge and skills. Empirical evidence of the actual practice has been limited to small samples, a single setting, or self-report of role activities and procedures performed. From a national perspective, little is known about the types of patients seen by nurse practitioners in the emergency department. The purpose of this study was to examine the reasons given by patients who visited emergency departments and who were seen by nurse practitioners. In addition, we examined the types of services and procedures these patients received.

Methods

This exploratory, descriptive study used data from the National Hospital Ambulatory Medical Care Survey that are collected annually by the National Center for Health Statistics. The survey, endorsed by the ENA and the American Colleges of Emergency Physicians, is a national probability sample of patient visits to hospital emergency departments in the United States (excluding military, Federal, and Veterans Administration hospitals). The complex sampling process began with primary sampling units that are geographically defined throughout the United States, such as towns, townships, counties, county equivalents (parishes or large cities), or metropolitan statistical areas. The geographic primary sampling units were then stratified by socioeconomic and demographic variables. Selection of the final representative primary sampling units was based on their size and probability proportional to each stratum’s projected census population. Hospitals within each selected primary sampling unit were then chosen for the final survey based on a complex decision tree including stratification of the hospitals by size and ownership, the total number of hospitals available within each primary sampling unit, and the probability proportional to either hospital size or number of ED visits. Therefore, urban and rural emergency departments of different sizes and hospital ownership were captured by the sampling methodology. All of the ED patient visits where a nurse practitioner was the provider of care were selected for this study from 1545 participating emergency departments during 1997, 1998, 1999, and 2000. Some hospitals could have participated more than once during the 4-year period. The 4 survey years were combined to produce reliable estimates. Based on the proportional probability sampling, the National Center for Health Statistics applies a statistical weight to each of the individual patient visits to produce national estimates of annual ED patient visits.

The Reason for Visit Classification was the main focus of this study. The Classification was developed as a formal terminology to codify patients seeking medical care. After applying statistical weights to individual ED patient visits, the weighted frequencies for the Reason for Visit Classification and other variables were then tallied to obtain national estimates.

Results

Nurse practitioners were providers for 5.76 million ED patient visits from December 23, 1996, to December 24, 2000. This figure represents only 1.4% of all ED patient visits in the United States over 4 years. Three fourths (75.4%) of the ED patient visits involving a nurse practitioner were in urban centers defined as Metropolitan Statistical Areas, and about three fourths (77.5%) were to emergency departments in nongovernment, not-for-profit hospitals. The spread of patient visits to nurse practitioners was fairly even across the 4 geographic regions of the United States: Midwest (27.5%), South (24.9%), Northeast (24.1%), and West (23.5%).

About half (50.6%) the patients were female. The ages ranged from less than 1 year old to 95 years old and were fairly well distributed across the age span. However, they tended to be younger in that 45.0% were 25 years of age or younger, whereas only 16.0% were 55 years or older (mean = 31.8; median = 28.0). Most of the patients (81.1%) who saw a nurse practitioner indicated they were white. Of this racial group, 20.0% identified themselves as having Hispanic or Latino origins. In addition, 16.8% of all patients who saw a nurse practitioner identified themselves as black or African-American. Of this latter group, 4.4% identified themselves as having Hispanic or Latino origins.

The majority of the patients (85.4%) who saw a nurse practitioner arrived in the emergency departments as walk-ins or used public transportation. Patients indicated their primary expected source of payment as private insurance.
(45.1%), self-pay/no charge (17.0%), Medicaid (16.2%), Medicare (9.9%), worker’s compensation (4.4%), and other/unknown (6.9%). About one fourth (24.8%) reported that they belonged to a health maintenance organization. Although 44.4% of the ED patient visits seen by a nurse practitioner were related to some type of injury, only 5.9% identified their injury as work-related.

The survey categorized the immediacy with which ED patients should have been seen into the following time frames: no triage or unknown (20.3%), less than 15 minutes (9.8%), 15 to 60 minutes (25.7%), greater than 1 hour to 2 hours (23.4%), and greater than 2 hours to 24 hours (20.7%). However, the actual length of waiting time to see a provider was recorded in less than half (45.0%) of the patient medical records. From available records, the average waiting time was 47 minutes and the median time was 35 minutes (skewness 2.3, kurtosis 7.8). More than half (53.8%) of all ED patient visits that involved a nurse practitioner were also seen by a staff ED physician, resident/intern, or other physician as an ED co-provider. The survey also categorized the presenting pain level of the patients: no pain (14.7%), mild (26.7%), moderate (13.9%), and severe (3.4%); the pain level of 41.3% was unknown or missing from the patient record.

More than half (58.0%) of the patient visits were classified in the “Symptom Module” under 7 categories of symptoms as the primary Reason for Visit Classification (see Table 1). In addition, 27.2% of the patient visits were in the “Injuries and Adverse Effects Module” under 2 categories of injury (see Table 1). The 9 categories in Table 1 listed under the 2 classification modules accounted for more than 85.2% of all visits made to emergency departments by patients who saw a nurse practitioner.

**SYMPTOM MODULE**

As shown in Table 1, the category of symptoms with the most patient visits (13.0%) was labeled “Symptoms Referable to the Musculoskeletal System.” Within this category, patients most commonly indicated problems with pain in their backs, low backs, legs, ankles, shoulders, wrists, hands, and fingers. The next largest category (12.5%) was “General Symptoms.” Further investigation showed that ED nurse practitioners saw patients with chest, side, or flank pain and with symptoms of fever. The third largest category (12.0%) of symptoms within the module was “Respiratory System.” Within this module, patients indicated difficulty or labored breathing (dyspnea), shortness of breath, cough, sore throat, and nasal congestion.

“Symptoms Referable to the Digestive System” and to “Eyes and Ears” were the fourth (7.5%) and fifth (5.9%) largest categories of reasons for patient visits seen by ED nurse practitioners. The most common patient symptoms related to the digestive system included abdominal pain, cramps, nausea, and vomiting. Most of the patients in the “Eyes and Ears” category had earache, eye irritation, or eye pain.

**INJURY AND ADVERSE EFFECTS MODULE**

The largest categories within this module for patient visits that involved an ED nurse practitioner were “Injury by type and/or location” (4.9%) and “Injury, not otherwise specified” (6.1%). The major injuries by type and location were lacerations and cuts to the facial area (eye, ear, nose, forehead) and to the upper extremity (hand, fingers, arm, wrist). Other injuries by type and location included those to the ankle, foot, toe, hand, and fingers, and also foreign bodies in the eye. Injuries not otherwise specified included motor vehicle accidents and other accidents, such as falls.

<table>
<thead>
<tr>
<th>TABLE 1</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Primary reasons for ED visits for patients who saw nurse practitioners</strong></td>
</tr>
<tr>
<td><strong>Reason for visit classification</strong></td>
</tr>
<tr>
<td><strong>National estimates</strong></td>
</tr>
<tr>
<td>Symptom Module: symptoms referable to (the) . . .</td>
</tr>
<tr>
<td>Musculoskeletal system</td>
</tr>
<tr>
<td>General symptoms</td>
</tr>
<tr>
<td>Respiratory system</td>
</tr>
<tr>
<td>Digestive system</td>
</tr>
<tr>
<td>Eyes and ears</td>
</tr>
<tr>
<td>Skin, hair, and nails</td>
</tr>
<tr>
<td>Genitourinary system</td>
</tr>
<tr>
<td>Injury by type and/or location</td>
</tr>
<tr>
<td>Injury, not otherwise specified</td>
</tr>
<tr>
<td>All other modules/categories combined</td>
</tr>
<tr>
<td>Missing</td>
</tr>
<tr>
<td>Total</td>
</tr>
</tbody>
</table>
DIAGNOSTIC/SCREENING SERVICES, IMAGING, AND PROCEDURES

No procedures were performed for 12.2% of the 5.76 million ED patient visits seen by nurse practitioners. Patients in 3 of the 7 categories had only one diagnostic/screening service performed (ie, blood pressure check). Checking the blood pressure of ED patients never reached 100% in any of the 7 categories (Table 2). A third of the patients who did not have their blood pressure checked were 5 years old or younger. The ED patient visits categorized under “General Symptoms” tended to have a greater incidence of diagnostic/screening services by nurse practitioners, probably because of the generality or vagueness of the complaints. Patients with “General Symptoms” and “Respiratory Symptoms” received more chest radiographs, and patients with an “Injury by Type and Location” had more extremity radiographs than did patients with the other symptoms. Orthopedic care was provided for patients either with “Musculoskeletal Symptoms” or for those with an “Injury by Type and Location.”

Almost three fourths of all patients had one or more medications ordered or provided for them at their ED visit. As part of their disposition from the emergency department, patients were told to return to a clinic as needed (32.8%), return to a referring physician (16.9%), and/or referred to another physician or clinic (46.4%). Only 5.7% of the patients who saw a nurse practitioner were admitted to the hospital from the emergency department.

Discussion

One unanticipated finding was the fairly high percentage (29.9% overall) of patients who did not have their blood pressure checked. Although the ED nurse practitioner is

TABLE 2

The percentage of ED patient visits that involved diagnostic/screening services, imaging, and procedures by nurse practitioners

<table>
<thead>
<tr>
<th>Symptom Module*</th>
<th>Musculoskeletal symptoms (%)</th>
<th>General symptoms (%)</th>
<th>Respiratory symptoms (%)</th>
<th>Digestive symptoms (%)</th>
<th>Eyes/ears symptoms (%)</th>
<th>Skin, nails, and hair symptoms (%)</th>
<th>Genitourinary system (%)</th>
<th>Injury/Adverse Effects Module</th>
<th>Injury by type/location and NOS (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Blood pressure</td>
<td>79.81</td>
<td>69.2</td>
<td>63.0</td>
<td>66.4</td>
<td>67.1</td>
<td>44.0</td>
<td>85.4</td>
<td>69.7</td>
<td></td>
</tr>
<tr>
<td>ECG</td>
<td>2.7</td>
<td>31.3</td>
<td>16.8</td>
<td>—</td>
<td>—</td>
<td>—</td>
<td>—</td>
<td>—</td>
<td></td>
</tr>
<tr>
<td>Pulse oximetry</td>
<td>8.3</td>
<td>32.4</td>
<td>30.3</td>
<td>—</td>
<td>—</td>
<td>—</td>
<td>—</td>
<td>—</td>
<td></td>
</tr>
<tr>
<td>Urinalysis</td>
<td>7.7</td>
<td>15.9</td>
<td>15.9</td>
<td>35.0</td>
<td>—</td>
<td>—</td>
<td>—</td>
<td>—</td>
<td></td>
</tr>
<tr>
<td>CBC</td>
<td>8.8</td>
<td>31.6</td>
<td>22.8</td>
<td>34.4</td>
<td>—</td>
<td>—</td>
<td>—</td>
<td>—</td>
<td></td>
</tr>
<tr>
<td>Mental status</td>
<td>15.4</td>
<td>8.8</td>
<td>8.4</td>
<td>—</td>
<td>—</td>
<td>—</td>
<td>—</td>
<td>—</td>
<td></td>
</tr>
<tr>
<td>Chest x-ray</td>
<td>2.9</td>
<td>28.3</td>
<td>33.6</td>
<td>—</td>
<td>—</td>
<td>—</td>
<td>—</td>
<td>—</td>
<td></td>
</tr>
<tr>
<td>Extremity x-ray</td>
<td>34.6</td>
<td>1.2</td>
<td>0.0</td>
<td>—</td>
<td>—</td>
<td>—</td>
<td>—</td>
<td>30.3</td>
<td></td>
</tr>
<tr>
<td>Procedures</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>IV fluids</td>
<td>5.9</td>
<td>20.0</td>
<td>20.0</td>
<td>—</td>
<td>—</td>
<td>—</td>
<td>—</td>
<td>—</td>
<td></td>
</tr>
<tr>
<td>Bladder catheter</td>
<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
<td>—</td>
<td>—</td>
<td>—</td>
<td>—</td>
<td>—</td>
<td></td>
</tr>
<tr>
<td>Wound care</td>
<td>4.9</td>
<td>2.0</td>
<td>0.5</td>
<td>—</td>
<td>—</td>
<td>—</td>
<td>—</td>
<td>—</td>
<td>49.1</td>
</tr>
<tr>
<td>Eye/ENT care</td>
<td>0.0</td>
<td>2.6</td>
<td>1.4</td>
<td>—</td>
<td>—</td>
<td>—</td>
<td>—</td>
<td>—</td>
<td></td>
</tr>
<tr>
<td>Orthopedic care</td>
<td>27.6</td>
<td>0.5</td>
<td>0.0</td>
<td>—</td>
<td>—</td>
<td>—</td>
<td>—</td>
<td>25.8</td>
<td></td>
</tr>
<tr>
<td>OB/GYN care</td>
<td>0.0</td>
<td>0.8</td>
<td>0.0</td>
<td>—</td>
<td>—</td>
<td>—</td>
<td>—</td>
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</tr>
</tbody>
</table>

CBC, Complete blood cell count; ENT, ear, nose, throat; NOS, not otherwise specified; OB/GYN, obstetrics and gynecology.

*Percentages can be applied to the national estimates of their respective categories as listed in Table 1.

1Columns do not sum to 100% because multiple diagnostic/screening services were possible for each patient.
not necessarily the one who takes the blood pressure of patients, screening for hypertension is recommended for all children and adolescents. Hypertension screening for adults should take place with every health care encounter. Hospital ED policies may need to be reviewed for current standards of clinical practice. On the other hand, lack of more complete blood pressure checks on patients may indicate staffing and workload issues in very busy emergency departments.

Of larger importance from this national study are the practice patterns of ED nurse practitioners that may be inferred from the findings. Typical ED nurse practitioners in the United States see mainly urban, ambulatory patients with relatively minor acute conditions as evidenced by the reasons patients visit the emergency department, method of arrival to the emergency department, expected and actual waiting times in the emergency department, levels of pain, the types of diagnostic/screening services and procedures ordered, and patient disposition. Although ED nurse practitioners practice with physicians as co-providers, they also practice fairly independently in the ED setting because a substantial number of patients require no physician involvement. There is no evidence that ED nurse practitioners see a disproportionate share of minority or economically disadvantaged populations. Contrary to conventional wisdom, utilization of ED nurse practitioners is not limited to poor and minority patients.

What might be typical practice is not definitive for all. The evidence suggests ED nurse practitioners also are involved in more acute emergency patient conditions and they practice in rural communities. Moreover, data from the National Hospital Ambulatory Medical Care Surveys indicate a wider scope of practice for some ED nurse practitioners, albeit atypical for most of them. Because of low numbers, their inclusion in the study would have yielded unreliable estimates and, therefore, false conclusions. As the number of ED nurse practitioners increases or their responsibilities expand, their wider scope of practice will become more evident in future national surveys.

REFERENCES
What is Needed to Assist Patients with Advance Directives from the Perspective of Emergency Nurses

Introduction: Nurses, by the nature of their practice, are in a unique position to help patients complete advance directives (ADs). This article focuses on an open-ended question that was part of a larger quantitative survey, "What do emergency nurses need to increase their ability to assist patients with ADs?"

Methods: A random sample of emergency nurses in four states was surveyed. Of the 663 nurses who responded to the survey, 506 (76%) wrote responses to the open-ended question. Thematic analysis was used to establish and saturate themes.

Results: The major themes discussed most often by the nurses were the need for more education and more time to discuss ADs with patients. Other themes discussed by nurses were the need for: a supportive work environment, other health care professionals’ participation conducive to assisting patients, patient/public education related to ADs, communication, and particular nursing characteristics needed to successfully assist patients with ADs. Not all the nurses in the study felt that assisting patients with ADs was the role of emergency nurses.

Conclusions: Those nurses who saw assisting patients with ADs as their role were very clear about what they needed to be able to carry out the role (more time to spend with patients and more education related to ADs) and that they could not fulfill that role without the support of their institution’s administration.
A

n advance directive (AD) is a statement written by persons about how they want medical decisions made and/or who they want to make decisions when they can no longer make them for themselves.1 Currently ADs (living wills, durable powers of attorney for health care, do-not-resuscitate documents, health care proxies) are the mechanisms patients and ultimately their surrogate decision makers can use to make their end-of-life care decisions known. The findings discussed in this article focus on an open-ended question that was part of a larger quantitative survey. The open-ended question, “What do emergency nurses need to increase their ability to assist patients with advance directives?” was asked of a random sample of Emergency Nurses Association (ENA) members.

Background

With the inception of the Patient Self-Determination Act (PSDA) in 1991, health care facilities that receive Medicare and Medicaid funds are mandated to communicate to patients their right to make decisions about care according to individual state laws. The PSDA attempts to ensure that individuals are informed of their rights under their state laws. All 50 states have legislation addressing ADs, and this legislation, although similar, varies from state to state.

The number of persons with ADs in the general population has not increased significantly since the enactment of the PSDA. Best estimates are that AD completion rate remains below 20% in the general population.2 Studies have explored nurses’ knowledge of, attitudes toward and/or experiences with ADs.3-6 Generally the findings of these studies indicate that nurses see the benefits of patient ADs, but they lack the knowledge and comfort level necessary to effectively assist patients with AD completion. There are several articles specifically addressing emergency nurses and ADs.7-10 These articles are reviews and discussions of ADs, but there were no studies of emergency nurses and ADs. No empiric evidence was found in the literature pertaining to emergency nurses’ perceptions of their role assisting patients to complete ADs nor what they perceive they need to be able to effectively assist patients with ADs. Thus the purpose of this descriptive study was to understand the role and needs of emergency nurses related to assisting patients with ADs from the perspective of ENA members. The phrase “assisting patients” was viewed by the investigators as educating patients about ADs, helping patients understand the meaning of ADs, and assisting patients to complete a legally executed AD.

Method

The Knowledge, Attitudinal, Experiential Survey on Advance Directives (KAESAD) instrument was used to survey a random sample of emergency nurses in four states (California, Illinois, New York, and Texas). The survey consisted of 115 items. The last item of the KAESAD instrument was an open-ended question that asked the emergency nurses to write about what they thought emergency nurses needed to assist patients with ADs. The nurses were provided a full page in which to respond to the question. Of the 950 nurses sampled in each of the 4 states for a total of 3800 nurses, 663 nurses returned the survey (17% return rate). Of those 663 nurses, 506 (76%) wrote responses to the open-ended question, “What do emergency nurses need to increase their ability to assist patients with advance directives?” The nurses’ responses varied from one word to one page.

Data were analyzed by use of thematic analysis. Data were coded by the investigators with phrases that reflected the themes of the nurses’ responses. The authors discussed the themes that emerged from the analysis until consensus was reached on the major themes and their descriptors. With so many participants (n = 506) responding to the question, redundancy and saturation were reached for each theme.

Results

The emergency nurses who responded to the KAESAD survey were mostly female (87%), white (91%), married (71%), middle aged (mean 46 years), and Christian (80%). Sixty-seven percent of the nurses had a baccalaureate or higher degree. The nurses in the study had a mean of 1.5 hours of AD information in their nursing programs, and 63% of the nurses in the study received some AD education at their practice sites. One very important aspect that emerged from the emergency nurses’ discussion was the fact that people who come into emergency departments are considered outpatients and therefore in-house do-not-resuscitate orders do not apply until the person is admitted.

Seven themes emerged from the data that describe what emergency nurses perceive that they need to assist
patients with ADs. These themes are more education and time to effectively discuss ADs with patients, a supportive work environment, other health care professionals’ participation in assisting patients with ADs, patient/public education related to ADs, communication, and particular nurse characteristics needed to successfully assist patients with ADs. In addition, the nurses in the study provided opinions about completing ADs in the emergency department. The themes that emerged from the data analysis are not mutually exclusive.

EDUCATION
The emergency nurses’ responses reflect a strong need for education related to ADs. Some nurses simply wrote the word education in response to the question. Others wrote several paragraphs detailing what nurses need related to education. The nurses in the study discussed the content they needed as well as the mechanisms for delivering the education. Several nurses stated that emergency nurses don’t always get the in-service education that “floor” nurses do. Their perception is that “floor” nurses are better prepared to discuss ADs with patients because they receive the “in-house training” necessary to prepare for this role.

Most often the emergency nurses said they needed general knowledge about ADs. They frequently stated that they needed information about their state laws that govern ADs. The emergency nurses wanted information on ethical and legal issues related to ADs as well as on AD policies in place in their individual institutions. One nurse stated, “Without knowledge the nurse cannot have confidence to enforce the patient’s wishes. Without confidence in his/her position, the nurse will not use the knowledge.” Table 1 provides a list of additional topics the nurses felt they needed to help them better understand the process of completing ADs.

Many nurses cited the need for training on how to approach patients and families to talk about ADs. The need for training also included conversing about prognosis and death and dying. Some felt this training was best accomplished through role playing, sensitivity training, and/or videotapes. Linked to this need was the nurse’s need to come to terms with his or her own feelings about death, end-of-life care, and ADs before they could assist patients to complete ADs, “RNs need to do their own ADs first.”

The emergency nurses discussed many ways that they could learn about ADs, primarily in-service education programs. Several nurses felt it was important to make the programs mandatory or their colleagues would not attend. Table 2 lists some additional suggestions for ways to educate emergency nurses about ADs and ways to assist patients. The nurses stated that it was necessary to have the material presented in a quick and easy format, as one nurse stated, “quick, short and precise.” They wanted handheld guides or booklets or an “easy-to-learn checklist format.” These suggestions reflect the lack of time they felt they had to educate themselves and their patients about ADs.

TIME
The nurses in the study repeatedly cited lack of time as a major issue in their ability to assist patients with ADs. As one nurse stated, “The most important and only need for us would be to have more time. It’s so hectic. One minute

<table>
<thead>
<tr>
<th>TABLE 1</th>
<th>Additional suggestions for topics for educating emergency nurses about ADs</th>
</tr>
</thead>
<tbody>
<tr>
<td>Discussions of RN responsibility related to assisting patients with ADs</td>
<td></td>
</tr>
<tr>
<td>Information on the Patient Self-Determination Act</td>
<td></td>
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<tr>
<td>Information on living wills</td>
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<tr>
<td>Information on health care proxies</td>
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<tr>
<td>Knowledge of the differences in the types of ADs</td>
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<tr>
<td>Joint Commission requirements related to ADs</td>
<td></td>
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<tr>
<td>Patient options</td>
<td></td>
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<tr>
<td>Information on conflict resolution</td>
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<tr>
<td>Cultural sensitivity</td>
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</table>

<table>
<thead>
<tr>
<th>TABLE 2</th>
<th>Additional suggestions for ways to educate emergency nurses about ADs</th>
</tr>
</thead>
<tbody>
<tr>
<td>Through professional organizations such as ENA</td>
<td></td>
</tr>
<tr>
<td>Posters in the lobbies of their institutions</td>
<td></td>
</tr>
<tr>
<td>Staff meetings</td>
<td></td>
</tr>
<tr>
<td>Handouts</td>
<td></td>
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<tr>
<td>Visual teaching aids</td>
<td></td>
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<tr>
<td>Journal articles</td>
<td></td>
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<tr>
<td>Question and answer sessions</td>
<td></td>
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<tr>
<td>Seminars with lawyers and social workers</td>
<td></td>
</tr>
<tr>
<td>Scripted presentations for patients and families</td>
<td></td>
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</tbody>
</table>
you have the time to talk to the patients and families and the next thing either a trauma, chest pain, stroke, or code is coming through the door.” Given the stressful work environment in the emergency department, finding extra time to spend with patients can be a challenge.

Those nurses who perceived that their role included assisting patients with ADs found the lack of time to do so very frustrating. The emergency nurses identified that their lack of time to spend with patients and families was mainly attributable to increased patient load, too much paperwork, and poor staffing on their units.

SUPPORTIVE WORK ENVIRONMENT
Nurses were aware that their work environment was a big hindrance to them and that improvements in the ED environment were needed to help increase their ability to assist patients with ADs. One important improvement would be to decrease their patient load so that they would have enough time to spend with patients. To maximize the effectiveness of the time they are able to spend helping patients with these issues, the nurses want forms that are readily available, uniform, and easy to read so that patients with an 8th grade education can read and comprehend the forms. Some nurses suggested that state-mandated education on ADs for nurses might be necessary to ensure that nurses have a consistent knowledge base related to ADs.

OTHER HEALTH CARE PROVIDERS’ PARTICIPATION
Many nurses in this study addressed the involvement and roles of other health professionals related to the completion and honoring of ADs. Overall, nurses wanted support from and collaboration with administrators, physicians, and other health care professionals. Numerous respondents reported frustration related to physicians’ handling of AD issues. They expressed concern when patients’ ADs were ignored or interpreted in such a way that treatment was provided that the nurse did not perceive to be beneficial. One nurse reported, “In my experience patients are treated in ways to bypass ADs. Cancer and other terminally ill patients are treated aggressively because their present condition is not a result of their primary illness.” One respondent found nurses to be comfortable discussing end-of-life issues but perceived that physicians were not. Several emphasized that primary-care physicians had a responsibility to discuss advance planning with their patients early in a relationship or in an illness, rather than postponing discussion until the patient was critically ill. Nurses wanted physicians to “work as a team” collaborating in patient care and in supporting patient choices. When there was failure to work as a team, both patient care and the nurse’s professional ethics could be threatened.

Respondents varied in the extent to which they perceived assisting patients with ADs to be part of their nursing role. Some reported that another professional had the primary responsibility for ADs in their institution. The most commonly identified disciplines were social work and pastoral care. In some instances, the nurse simply informed one of these professionals of the patient’s need related to ADs. In other settings, nurses relied on these disciplines for support and assistance in their own patient care around decision making. Some respondents had, and others wished for, a designated expert available to assist patients with ADs. One nurse wrote about both shortage of time and intensity of illness seen in the ED and suggested, “[I] would ideally like to have a trained patient advocate available 24 hours to help patients/families with this.”

PATIENT/PUBLIC EDUCATION
Many nurses in this study believed that health care consumers needed to be better informed about advance care planning. Many emergency nurses in this study acknowledged that ADs involve difficult topics and sensitive issues that can be more comfortable to avoid than engage. Some felt that a public information campaign could help to open up and desensitize these issues somewhat. One nurse described the need for “increased community education in order to decrease fear, pressure, stigmas related to end of life care and decisions.”

The nurses felt that misperceptions about the nature and efficacy of interventions distorted patients’ choices, “clear explanations of treatments and especially outcome. Many patients and families do not understand the full implication of a provided plan of care, the additional pain, hospitalization, medical cost when the end result is death despite treatment.”

Nurses in this study expressed frustration with ADs being unavailable when needed or unknown to family members and felt that public education was indicated to promote greater patient accountability. Several nurses emphasized that patients had the responsibility to not only complete ADs but to make them known to others, including
sharing their wishes with their family members and with their health care providers. Many commented on the difficulties that arose when families were unaware of patient wishes or failed to support and advocate for those wishes.

COMMUNICATION
Communication was a pervasive theme in the nurses’ responses to the survey question. It is a construct that is integrated into the themes that emerged during data analysis. Increased communication is needed among all parties involved (nurses, doctors, patients, families, other health care providers) related to ADs.

Some of the nurses expressed the thought that nurses needed to feel comfortable discussing ADs before they could effectively assist patients completing ADs. They acknowledged that, in general, nurses do not feel comfortable having AD discussions with patients, but they also felt that nurses need to be able to communicate effectively with patients concerning ADs.

PARTICULAR NURSING CHARACTERISTICS NEEDED TO SUCCESSFULLY ASSIST PATIENTS WITH ADs
The emergency nurses’ suggestions together form a set of characteristics that they felt nurses needed to be able to successfully help patients complete ADs. For one, they thought that the nurse needed to be an advocate. When needed, the nurse had to make the patient’s wishes known and honored when family or other health care providers were inclined not to follow those wishes. The nurses felt they needed autonomy to effectively assist patients with ADs. Similarly, a few nurses stated this concept as having to be proactive in respecting patients’ wishes. Nurses responded that they needed to be motivated to assist patients, that they should be sensitive, compassionate, informed, and committed to helping a patient while discussing ADs.

EMERGENCY NURSES OPINIONS ABOUT THEIR ROLE IN ASSISTING WITH ADs
Overall, the nurses in the study felt that emergency nurses should be knowledgeable about ADs and able to answer questions related to completing ADs, but many of the nurses who responded to the question did not feel that the emergency department was the ideal place to discuss ADs with patients. As one nurse wrote, “Advance directives need to be dealt with in advance not left to ER [staff]. Most patients and families can’t think straight when under the pressure of an emergency. ER is the place to implement advance directives not to initially complete them.” Other nurses responded that, in an ideal world, emergency nurses are not the providers who should be discussing ADs with patients principally because the emergency department environment is not conducive to the time and intensity needed to discuss a complex topic such as ADs.

Discussion
There are several limitations to this study. The sample consisted of only nurses who were members of the ENA. Because of the small response rate to the survey, the responses of the nurses in the study cannot be generalized to all emergency nurses. The nurses answered many questions in the survey related to their knowledge and attitudes related to ADs, which may have influenced their responses to the qualitative question addressed in this article.

The needs emergency nurses identified comprise three areas. One is system barriers that affect assisting patients with ADs. These include staffing ratios/increased patient load, the environment of the ED as crisis oriented, and lack of support from physicians and administrators. These system barriers need to be changed at the institutional level.

The second area and most commonly mentioned need the emergency nurses wrote about was the need for AD education for themselves primarily related to the PSDA and their state laws, but also general knowledge about ADs. They saw their lack of knowledge as a deficit and deterrent to assisting patients. This is a fairly easy need to fulfill through staff education programs. Clinical educators may need to reevaluate the depth of information about ADs provided in orientation programs and staff development. Today we see innovative ways to bring education programs to nurses on all shifts. These innovative ways include computer-generated education programs and traveling posters that move from one unit to another throughout an institution.

The third area of need identified by the nurses was the need for handheld guides or booklets or an “easy-to-learn checklist format” they could use to help patients complete ADs. One source of information that nurses can avail themselves of is the information available on Web sites. One particularly informative Web site is the Partnership for Caring (Last Acts Partnership) site (http://www.
partnershipforcaring.org/). This site provides information about state-specific laws and provides the state-specific documents for completing ADs. Each state site provides succinct information about how to complete an AD for that particular state. This site is useful for both nurses and their patients. Because each state is different, there is no one guide that would be appropriate for every state. Nurses need to know the legislation that governs AD completion in their states.

Last, it is gratifying to the investigators that our survey was appreciated by the nurses and that they used the survey in ways that we had not envisioned: that is, to think about their values related to advance care planning and their role in assisting patients to complete ADs. Several nurses responded similarly to one nurse’s comment, ‘‘Thank you for sending this survey. It has made me stop and think about what I know and don’t know. Very thought provoking. I am interested in your results.”

Acknowledgments
We thank the emergency nurses who participated in the KAESAD survey, especially those who took the time from their busy schedules to write down their ideas about what emergency nurses need to assist patients with advance directives. The principal investigator also thanks Robin Sheldon, RN, MS, and Rebecca Roloff, RN, BS, for their support in making this study a reality.

REFERENCES
Irrigating Simple Acute Traumatic Wounds: A Review of the Current Literature

The goals of wound cleansing are to decrease the risk of infection, minimize patient discomfort, and achieve the best cosmetically appealing scar.1 ED practitioners recognize that wound infection rates vary depending on the patient (eg, age, presence of chronic disease, immunosuppression, and malnutrition), the mechanism of injury (eg, foreign body retention and contamination), and the type of traumatic wound. However, although wound care is commonly performed in emergency departments, there is great variability in the irrigating solutions used and the techniques employed.

Irrigating solutions

Irrigating solutions with bactericidal and detergent properties have anticellular effects that impede wound healing and/or resistance to infection.2,3 To decrease cytotoxic effects, a stock solution of 10% povidone iodine (1% available iodine) should be diluted to a 1:1000 solution (1 mL/L). Even the dilute preparation is best used on the intact skin surrounding the wound, rather than in the wound bed, to prevent further wound contamination and minimize harmful effects.2,4 Normal saline solution is the solution used most commonly for irrigating acute traumatic wounds.1,4-6 It is cost-effective, readily available, isotonic, and the least toxic to exposed tissues.4 Therefore, it is less likely to impede the natural healing process compared with other commercial irrigants or detergents such as povidone iodine and pluronic F-68 (Shur-Clens, Calgon Vestal Laboratories, St Louis Mo).

Some practitioners question whether tap water is clean enough to use for wound irrigation, but analysis of water from one emergency department found no pathogenic...
bacteria in the sample. Nevertheless, the water should come from a tap that it is used frequently and through a nozzle that is cleaned frequently.

Irrigating solutions with bactericidal and detergent properties have anticellular effects that impede wound healing and/or resistance to infection.

In a review of the most recent literature, 4 studies compared the effectiveness of irrigating solutions in preventing infection (Table 1). The study by Dire and Welsh\(^4\) compared irrigants in simple, acute, traumatic wounds that were subsequently closed with suture. The researchers concluded that there was no added benefit in using 1% povidone iodine or pluronic F-68 (Shur Clens) rather than normal saline solution for wound irrigation.

Moscati et al\(^9\) compared bacterial counts in rat lacerations that were inoculated with equivalent amounts of Staphylococcus aureus and then were irrigated with either normal saline solution or tap water. The post-irrigation bacterial counts were not significantly different between the normal saline solution and tap water groups. These investigators concluded that, compared with saline solution, tap water irrigation was faster, required less equipment, and was less expensive.

Some practitioners question whether tap water is clean enough to use for wound irrigation, but analysis of water from one emergency department found no pathogenic bacteria in the sample.\(^7\) Nevertheless, the water should come from a tap that is used frequently and through a nozzle that is cleaned frequently.\(^8\)

**TABLE 1**

<table>
<thead>
<tr>
<th>Study</th>
<th>N</th>
<th>Solutions</th>
<th>Outcomes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dire &amp; Walsh(^4) (human study)</td>
<td>189</td>
<td>Normal saline solution</td>
<td>Infection rates ((P = .571^*))</td>
</tr>
<tr>
<td></td>
<td>184</td>
<td>1% povidone iodine</td>
<td>6.9%</td>
</tr>
<tr>
<td></td>
<td>184</td>
<td>Pluronic F-68 (Shur Clens)</td>
<td>4.3%</td>
</tr>
<tr>
<td>Moscati et al(^9) (animal study)</td>
<td>10</td>
<td>Normal saline solution</td>
<td>Mean reduction in bacterial counts ((P = .34^*))</td>
</tr>
<tr>
<td></td>
<td>10</td>
<td>Tap water</td>
<td>81.6%</td>
</tr>
<tr>
<td>Bansal et al(^10) (human study)</td>
<td>24</td>
<td>Normal saline solution</td>
<td>(+) Post-irrigation cultures ((P = .200^*))</td>
</tr>
<tr>
<td></td>
<td>21</td>
<td>Tap water</td>
<td>29% (positive in 7 of 24)</td>
</tr>
<tr>
<td>Valente et al(^11) (human study)</td>
<td>271</td>
<td>Normal saline solution</td>
<td>2.8% (95% confidence interval)</td>
</tr>
<tr>
<td></td>
<td>259</td>
<td>Tap water</td>
<td>2.9% (95% confidence interval)</td>
</tr>
</tbody>
</table>

Among the solutions studied, normal saline solution seems superior to antiseptics in terms of cost-effectiveness, low infection rates, and reduced toxicity, but tap water may be a viable option.

*Not statistically significant.
between the normal saline solution and tap water groups, the researchers recommended further validation of the safety and efficacy of tap water as an irrigation solution.

In the unblinded study by Valente and colleagues, additional irrigation was performed with both normal saline solution and tap water if deemed necessary by the treating physician. Once again, the difference between the 2 groups was not statistically significant.

A major difference between use of a saline solution irrigant and tap water from the faucet was the amount of pressure the wound bed received. Although infection rates were not significantly different, wounds undergoing irrigation with tap water received a higher pressure from the faucet than did those irrigated with a syringe. Previous studies have considered the question of whether the low infection rate was related to the amount of water used, to the higher pressure of irrigation, or to both factors.

**Irrigation pressure**

The purpose of wound irrigation and cleansing is to remove debris, bacteria, and loose tissue from the wound. To be effective, the mechanical force used must exceed that of the adhesive forces of the contaminant. Low-pressure irrigation removes negligible small particles but can remove large particulate matter, such as devitalized tissue.

However, when irrigating solutions are applied to the wound bed at high pressure, destruction of vital tissue may occur, and end cosmetic results may be affected.

The amount of pressure needed for adequate wound irrigation with minimal damage to vital tissue is approximately 5 to 8 psi of continuously applied pressure. Heavily contaminated wounds should only be soaked in saline solution after the wound has been irrigated and/or debrided.

An irrigation pressure of 5 to 8 psi seems to provide the most effective wound irrigation.

**TABLE 2**

Comparison of irrigation techniques

<table>
<thead>
<tr>
<th>Study</th>
<th>Technique</th>
<th>Pressure</th>
<th>Outcomes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Stevenson et al (laboratory</td>
<td>High-pressure 35-mL syringe and 19-gauge needle</td>
<td>8 psi</td>
<td>Post-irrigation bacterial counts were significantly lower in the high-pressure group</td>
</tr>
<tr>
<td>animal study)</td>
<td>Low-pressure 50-mL bulb syringe</td>
<td>0.05 psi</td>
<td></td>
</tr>
<tr>
<td>Singer et al (human study)</td>
<td>35-mL syringe and 19-gauge needle</td>
<td>17-35 psi</td>
<td>Irrigation using a human model delivery system delivers much higher pressures than previously predicted from the laboratory</td>
</tr>
<tr>
<td></td>
<td>65-mL syringe and 19-gauge needle</td>
<td>11-27.5 psi</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Intravenous fluid bag pierced with 19-gauge needle, compressed manually</td>
<td>4 psi</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Plastic saline bottle pierced with 19-gauge needle through the cap, compressed manually</td>
<td>2.3 psi</td>
<td></td>
</tr>
<tr>
<td></td>
<td>IV bag with 400 mm Hg pressure cuff and 19-gauge needle</td>
<td>6-10 psi</td>
<td></td>
</tr>
<tr>
<td></td>
<td>IV bag with 400 mm Hg pressure cuff and 16-gauge needle</td>
<td>4-6 psi</td>
<td></td>
</tr>
</tbody>
</table>

Stevenson et al obtained irrigating pressures of 5 to 8 psi when they used 35- to 60-mL syringes with 19-gauge angiocatheters for irrigation in the laboratory (Table 2). However, Singer and colleagues used this equipment on human subjects and obtained significantly higher median peak and trough pressures. To obtain continuous irrigation pressures of 5 to 8 psi, they recommended using a saline bag inside a pressure cuff inflated to 400 mm Hg and connected to intravenous tubing with a 19-gauge angiocatheter.
attached. In addition, one noteworthy study demonstrated that various practitioners using the same irrigation technique applied different amounts of pressure.  

Irrigation versus no irrigation

More than 50% of lacerations treated in the emergency department are found on the face and scalp, both of which are highly vascular areas. Recently there have been questions regarding the need to irrigate clean, noncontaminated wounds in these areas (Table 3). In a study by Hollander et al., the authors concluded that irrigation before primary closure of clean, noncontaminated facial and scalp lacerations did not significantly alter the rate of infection or cosmetic appearance.

In another large study, Hollander et al. compared the wound care practices (ie, type of irrigation solution, method of irrigation, and debridement) that physicians performed on adults compared with those performed on children and found that children were less likely to receive wound irrigation before wound closure and yet they had better cosmetic results after their wounds healed.

Maharaj et al. looked at infection rates of clean-appearing wounds that were not irrigated before being closed with sterile adhesive strips (Steristrips; 3M). The study lacked a control group. The researchers concluded that this technique was quick and inexpensive and was an effective alternative to other wound care practices performed in emergency departments. This is an important issue in economically poor areas where funding for health care is low and the number of traumatic wounds is high.

Although wound care practices vary among institutions and practitioners, evidence-based guidelines can help standardize care using the most efficient solutions and methods available.

REFERENCES


TABLE 3

<table>
<thead>
<tr>
<th>Study</th>
<th>N</th>
<th>Method</th>
<th>Outcome</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hollander et al (pediatric study)</td>
<td>833</td>
<td>No irrigation</td>
<td>Wound infection rates P = .28*</td>
</tr>
<tr>
<td>Hollander et al (adult and pediatric study)</td>
<td>1090</td>
<td>Irrigation with normal saline solution</td>
<td>End cosmetic appearance results P = .07*</td>
</tr>
<tr>
<td>Hollander et al (adult and pediatric study)</td>
<td>2771 (adults)</td>
<td>No irrigation</td>
<td>Children were less likely to receive wound irrigation before wound closure (P &lt; .001), but nonetheless, they had better cosmetic results (P = .0003)</td>
</tr>
<tr>
<td>(adult study)</td>
<td>853 (children)</td>
<td>Irrigation with normal saline solution</td>
<td></td>
</tr>
<tr>
<td>Maharaj et al (adult study)</td>
<td>147</td>
<td>No irrigation of any wounds</td>
<td>Overall infection rate of 1.4%</td>
</tr>
</tbody>
</table>

Irrigating noncontaminated wounds in highly vascular areas does not alter the rate of infection or the final cosmetic result.

*Not statistically significant.
The Use of a Mental Health Triage Assessment Tool in a Busy Canadian Tertiary Care Children’s Hospital

In an ongoing climate of reorganization and downsizing in Canada, government restructuring dictated that Children’s Hospital of Eastern Ontario serve a larger population of child and youth mental health patients. As a result, nurses needed a triage assessment tool to assist in determining priority and risk for these patients.

Background

When the emergency department of a busy local psychiatric hospital closed, personnel at the Children’s Hospital of Eastern Ontario emergency department experienced an influx of pediatric mental health patients. Children’s Hospital of Eastern Ontario is a 150-bed pediatric tertiary care hospital where 50,000 to 60,000 children a year are seen in the emergency department. Now an additional 8000 to 9000 patients with mental health problems were expected.

Reallocation of government funding enabled the Hospital to hire crisis intervention workers to better serve these mental health patients and to enable the physicians to better maintain a constant flow of medical patients. The ED nurses needed a triage assessment tool to help prioritize and disburse these mental health patients. Guidelines had to be clear, concise, and easy to follow and have a defined referral of patients to the proper service—that is, to an ED physician versus a crisis intervention worker.

Planning

Development of a triage assessment tool was coordinated and implemented by our ED nurses and operations director. Designing the tool was a collaborative effort between Emergency Services, which included a registered...
nurse (RN), a nurse practitioner, and a physician from the emergency department, and Mental Health Services, which included a psychiatrist, a psychologist, a crisis intervention worker, and a social worker. During the design process, the following scales were used: Canadian Pediatric Triage and Acuity Scale,1 Multi-score Depression Inventory for Children,2 and Suicide Potential Scale.3 It took about 5 months to complete the first draft of the Mental Health Assessment Triage Tool, which was in place when the first crisis intervention worker started.

**Implementation**

We provided in-service education for staff to teach them how to use the Triage Tool and to increase their skill and confidence when dealing with mental health patients. Our emergency clinical instructor taught a core group of RNs and they then provided in-service education for our other team members. To help staff feel more confident in handling abusive patients, we held crisis intervention workshops.

*Crisis intervention workers were new to our hospital, so there was an adjustment period before physicians felt comfortable turning patients over to the new service.*

Our first crisis intervention worker started in July 1997 and worked from 1 to 9 PM, Monday to Friday. Crisis intervention workers were new to our hospital, so there was an adjustment period before physicians felt comfortable turning patients over to the new service. That a child could be seen and discharged without seeing a physician at all was a new and challenging concept for the ED medical staff, and yet for billing purposes the

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**FIGURE 1**

Patient flow chart for mental health emergencies in the emergency department. This flow chart outlines the process the triage nurse uses to decide where to place a patient and how soon the patient is to be seen.
physicians signed the charts when the patient was discharged. Initially the physicians wanted the crisis intervention worker to review each patient with them, but this process was time consuming because the on-duty physician was busy and had difficulty finding time for these reviews. After only a few months, we realized the care being provided by the crisis intervention worker was excellent and efficient and allowed the physicians additional time to care for medical patients. Our current policy permits the crisis intervention workers to sign their own charts, making the process even more efficient (Figure 1).

The Crisis Intervention Service was so successful in expediting patient care (Figure 2) and freeing the physician’s time that it has been expanded. By January 1998 we had 2 crisis intervention workers covering the hours of 8 AM to 12 midnight Monday to Friday. About 50% of their cases came directly from triage and 50% were from referrals by the ED physicians. By February 1999, 66% of the referrals to the Crisis Intervention Service came directly from triage.

In May 2003, a major change in procedure took place. The crisis intervention worker is now the first call for psychiatric patients in the emergency department, including patients on a form 1 (Application by Physician for Psychiatric Assessment) chart. Crisis intervention workers also arrange direct admissions to the psychiatric unit when indicated, without involving the ED physician. The psychiatric unit staff, as opposed to the ED staff, now do the necessary admission history and physical, which is a very time-efficient change.

**The Crisis Intervention Service was so successful in expediting patient care and freeing the physician’s time that it has been expanded.**

The Mental Health Triage Assessment Tool (Figure 3) is printed on the back of our standard triage assessment form. When a mental health patient arrives at triage, the tool is conveniently at hand, and when completed, it provides information regarding patient risk, which is imperative in providing safe care while the patient waits to be seen by the crisis intervention worker or physician.

**EXAMPLE 1**

Samantha, a 16-year-old girl, comes to the emergency department accompanied by her mother. Samantha is tearful and anxious (pacing back and forth). She is not violent, nor is she a direct psychiatric referral from a community physician.

Using the Mental Health Triage Assessment Tool, the nurse conducts the initial interview by asking specific questions about whether the patient is experiencing hallucinations, has ingested any drugs or alcohol, or has any thoughts of suicide. Several other questions follow to assess anxiety, mood disturbances, or any family crisis that might relate to the child’s behavior. In suitable situations the parent may be able to participate in this interview process. As the Triage Tool is completed, it is evident that Samantha is not suicidal but rather is upset and anxious about her parents’ recent divorce and her falling grades in school. Based on the completed Triage Tool, the RN classifies the patient as “semi-urgent” and determines a crisis intervention worker would best meet her needs.

**EXAMPLE 2**

Jeremy, a 13-year-old boy, is brought in by his mother. The triage nurse learns he ingested 15 Tylenol tablets
FIGURE 3

Mental Health Triage Assessment Tool, which is conveniently located on the reverse of our standard triage assessment form.

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### TRIAGE GUIDELINES FOR PSYCHIATRIC PATIENT

This is a tool to help the nurse triage the patient as a possible psychiatric patient (to be seen by the ERP, Psychiatrist) versus a crisis intervention patient (to be seen by the Crisis Intervention Worker).

<table>
<thead>
<tr>
<th>PRESENTING COMPLAINT</th>
<th>TO BE SEEN BY</th>
<th>TRIAGE CODE</th>
</tr>
</thead>
<tbody>
<tr>
<td>On Form 1 or Form 2</td>
<td>Psychiatry</td>
<td>Urgent</td>
</tr>
<tr>
<td>Active Hallucinations</td>
<td>ERP</td>
<td>Urgent</td>
</tr>
<tr>
<td>Violent Upon Arrival</td>
<td>ERP</td>
<td>Emergent</td>
</tr>
<tr>
<td>Ingestion</td>
<td>ERP Notify PIC</td>
<td>Symptomatic – Emergent</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Suicidality:</td>
<td>ERP</td>
<td>Urgent (any attempt requiring ERP medical attention)</td>
</tr>
<tr>
<td>• Significance of injury</td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Time</td>
<td>ERP</td>
<td>Urgent (any attempt requiring ERP medical attention)</td>
</tr>
<tr>
<td>Any current attempt</td>
<td>ERP</td>
<td></td>
</tr>
<tr>
<td>(e.g., ingestion, significant injury needing medical attention)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>• When</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Recent attempt</td>
<td>Crisis Intervention Worker</td>
<td>Semi-Urgent (any attempt not requiring crisis medical attention)</td>
</tr>
<tr>
<td>(e.g., last week)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Thoughts but no attempt</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Severe Anxiety with Obvious Signs and Symptoms</td>
<td>ERP</td>
<td>Urgent</td>
</tr>
<tr>
<td>Acute Family Crisis Related to Child's Behaviour</td>
<td>Crisis Intervention Worker</td>
<td>Semi-Urgent</td>
</tr>
<tr>
<td>Anxiety with Ability to Function (with or without hyperventilation, and no other physical symptoms)</td>
<td>Crisis Intervention Worker</td>
<td>Semi-Urgent</td>
</tr>
<tr>
<td>Mood Disturbances Without Suicidal Behaviour</td>
<td>Crisis Intervention Worker</td>
<td>Semi-Urgent</td>
</tr>
<tr>
<td>Other Psycho-Social Issues</td>
<td>Social Work</td>
<td>Semi-Urgent</td>
</tr>
</tbody>
</table>

First seen by:

- ERP
- CRISIS INTERVENTION
- PSYCHIATRY

*Please Note: In the event that a patient waiting to be seen becomes agitated and/or violent, his or her priority should change from “Urgent” to “Emergent.”

**TRIAGE CATEGORY:** R E U S N

**NURSE’S SIGNATURE:**

**FOLDER GIVEN:**

**CLINICAL OBSERVATION**

<table>
<thead>
<tr>
<th>TIME</th>
<th>VITAL SIGNS</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
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</tbody>
</table>

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FORM 5152, REVISED “JANUARY 2000”
approximately 2 hours earlier. Jeremy is alert and his vital signs and neurologic assessment are stable. After reviewing the information gathered on the Triage Tool, the RN determines this is a current suicide attempt needing “urgent” attention by the ED physician. Jeremy must be medically cleared before being seen by the crisis intervention worker. In addition, the RN contacts the poison information center for appropriate treatment of this poisoning.

EXAMPLE 3
Cory, a 12-year-old boy, arrives at the triage desk accompanied by 2 group home workers. Cory is very agitated and verbally abusive to those around him. Within seconds of arrival, he starts kicking and attempts to punch one of the accompanying workers. The RN quickly calls hospital security and nearby service attendants for assistance, and with the help of additional nursing staff, the patient is moved to an assessment room for appropriate care and intervention to subdue him. Using the Triage Tool, the RN classifies this violent patient as “emergent”; thus, he must be seen by the ED physician within 15 minutes of arrival.

Patients see the triage nurse completing information on a predesigned form for patients with medical problems and may feel less threatened when the same is done for them.

Conclusion
The guidelines on the Mental Health Triage Assessment Tool form help us assess, prioritize, and direct patients to the most appropriate care provider. Asking personal questions at a busy triage desk is difficult, and yet there is no other way to assess the risk of a psychiatric patient. For confidentiality, when it is crowded at the triage desk or when the patient is agitated or aggressive, we conduct the initial assessment in a nearby assessment room. Patients see the triage nurse completing information on a predesigned form for patients with medical problems and may feel less threatened when the same is done for them. The Triage Tool also makes it easier for the nurse who is hesitant to ask these personal questions. We all know how important charting is. With our form, the RN is legally covered by properly charting the patient’s risk. High-risk patients are marked either “emergent” or “urgent” and are further flagged with an orange dot to indicate priority and to quickly track the patient to the ED physician or crisis intervention worker. These categories include patients with active hallucinations, agitation or violence on arrival, or any current attempts of “self-harm” or suicide.

Psychiatric patients need to be assessed and prioritized before being sent to a waiting room. Legally, nurses caring for mental health patients need a triage system that assesses patient risk and provides for adequate charting. Our Mental Health Triage Assessment Tool is valuable in assisting nurses to have our psychiatric patients seen in a timely fashion by the most appropriate care provider and to ensure they are discharged with appropriate resources and contacts.

REFERENCES
Hospital-Based Intervention for Intimate Partner Violence Victims: A Forensic Nursing Model

More than 5 million intimate partner violence (IPV) victimizations are estimated to occur among women in the United States each year. It is an acknowledged public health issue, with ramifications that extend beyond intentional injury. Patient perception of general personal health appears to be linked to recent IPV history.1 Health care literature has published several studies looking at the broader spectrum of health consequences resulting from IPV, including both physical and mental health sequelae.2-5

Total health care costs of IPV, including mental health treatment, are approximately $4 billion annually.6 Studies have attempted to quantify the difference in annual per patient costs for abused and nonabused women. Wisner et al7 compared a random sample of 1007 female health maintenance organization (HMO) enrollees aged 18 to 64 years with 126 identified victims of IPV in the same health plan and found an annual cost increase of $1775 per patient to treat abused women. Estimates place the direct and indirect costs of IPV, including out-of-pocket health care costs and missed days of work, at $3 to $5 billion annually.1,8

On the basis of mounting knowledge about the prevalence of IPV, its high health care costs, and its potential for lethality, organizations such as the American Medical Association, the American College of Emergency Physicians, the American Nurses Association, and the Emergency Nurses Association have advocated universal screening of all female patients for abuse. As a result, many institutions have developed programs to educate medical and nursing staff in an effort to increase screening rates and to identify victims of abuse in acute care, primary care, and prenatal care settings.
Recommendations for universal IPV screening have led to the development of standards of care for screening and validated assessment tools. Safety planning and referral protocols also have been introduced in a variety of health care settings. However, few programs have actually developed organized assessment and treatment resources for identified victims of IPV beyond initial treatment and cursory documentation of identified injuries.

An emerging option is the use of forensic nurse examiners to assess and document injury related to IPV. Most visible in their role as sexual assault nurse examiners, forensic nurses routinely work with law enforcement, clinicians, advocacy agencies, and community services as part of a multidisciplinary team. Forensic nurses are well versed in principles of forensic evidence collection, photodocumentation, and legal testimony, providing a more consistent level of care for victims of violence than clinicians without similar education. More important for busy emergency departments, forensic nurses have dedicated time to care for the victim of violence without placing strain on overtaxed department personnel. Furthermore, a core group of professionals with standardized IPV education will increase consistency of screening and assessment and enhance overall quality of care.

The DOVE Program

Summa Health System’s DOVE Program (Developing Options for Violent Emergencies) in Akron, Ohio, exemplifies how forensic nurses complement emergency department services for victims of IPV. An independent, nurse-managed hospital program, the DOVE Program provides consultative services throughout the health system, particularly in the emergency department. Initiated as a sexual assault nurse examiner (SANE) program in 1997, the program expanded its services in response to area clinicians and community partners to include IPV victims in October 2000 (Figure 1). Forensic nurse examiners have provided specialty forensic services to more than 500 victims of IPV since the domestic violence nurse examiner (DVNE) program’s inception. This includes comprehensive medical assessment, photodocumentation, and evidence collection, if appropriate (including swabs of bite wounds and for bodily fluids left on the skin). Services are free of charge and are available 24 hours a day, 7 days a week.

Patients may access DOVE services through any department in the hospital system, including the emergency department, the intensive care unit, and labor and delivery and from community agencies and organizations, such as shelters, law enforcement agencies, and victim assistance programs. For patients referred from community agencies, the DOVE Program has examination suites that can be used for patients who do not require other hospital services at the time (Figure 2). Funding for services is provided through a patchwork of revenue generated from DOVE’s suspect evidence collection services provided to law enforcement, educational offerings, and private contributions. Grant dollars support direct patient services and compensation for contract nurse examiners who assist in providing those services. However, the program’s main source of funding is from Summa Health System; this includes salary support for three full-time nurse examiners who oversee daily operations of the DOVE Program’s four branches and care for the majority of IPV patients.
After the DOVE examination, the forensic nurse examiner works with the patient to create a detailed safety plan as dictated by his or her unique situation. Patients are linked to community resources, including legal, shelter, and advocacy agencies. Referrals are tailored to the needs of the individual patient, who is able to choose from an integrated network of community services. Although Ohio does not mandate clinician reporting of IPV incidents, more than 85% of patients seen in the DOVE Program choose to work with law enforcement at the time of their examinations. Police contact can be initiated on site, facilitating the process of filing charges and obtaining protection orders while the patient is still in the forensic nurse examiner’s care. This collaboration has led to an increase in prosecution of IPV cases in the area. In the city of Akron in 2002, approximately 90% of cases pursued in the criminal courts resulted in a guilty plea (E. Head, City of Akron Domestic Violence Prosecutor, personal communication, March 12, 2003).

**Education**

The experienced forensic nurse examiners in the DOVE program have the opportunity to expand their clinical role to include IPV patients after completing an advanced clinical course. The 2-day education program, held in cooperation with the Northeast Ohio Universities College of Medicine, provides an initial day of didactic content building on the forensic foundation laid with SANE education, including legal issues, forensic examination technique, photography, and community team building. Day 2 provides the opportunity for participants to put what they’ve learned into practice: using actors and a makeup artist, each participant is able to conduct a medicolegal examination on a “standardized patient.” Participants also work in teams to devise appropriate safety planning, referral, and follow-up services for case study patients. The afternoon is spent in a mock trial session, simulating the criminal trial experience and delving further into legal issues. The 2-day education program is offered twice a year and is open to forensic nurses across the country who want to expand their clinical skills.

In addition to educational programs for forensic nurses, the DOVE Program also provides extensive physician and medical student education. The most formalized programming is conducted with the emergency medicine residency at Summa Health System. During the second year of residency, each emergency medicine resident is required to rotate through the DOVE Program. The month-long rotation includes observation of the medicolegal examination, forensic photography instruction, and exposure to the intricacies of safety and discharge planning for victims of violence. In 2003, the third year of the residency rotation, additional curricula were added on strangulation injury and criminal testimony.

**Implications for Practice**

**Patient Care.** The successful collaboration between forensic nurse examiners and emergency clinicians has broad implications for enhancing the care of victims of IPV in emergency departments. Many emergency clinicians routinely question patients regarding the risk of injury from IPV. Mechanism of injury and safety (both the patient’s and other household members’) after discharge may be explored in the course of the examination. However, perceived barriers exist that prevent clinicians, including those in the emergency department, from routinely screening. Concern regarding lack of effective interventions for identified IPV patients is frequently cited. Lack of knowledge related to hospital and community resources, lack of actual hospital or community resources, and/or unsatisfactory experiences with known resources may lead clinicians to decide that it is better to leave the question of violence unasked rather than feel helpless if abuse is disclosed.

The presence of forensic nurse examiners specifically educated to care for victims of IPV allows for intensive interaction between the patient and an appropriate specialist, who can bridge the gap between the emergency department and community resources. The examination, conducted according to a consistent framework, allows for comprehensive evaluation and documentation (including photographs) of the patient’s injuries. The forensic nurse has the knowledge of, and relationships with community resources, including advocacy and law enforcement agencies, to create comprehensive referral plans, which include crisis and long-term assistance needs.

**Legal Documentation.** Providing comprehensive forensic services for victims of IPV has implications that extend beyond the patient’s initial encounter. Individualized safety and referral planning can be completed at the time of the patient’s visit. Documentation by the forensic nurse
examiner also provides a medicolegal record of the assault and corresponding injuries, which can be used in future criminal and civil court proceedings. For the patient who is reluctant to involve law enforcement or work with community agencies, providing this service increases the likelihood that that patient will identify the hospital system as a resource for future assistance.

Emergency Department Resources. Collaborating with forensic nurse examiners also has a positive effect on emergency medicine/nursing practice and can help streamline plan of care. The existence of the DOVE program has increased clinician screening for IPV and heightened the index of suspicion for violence as a mechanism of injury, particularly among medical residents and the nursing staff. Of the patients seen by the DOVE Program in 2003, 50% were referred by the emergency department; 62% of those referrals were by medical residents, physician assistants, and nurses. These referrals result in accurate and immediate identification of health care issues and trigger earlier involvement with forensic services. Furthermore, the DOVE program has had a positive impact on patient use of emergency services. A 2003 pilot study examining emergency department use demonstrated that IPV patients had fewer emergency department visits in the year after DOVE services than in the year before DOVE services.  

Case Study

A 39-year-old woman presented to the DOVE Program after a referral from an area victim assistance agency. Law enforcement was already actively working with her. Her health history was remarkable for depression, but she denied other chronic or acute illnesses and was not currently taking any medication. No previous surgeries were reported.

She recounted that she had been assaulted by her former partner over the course of several years. Additionally, her partner had served 8 years for assaulting a previous intimate partner. Although this wasn’t the first time she had been assaulted, she had never sought medical care for her injuries and had never made a police report after earlier battering incidents.

When asked about the details of the most recent assault, the patient reported that the incident had taken place 48 hours earlier. Her former partner had broken into her home, destroyed the furniture in her living room, and then punched her multiple times in the face and head. When she collapsed to the ground, she told the forensic nurse examiner, he leaned over her, and with one hand began strangling her. She was unsure how long the strangulation lasted but reported losing control of her bladder as it occurred and difficulty breathing and swallowing after he let her go.

On examination, the forensic nurse examiner noted multiple injuries to the patient’s face and neck, including a periorbital contusion, bilateral conjunctival hemorrhages, petechiae beneath the eyes bilaterally, and anular contusions to the left of the trachea. An inspection of the oral cavity revealed petechiae across the inner aspect of the lower lip. The only other injuries noted were 2 irregularly shaped contusions to the left anterior forearm. All injuries were photographed and documented on a body map.

After the examination, safety planning was discussed with the patient. She was already involved with the area victim assistance program and had made contact with a legal advocate at the arraignment of her former partner. Because he had been arrested and was unable to post the bond set by the judge, she did not feel her safety was an issue. She was anxious to return home after her discharge, although she agreed that alerting her neighbors and employer to the situation would be helpful in case her partner was able to secure his release. She planned to provide all of them with a photograph of her former partner and a description of his vehicle and give them instructions to call police if he was spotted in the vicinity. This patient was also provided with information about the health system’s specialty counseling service for patients who had undergone serious trauma.

According the DOVE Program’s policy, she was referred to the emergency department for further assessment of potential injury related to strangulation and then released.

Six weeks later, the DOVE team learned that the patient’s former partner pled to felony domestic violence charges, a fifth-degree felony in Ohio at the time of the assault, and was sentenced to 3 years in prison.

examiner also provides a medicolegal record of the assault and corresponding injuries, which can be used in future criminal and civil court proceedings. For the patient who is reluctant to involve law enforcement or work with community agencies, providing this service increases the likelihood that that patient will identify the hospital system as a resource for future assistance.
range from several hundred to several thousand dollars, depending on the scope of services, the average cost of a DOVE examination for IPV victims is $150. For hospitals with a high volume of uninsured patients, the provision of forensic services such as those offered by the DOVE Program may be fiscally sensible, as well as incredibly beneficial to the patient. Further study is needed with a larger sample size to gauge the true financial implications of such services.

Conclusion

Effective use of forensic nurses relies on consistent collaboration between emergency medicine and nursing personnel. Protocols and procedures detailing use of this specialty service need to be in place with clear identification of roles. Forensic nurses appear to be a cost-effective way to care for victims of violence in the emergency department. However, further research is needed to examine the financial impact of using forensic nurses. The benefits for a health care system and the community it serves, however, should outweigh the costs as a systematic approach to caring for victims of IPV is established.

Table of Contents Blurb:

Safety planning and referral protocols for victims of intimate partner violence have been introduced in a variety of health care settings, but an Ohio program has taken it one step further, and developed a successful, comprehensive program that provides organized assessment and treatment resources for identified victims of IPV, relying on forensic nurses and an effective collaboration with emergency physicians and nurses.

REFERENCES

Knowledge Assessment and Preparation for the Certified Emergency Nurses Examination

Author: Carrie A. McCoy, PhD, MSPH, RN, CEN, Highland Heights, Ky

Section Editors: Kathleen Carlson, RN, MSN, CEN, and Carrie A. McCoy, PhD, MSPH, RN, CEN

With the current emphasis on credentialing in nursing, many nurses have committed to taking the CEN examination. The following questions have been developed to assist in emergency nursing knowledge assessment and in preparation for the CEN examination. Questions, rationale for the correct answers, and references are provided here for your self-evaluation. ENA has developed educational materials that can be used as further resources for CEN preparation: Emergency Nursing Core Curriculum and CEN Review Manual. For further information on educational review materials, please contact the ENA Association Services Team at (800) 243-8362.

1. A patient with a history of intravenous drug use comes to the emergency department and reports having fever, general malaise, and night sweats. Which of the following assessment findings in this patient is most specific for infective endocarditis?
A. Heart murmur
B. Dyspnea
C. Chest pain
D. Splenomegaly

2. A nurse would expect to administer which of the following drugs to a patient with a pre-excitation tachycardia (eg, Wolff-Parkinson-White syndrome) who is clinically stable?
A. Verapamil
B. Metoprolol
C. Adenosine
D. Amiodarone

3. An ED patient has 2300 mL of pleural effusion fluid removed from the right pleural space during a thoracentesis. An hour later, while waiting for an admission bed, dyspnea and tachycardia develop, the patient’s SpO2 level begins to fall, and the patient’s blood pressure is slightly elevated. On auscultation, inspiratory crackles are heard over the right lung fields and normal breath sounds are heard over the left lung fields. Other than tachycardia, the EKG is normal. Based on this assessment, the nurse would expect interventions for which of the following complications of thoracentesis?
A. Hemothorax
B. Re-expansion pulmonary edema
C. Pneumothorax
D. Recurrent effusion

REFERENCES

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doi: 10.1016/j.jen.2004.11.007
4. You are conducting a neurologic assessment on a patient who has come to the emergency department. Which of the following instructions should you give to the patient when assessing for pronator drift?

A. “Fully extend both of your arms forward with the palms of your hands up.”
B. “Fully extend both of your arms forward with the palms of your hands down.”
C. “Fully extend both of your arms forward with both of your hands perpendicular to the ground.”
D. “Fully extend both of your arms out to the sides with the palms down.”

5. On assessment, a stable trauma patient from a high-speed motor vehicle crash is found to have contusions and abrasions across the lower abdomen from the seat belt. Based on the location of the contusions and abrasions and the type of force involved, the nurse should be aware that this patient is at particular risk for delayed signs and symptoms from an injured:

A. spleen.
B. liver.
C. bowel.
D. pelvis.

ANSWERS

1. Correct Answer: A

Infecive (bacterial) endocarditis results in inflammation of the endocardium, especially the heart valves. Although the mitral valve is usually affected, the right side of the heart is more likely to be affected in intravenous drug users. Many of the symptoms of this condition are nonspecific and include fever and flu-like symptoms. However, 90% of persons with infective endocarditis have heart murmurs. Splenomegaly (D) is common with chronic disease. Dyspnea and chest pain can occur with endocarditis but also are symptoms of other conditions. Lemone and Burke,1 891; Wisniewski,2 30.

2. Correct Answer: D

Verapamil, metoprolol, and adenosine are contraindicated in patients with abnormal conduction through a bypass tract, such as the bundle of Kent. These drugs can prolong the atrioventricular node’s refractory period, resulting in enhanced conduction via the bypass tract. Because these tracts cannot regulate the heart rate, more impulses reach the ventricles and the heart rate increases dramatically. In these patients, amiodarone (A) is recommended as primary therapy if the arrhythmia is less than 48 hours old. Geiter,3 32cc1.

3. Correct Answer: B

This patient is exhibiting signs of re-expansion pulmonary edema. Although uncommon, this complication can develop after fluid is removed too rapidly from a large pleural effusion. Generally, no more than 1200 to 1500 mL of fluid are removed at one time to prevent this type of complication. Hemothorax (A), pneumothorax (C), and recurrent effusion (D) would result in decreased breath sounds on the affected side. Hayes,4 96; Lemone & Burke,5 1145.

4. Correct Answer: A

Assess pronator drift by asking patients to fully extend their arms with the palms of their hands up and their eyes open. After the arms are extended, patients should hold the position with their eyes closed for 30 seconds. If the patient has mild weakness, the affected arm will drift downward and the arm and hand on the affected side will begin to turn over (pronate). Drifting and weakness also can be assessed by having patients hold their arms over their head for 30 seconds and then trying to force the arms down to the sides. Pullen,6 22.

5. Correct Answer: C

Patients with lap belt injuries are at particular risk for mesenteric and bowel injuries when rapid deceleration forces suddenly trap the viscera against the spine. This mechanism of injury results in shearing and compression forces to the mesentery and intestines. Several injuries can result, including mesenteric hematoma, devascularization of the bowel, and bowel rupture. Signs and symptoms from these injuries can develop slowly as bowel contents are spilled into the abdominal cavity. The patient also may sustain splenic (A), hepatic (B), and pelvic injuries (D) resulting from other blunt forces in the same crash. Blank-Reid,7 39.
Designing a Rabies Postexposure Prophylaxis Program With Emphasis on Staff and Patient Education

Rabies is a potentially fatal viral infection, with death virtually guaranteed once the symptoms of encephalitis develop. In the United States, the wildlife most often associated with rabies transmission are foxes, raccoons, bats, coyotes, and skunks, but any mammal may carry the disease. The more aggressive the animal, the more likely it is that it has rabies. Bats have extremely small teeth, and their bite wounds may be hard to see. Therefore, a person potentially has been exposed to rabies if a bat has landed on him or her or if a bat is seen in a room with an infant, small child, or someone with an altered level of consciousness. Nonbite exposures include contamination of an open wound with the saliva of an infected animal. The rabies immunization series must be initiated for persons exposed to rabies.

When a patient with a potential exposure comes to our emergency center, we initiate our Rabies Pathway (Figure 1). The shaded areas on the left indicate the steps that the RN may perform without a physician’s order.

To familiarize our ED nurses with our rabies immunization program, we provided a PowerPoint continuing education in-service session that included the revised pathway, patient instruction sheet (Figure 2), and rabies immunization schedule.* For hands-on practice, we “wounded” chicken legs and taught the ED nurses how to infiltrate the wounds. A concoction consisting of half water and half corn syrup simulated the consistency of rabies immune globulin.

Upon completion of the in-service session, most ED nurses reported an increased comfort level and understanding of our Rabies Postexposure Prophylaxis Program.

*For a copy of the Rabies Immunization Schedule, visit the ENA Web site (www.ena.org), go to Nursing Practice, and look under Document Sharing.
### RABIES PATHWAY*

<table>
<thead>
<tr>
<th>PROCEDURE</th>
</tr>
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<tbody>
<tr>
<td>1. Thoroughly wash wound with soap &amp; water. (Cleaning the wound kills up to 90% of the virus at the exposure site.)</td>
</tr>
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2. Document history of bite here:

   - **Type of Animal**: ______________________________________
   - **Date & Time of Injury**: _________________________________
   - **Circumstances of Bite**: ________________________________

3. Verify with patient/family that Animal Control has been contacted.
   - If not, fill out the “Report of Animal Bite” form and call the Leon County* Health Department Animal Control Division @ 576-1211.
   - *If the patient was bitten outside of Leon County, notify the Sheriff’s Dept. for the appropriate county.

4. Give patient the “Patient Information Sheet for Rabies Prevention”

5. Tetanus booster if patient has not had one in last 5 years. Site ______

6. Obtain HRIG & RabAvert (vaccine): fill out HRS Pharmacy Request Form, including pt.’s weight. Send form to Pharmacy – order “STAT”

7. **HRIG 20 IU/kg of body weight:**
   - Based on size of wound, infiltrate wound with as much of the HRIG dose as anatomically feasible to block the virus at the exposure site.
   - (Use caution to prevent compartment syndrome.) If any HRIG remains,

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*FIGURE 1*

Edited version of the Tallahassee Memorial HealthCare Emergency Center Rabies Pathway. Reprinted with permission.
change needle & give remainder, intramuscularly, in the gluteal muscle
(or a site distant from RabAvert [vaccine] injection).

Weight _____________      Total Units given ___________________

Amount of HRIG infiltrated into wound:________________________

Site of wound infiltration:___________________________________

Amount of HRIG injected IM:_______________________________

Site of IM:______________   Lot numbers __________________

8.  RabAvert (or HDVC) 1cc IM  (Never give in gluteal muscle)
    Adults: Deltoid      Small Children: Vastus lateralis (upper, outer thigh)
    Site: __________      * Wait at least 15 minutes after this to discharge pt.

9. Initiate and fill in the Rabies Vaccination Schedule to calculate the
dates for the remaining 4 vaccine injections (on days 3, 7, 14, and 28).

10. Review Rabies Vaccination Administration Schedule with patient
and clarify understanding. Emphasize that pt. cannot alter schedule.

11. Make 2 copies of the Rabies Vaccination Schedule.
    Original stays with the medical record.
    Give one copy to patient.
    Place second copy in the “Rabies Return Folder” at triage.

12. Allow for time at discharge for the pt. & family to review the
    information sheet and ask questions. Remind them to call
    approximately 30 minutes before they return for follow up and ask
    for the charge nurse to ensure medication availability.

*Edited version of TMH Emergency Center Rabies Pathway

FIGURE 1. (continued)
The doctor has determined that you may have been exposed to the rabies virus. You are now receiving the first of several shots you will need. If you get off schedule, you may not have protection against the rabies virus. **Follow your schedule exactly and do not skip any doses.**

**What is Rabies?**
Rabies is a deadly disease caused by a virus that enters the body through the bite of an infected animal. If not prevented, the disease is fatal; you will most likely die if you contract rabies! The shots are timed so that your body will give you the most protection against the rabies virus. If you miss a day or you get off schedule, you risk getting the deadly disease.

**What is the Medicine?**
The 2 types of vaccinations you will get are the Rabies Immune Globulin (HRIG) and the Rabies Vaccination (RabAvert). Today is Day 0, the first day of your vaccination schedule.
- You will get the Rabies Immune Globulin first. This one gives you immediate protection against rabies. By injecting the medicine directly in and around the wound, we are blocking the virus from entering your muscles and traveling to your spinal cord and brain. Often some of this medicine is also given in your arm, leg, or bottom.
- The second medication you get today is the first dose of the actual rabies vaccine. You will need more doses of this over the next 4 weeks. It is extremely important that you follow the vaccination schedule that we set up for you.

**What side effects will I have?**
You might have pain, redness, swelling, or a hard lump where the shots were given. Some people get a low fever and general body aches during the course of the vaccination series. These are easily controlled with acetaminophen (Tylenol) or ibuprofen (Motrin), as long as you are not allergic to them.

**FIGURE 2**
Tallahassee Memorial HealthCare Patient Information Sheet for Rabies Prevention, edited for space. Reprinted with permission.

**How do I care for the wound?**
If you have an animal bite, keep the area clean. **Wash it with soap and water 3-4 times a day.** If necessary, cover it with a clean bandage. **Watch for signs of infection and return to the Emergency Center or see your doctor if these occur:** redness, swelling, drainage (pus) coming from the wound, red streaks, bad smell from the wound, a tender lump in the groin or armpit, the wound edges reopen or separate (if you have stitches).
- If you have not had a tetanus shot in 5 years, you will need a booster today. You may have soreness at the site of the shot as well as the sites where you received the rabies shots.
- If you received stitches, we will advise you on how to care for them and when to return to have them removed.
- If the animal that bit you is quarantined by the Animal Control Division, you may check with them at the end of 10 days to see if the animal has rabies. They may tell you that you do not need to keep receiving the vaccination series. If so, call the Bixler Emergency Center and speak with the charge nurse so that we may stop your scheduled medicine.
- If the animal cannot be quarantined or watched by Animal Control or if the animal ran away after it bit you and cannot be caught, you will keep receiving the full series unless otherwise instructed.
- If possible, you should not get any other vaccine while you are undergoing the rabies vaccination series. Wait 3 months after you receive the rabies immune globulin.
- Call or return to the Bixler Center at any time if you have questions or problems.

* TMH Patient Information Sheet for Rabies Prevention, edited for space.
By developing a systematic approach to rabies postexposure prophylaxis, we have ensured that the process flows smoothly, that it is easily understood and performed by the nurses, and that our patients are adequately and properly educated on the disease and the vaccination process.

Send descriptions of procedures in emergency care and/or quick-reference charts suitable for placing in a reference file or notebook to:

Gail Pisarcik Lenehan, RN, EdD, FAAN
c/o Managing Editor, 77 Rolling Ridge Rd, Amherst, MA 01002
800 900-9659, ext 4044 • awbkelly@comcast.net
Lately, it seems that we are seeing more patients with urologic disorders in the emergency department. To give us some tips about how best to care for these patients, I asked Susanne Quallich, APRN, BC, NP-C, CUNP, nurse practitioner, Division of Andrology and Microsurgery at Michigan Urology Center in Ann Arbor, Mich, for some advice. Quallich says there are certain clinical presentations that should alert us to the need for urgent evaluation by a urologist: gross hematuria; abrupt onset of or worsening testicular pain, regardless of patient age, that may wake the patient from sleep or be associated with nausea; anuria or oliguria; acute urinary retention in male or female patients; large kidney masses, particularly when accompanied by the classic triad of gross hematuria, flank pain, and a palpable mass; pain associated with any genitourinary structure that awakes the patient or prevents sleep; or a toxic-appearing patient with poor urine output.

Pain from a kidney stone does not have to be sharp and excruciating. Quallich has seen patients describe a dull pain. This can present as only back pain, which is the result of renal capsular distension, and/or colicky pain from ureteral muscle and renal pelvic spasm.

Although typically we think of men having urologic emergencies, Quallich notes that some urologic disorders also occur in women. Although obstructive urinary retention in women is very uncommon, it can occur as the result of ureterocele, urethral polyp, and urethral strictures. Dysuria resulting from sexually transmitted diseases occurs more frequently in women. Childbearing, being female, and growing older increase the risk of urinary incontinence. As estrogen levels decline, the epithelium and supporting tissues of the pelvis atrophy and contribute to pelvic structure prolapse. The challenge...
is that gynecologic problems can present urgently with symptoms than seem related to the genitourinary system, but are not.

According to Quallich, some newer medications are being used for urologic disorders. Cialis (tadalafil) and Levitra (vardenafil citrate) have the potential for priapism (prolonged erection), as well as the class effect of headache, flushing, and rhinitis, and, of course, lowering the blood pressure to the point where cardiac perfusion might be compromised. Sanctura (trospium chloride) is a new treatment for overactive bladder with the potential for anticholinergic adverse effects. Uroxatral (alfuzosin hydrochloride) is an α-blocker used to treat symptoms of prostatic hyperplasia. It can cause hypotension, dizziness, and headache, particularly when starting treatment.

**CALLING A “CODE”**

In a recent query to an emergency nurse list-serv, Patricia Quinn, RN, BSN, ED nurse educator at Mercy Medical Center in Springfield, Mass, asked if anyone was requiring ED nurses to be part of the hospital “code” team. What resulted was a smorgasbord of variations to calling a “code.” I have been observing this odd phenomenon when I do site visits, though I primarily look at pediatric emergency response. I have heard everything for pediatric “codes” from Code Pink (which, in some institutions, also is used to designate infant abduction) to “Code 99,” and then, to add to the confusion, “sector 14” to identify which part of the hospital the emergency is located. The most common response I have gotten about why there are these “secret codes” is so that the general public will not be alarmed (as if all the people running with large bags and that stretcher full of medical equipment isn’t a clue). Unfortunately, this can defeat the very real need to “alarm” the responders who need to be “alarmed.” Some systems, rather than announce “codes” overhead, use “code” pagers. This seems to work best when there are consistent people to hand the pager off to. One potential error in this system is that someone forgets to turn over the pager and wears it home on their scrubs or in their pocket (guilty!).

Ann Dyke, BHScN, ENC(c), nurse clinician, Emergency Services in Toronto, Ontario, sends us a completely different perspective on the issue. While speaking in “the states” about severe acute respiratory syndrome (SARS), Ann noted some differences between US and Canadian “code” language. She says that, in Ontario, they generally have the same language: “Code Blue” for adults and “Code Pink” for children. However, post-SARS, “code” terminology has been changed to reflect protection of responding staff. For instance, “Enhanced Code Blue” is used for patients under respiratory isolation and “Protected Code Blue” for patients who are suspected of having SARS or tuberculosis. “Code Pinks” are worded the same way, and they also have an “Adolescent Code Pink” for the children 12 years or older, because for children younger than 12 years, a team responds with the Broselow Carts.

Another piece of advice about “code” response comes to us from Michael Seaver, RN, EMT-P, who points out that, when responding to a code, we should always remember that CPR also might stand for “consider patients’ requests” and assess do not resuscitate status.

**WHAT’S IN YOUR POCKETS. . .**

In our search for what others are carrying around while working in the emergency department, Missy Mountain-Edwards, RN, from Niagara Falls, a veteran emergency nurse, was kind enough to share with me exactly what she needs to work effectively. In her lab coat’s top pocket, she has pens and her name badge hanger and scrap paper. Her right pocket has trauma scissors, laminated tape measure (for easy cleaning), a pediatric advanced life support pocket guide, 2 saline flushes, a heparin trap, a 20-gauge intravenous needle, adhesive bandages, and alcohol prep pads. In her left pocket, she carries a tourniquet, 5 rolls of tape—about 2 feet per roll, a vacutainer, and a 19-gauge needle for use with ambulance tubing because all of her hospital’s equipment is needleless. Handy to have equipment!

**Clinical questions** from nurses are welcome, as are names and addresses of clinicians who are interested in answering questions. Submit to:

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Inadvertent Attachment of a Blood Pressure Device to a Needleless IV “Y-site”: Surprising, Fatal Connections

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Noninvasive blood pressure devices are commonplace and necessary in most emergency departments, but did you know that they have the potential to cause serious harm or even death to patients with intravenous access? It seems almost impossible, yet there have been 3 reports of this type of incident to the Food and Drug Administration (FDA) MedWatch program and to the Institute for Safe Medication Practices (ISMP) in the past 18 months!

How do errors happen?

A patient was transported to radiology for a magnetic resonance imaging scan while attached to a cardiac monitor with automated blood pressure capabilities. As with many devices that monitor vital signs, the distal tubing that led from the blood pressure port on the device ended with a single male Luer connector. The tubing from this device fit directly into a single female Luer connector on a shorter length of white tubing that was integrated with a Critikon disposable blood pressure cuff on the patient’s arm. Because the male Luer connector on the monitor’s tubing was metal, the blood pressure cuff was disconnected prior to entry into the magnetic resonance imaging machine. After the study, the transporter, believing that he was reconnecting the monitor’s tubing to the patient’s blood pressure cuff, inadvertently connected the male Luer end of the monitor’s tubing to the needleless “Y-site” of the patient’s intravenous line. Immediately upon the patient’s return to the emergency department, an astute family member called this miscoupling to the attention of the nurse. Because the automatic cycle had not yet been reactivated on the device, no air was injected into the patient’s intravenous line. Had this blood pressure cuff

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*ISMP is a nonprofit organization that works closely with health care practitioners, consumers, hospitals, regulatory agencies, and professional organizations to educate caregivers about preventing medication errors. ISMP is the premier international resource on safe medication practices in health care institutions. If you would like to report medication errors to help others, E-mail us at: ismpinfo@ismp.org or call (800)FAIL-SAFE. This Medication Error Reporting Program keeps information confidential and secure. We will include only the level of detail that the reporter wishes in our publications.
inflated before the misconnection was discovered, as much as 1,500 mL of pressurized air could have been forced directly into the patient’s vascular system, likely causing a fatal event. (Normally, devices of this nature can be set to cycle at regular intervals, inflating the blood pressure cuff with approximately 500 mL of air at pressures up to 300 mm Hg. If no resistance is met with an inflated cuff, 2 additional cycles [of 500 mL each] could automatically occur in short succession.) The nurse quickly corrected the misconnection without harm to the patient.2
This near-miss event served as a wake-up call to the ED staff about the hazards of standardized and compatible Luer connections.

Unfortunately, another patient was not so lucky. This second patient died from an air embolism after a nurse mistakenly connected the automated blood pressure tubing to the needleless port of his intravenous line.3

...the transporter, believing that he was reconnecting the monitor’s tubing to the patient’s blood pressure cuff, inadvertently connected the male Luer end of the monitor’s tubing to the needleless “Y-site” of the patient’s intravenous line.3

You may think that this type of event is a rare, “freak” accident, but it is more common than you think. As reported in Anesthesiology, a similar event occurred several years ago, when once again, the Luer connector from the tubing of an automated blood pressure cuff machine had been inserted into the needleless “Y-site” of an intravenous line. The misconnection in this case was not as easily recognized because the intravenous infusion was propofol (Diprivan), which made the tubing appear white and nearly identical to the tubing connection hanging from the disposable blood pressure cuff.4 (See Figure 1 to understand the similarities of these connections.)

Since ISMP first reported this problem in June of 2003, the USP/ISMP Medication Error Reporting Program (MERP) has received several more surprising reports of intravenous line tubing misconnections involving intermittent pneumatic compression devices as well as oxygen tubing. Although many of these misconnections are discovered quickly, some of these misconnections have resulted in fatalities.5,6

The FDA and manufacturers have been aware for some time that Luer connections are commonly used to attach monitors to commercially available disposable blood pressure cuffs. They have also been alerted to fatalities that have occurred with misconnections to intravenous systems. Because of the inherent risk of air embolism, manufacturers have previously issued warning letters (eg, Spacelabs Medical Urgent Product Safety Alert, Oct 29, 2001), and many hospital biomedical engineering departments notified their affected clinical managers. Some manufacturers provide warning labels to attach to monitors and tubing to warn against this danger; other manufacturers have begun to require dedicated tubing with non-Luer connectors on automated blood pressure devices. However, as long as disposable blood pressure cuffs with female Luer connectors are in use, the tubing from the monitor will need a male Luer connection provided from the manufacturer.

This patient died from an air embolism....

The best answer lies with eliminating the interconnectivity between various types of medical tubing. Some device manufacturers already have taken steps to replace
their Luer connections with “quick-connect” ends on their tubing, which are designed to only be compatible with their own device. The Association for the Advancement of Medical Instrumentation offers human factors guidance and failure mode testing of medical tubing in realistic settings. ISMP is currently unaware of any domestic or international standards organization looking at mandatory standards for connector designs.

Although it might be a rare occurrence, this hazard currently exists in many hospitals. In fact, while visiting hospitals around the United States, our ISMP staff has seen this type of hazard more than 50% of the time in a variety of patient care settings. In an attempt to be efficient, some organizations may even change all tubing connections to fit a standardized Luer connector to ensure that all blood pressure cuffs are interchangeable with all types of monitoring devices.

Make it a practice that before any medical tubing is connected or reconnected to the patient to trace it from the patient to its original point of origin. Appropriately label intravenous lines to help prevent inadvertent access into the line.

What can I do?

Until an industry standard is set for all manufacturers to eliminate this risk, work closely with the biomedical department in your emergency department to identify all of the possible misconnections that could occur with current available devices. Develop a plan with the biomedical department to replace and standardize all monitoring equipment to ensure incompatibility with Luer connections. Discuss this hazard with your colleagues (including non-clinical staff who come into contact with the equipment). Make it a practice that before any medical tubing is connected or reconnected to the patient to trace it from the patient to its original point of origin. Appropriately label intravenous lines to help prevent inadvertent access into the line.

As new equipment is being considered for purchase, volunteer to participate in a failure mode and effects analysis on each device to determine if the tubing can connect to your current needleless intravenous ports. Also, do not forget to work with other departments to identify technicians, medical/nursing students, transport personnel, nursing assistants, and others who might connect or disconnect various forms of tubing attached to patients. Consider this when delegating tasks that may fall outside a safe and acceptable scope of practice. Include this group of employees in all education efforts related to this hazard.

Above all, be proactive! Investigate the potential for misconnections before they occur.

REFERENCES

Contributions for this column are welcomed and encouraged. Submissions may be sent to:
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The Notebook, Revisited

After reading the letter “What love can do” by Beverly Forester in the October 2004 issue of the Journal,¹ I am inspired to share an experience in the same vein. It was a moment that will stand out for me in my 16-year career as an emergency nurse.

It occurred last October. I boarded my homebound plane after attending the ENA national convention in San Diego. I was ready to “take on” emergency nursing with a renewed lust for excellence. As we took off, a movie, The Notebook, began. I sat with my Virgin Mary and earphones and began to enjoy the peace and quiet, a good movie, and the good company of a plane full of emergency nurses leaving San Diego en mass for home.

The storyline of the movie unfolded in 2 parts. One part is about the courting of a young couple, and the other is about an older gentleman and lady. The gentleman is reading a handwritten book to the lady. The movie is about the love and devotion of the man for his wife, who has dementia. He reads her the story of their life together. It is a story that she wrote at the beginning of her decline, so that when she is lucid, albeit infrequently, she will be able to remember him and their life together.

At the end of the movie, after wiping away my tears, I walked down the aisle and found that there were few passengers who had escaped with dry eyes.

Several days after seeing the movie, I reported to work for the evening shift and received a report of a 77-year-old man who fell down 4 stairs, hitting his head. He is taking warfarin (Coumadin) (of course!) for atrial fibrillation. The diagnosis is a left subdural hematoma. Complicating his care even more is the fact that he is in an advanced
stage of Alzheimer’s disease, as well as having multiple other medical problems.

He reads her the story of their life together. It is a story that she wrote at the beginning of her decline, so that when she is lucid, albeit infrequently, she will be able to remember him and their life together.

As I cared for him and interacted with his wife, I became increasingly aware that movies are not always so far-fetched. The love and devotion shown to this gentleman by his wife mirrored that depicted in The Notebook. When I went to insert the Foley catheter, I found that the patient had an immaculate diaper—no odor, no skin breakdown. As he lay on the stretcher, his wife wanted only for him to say her name and recognize her. She never left his side, and she watched me like a hawk.

As I cared for him and interacted with his wife, I became increasingly aware that movies are not always so far-fetched.

As I write this reflection, this patient is in the SICU. The news is not good. He is becoming more and more obtunded. His bleed has increased threefold, and now there is a midline shift. He is a poor surgical candidate. The physician is talking with the family about changing his status from full code to do not resuscitate. Saddened, it occurs to me that his wife will probably never hear him say her name again. Hoping that this ending will mirror the ending of The Notebook, I also understand. Life just isn’t always as perfect as the movies, is it?

REFERENCE
Emergency Nurse Urges Booster Seat Advocacy After Encounter at Traumatic Crash Scene

More than 2500 children died in 2003 as a result of motor vehicle crashes, which are the leading cause of death of children ages 4 to 14 years. An additional 28,000 children had incapacitating injuries as a result of car crashes. Although advocates have promoted booster seat use to protect children, booster seat use remains low. According to a study conducted in 2000, 86% of children who should be restrained in car seats or belt-positioning booster seats are inappropriately placed in seat belts.

My journey home from work includes a stretch of a 2-lane historical road that usually provides a pleasant ride. On this day, however, as I came upon multiple cars pulled over to the side, the journey became a very different, life-changing experience. As I slowed, I saw a limp child in the arms of an adult and a sport-utility vehicle (SUV) with its rear against a tree. What I did not see was the presence of emergency providers, and I realized I was the first provider on the scene.

As I ran from my car, my first thought was to stabilize the C-spine of the child being held. I encouraged the bystander to place the child on the ground and showed him how to hold the child’s head and neck properly. The child was pale and had obvious seat belt marks across his abdomen. I quickly ran to the vehicle to assess the number of casualties and found the father of the child entrapped in the driver’s seat with the steering wheel pushed back into his lap. He was pale, diaphoretic, and complaining of pain in both legs and hips. When I returned to the child, he began to retch. As we rolled him to his side, I noticed an obvious deformity of his lumbar spine.

I realized I had 2 severely injured patients and few resources at my immediate disposal. I was wishing that we
were in the controlled environment of the trauma center! When the first sheriff’s car arrived, I immediately asked him to have a helicopter deployed to our location. The dispatcher was hesitant to take the word of a bystander until the officer became insistent that he had a trauma nurse on scene asking for helicopter support. The county EMS supervisor arrived and let me know the nearest paramedic truck was 20 minutes away. We decided that I would stay with the child, and she went to the father to begin needed extrication and interventions.

As I slowed, I saw a limp child in the arms of an adult, and a sport-utility vehicle (SUV) with its rear against a tree... and I realized I was the first provider on the scene.

The fire department had supplied oxygen equipment. My next priority was to establish IV access and begin to reverse the shock state of this vulnerable little boy, who had thready pulses and a distal capillary refill of 5 to 6 seconds. By the time the paramedic unit arrived, the first fluid bolus was in, but the child continued to look pale, his abdomen was firm, and he had no movement of his lower extremities. He was also beginning to have intermittent periods with gasping respirations. He was minimally responsive, other than to answer yes and no questions. I prayed that the flight team would land quickly. I told the flight team on arrival that both patients needed to fly, as we were more than 30 minutes from the trauma center without any traffic congestion, and this was rush hour. I was happy to turn the child over to the flight team. I knew it put him that much closer to the trauma center and more definitive treatment.

I later learned the details of the accident. My patient had been restrained in the second seat of the SUV with just a lap belt. The father was speeding on the wet roads when he lost control and hit a tree on the passenger side. After the initial impact, the speed and velocity of the SUV caused it to go back across the road and hit another tree. The father suffered multiple lower extremity fractures and a pelvic fracture. The 5-year old boy had a complete spinal cord injury at L2 as well as an injury to his mesenteric vessels. The family owned a booster seat, but it was in the third row of the SUV and was not used to restrain the child.

The use of a lap belt as the only method of restraint in small children has been associated with injuries such as severe flexion distraction injuries of the lumbar spine, abdominal wall bruising, and hollow viscous injury. In South Carolina, if a child less than 6 years of age weighs more than 80 pounds, or can sit with his back straight against the seat back cushion with his knees bent over the seat edge, then the child may use an adult safety belt. With his small stature and estimated weight of 25 kilograms, this child did not meet either of these criteria.

This scenario is not unique. The National Highway Traffic Safety Administration (NHTSA) recently revealed findings from a 2003 national random survey of 6000 persons. About 85% of the parents and caregivers of young children had heard of booster seats. Among those who were aware of booster seats, 60% said they only used them “at some time” with their children.

Emergency nurses should urge policy makers at local, state, and national levels to enact and fund legislation and education regarding child restraint in automobiles. NHTSA recommends the adoption of comprehensive child occupant protection laws to cover all children up to age 16 in all seating positions and encourages the enforcement of all child occupant protection laws, including penalties. Further information can be found at the NHTSA Web site at www.nhtsa.dot.gov. ENA also provides training opportunities to enable emergency nurses to teach and advocate in the community through the Emergency Nurses Care (ENCARE) program (www.ena.org).

Among those who were aware of booster seats, 60% said they only used them “at some time” with their children.

ED staff members need to be aware of the child restraint laws in their state and use every opportunity possible to provide education to our parents and children. Increasing funding for education and continuing to lobby for strict policies and enforcement of legislation related to child restraint in cars could help to decrease the incidence of these very devastating injuries.
When I thought about whether my future in this endeavor would include teaching about booster seats in the community, all I needed to do was to remember those big, brown eyes looking up at me, and my decision was very easy.

Acknowledgment
The author gratefully acknowledges the guidance and edits of JEN Section Editor Angela Hackenschmidt, RN, MS, CEN

REFERENCES

Contributions for this column are welcomed and encouraged. Submissions should be sent to:

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Cutting-edge Discussions of Management, Policy, and Program Issues in Emergency Care

Reassessment Times

Measuring/Documenting Indicators on Mounted EKG Strips

Two Patient Identifications

Recorded Report to the Floor

POC and Hemoccult Testing Competencies and Documentation

Synchronized Department Clocks

Benchmarking Restraint and Seclusion Usage

Domestic Violence Abuse Policy and Procedure Tips

Diverting an Ambulance to a Different Type of Facility

Telemergency Medicine

The opinions expressed are those of the respondents and should not be construed as the official position of the institution, ENA, or the Journal.


What is the national standard for reassessment times of triaged patients in the waiting room who are waiting to go back to the treatment area?

Answer 1:

The Canadian Triage and Acuity Scale (CTAS) Manual acknowledges that the stated times are an “ideal” or “objective,” not an established care standard. There is recognition of wide variations in demand for care and that “ideals” cannot always be achieved without unlimited resources. The CTAS provides fractile response statistics, such as only 95% of the level 2 patients are seen within the stated 15 minutes and only 80% of the level 5 patients are seen within the stated 2 hours.

That said, the CTAS times for reassessment with vital signs are:

- Level 1 Continuous
- Level 2 Every 15 minutes
- Level 3 Every 30 minutes
- Level 4 Every 60 minutes
- Level 5 Every 120 minutes

—Willi Kirenko, RN (EC), Nurse Practitioner, Emergency Services, Chatham-Kent Health Alliance, Chatham, Ontario, Canada; willi@KENT.NET

REFERENCE


Answer 2:

Our department’s procedures for all ED patients (both the waiting room and in the treatment area) are:

- Vital signs at least every 4 hours (and more frequently as appropriate)
• A nursing note every 2 hours (and more frequently as appropriate)
• A complete reassessment every shift

I know some emergency departments use every 60 minutes for level 3 patients and every 120 minutes for level 4 and 5 patients.1
—Robert G. Flade, RN, BS, Director, Emergency Department, New Britain General Hospital, New Britain, Conn; RGFlade@nbgh.org

REFERENCE

Answer 3:
We require:
• Nurses’ notes after the patient has been in the department for 2 hours (or sooner as warranted)
• Reassessment of the chief complaints (or new ones) every 2 hours
• Vital signs retaken every 4 hours (or more often as clinically indicated)
• Reassessment of all patients at time of discharge for changes in vital signs, pain scale, and current clinical status at the time of discharge

In addition, the nurse documents and notifies the provider of abnormal results prior to the patient’s discharge when the patient’s vital signs fall within the following table.

<table>
<thead>
<tr>
<th>Blood pressure</th>
<th>Adult</th>
<th>Child 1-8 y</th>
<th>Infant 0-12 mo</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pulse</td>
<td>&lt;80/60</td>
<td>&lt;80/60</td>
<td>&lt;100</td>
</tr>
<tr>
<td>Respirations</td>
<td>&gt;80</td>
<td>&gt;120</td>
<td>&gt;140</td>
</tr>
<tr>
<td>Temperature</td>
<td>&gt;100.5°F (38°C)</td>
<td>&gt;100.5°F (38°C)</td>
<td>&gt;100.5°F (38°C)</td>
</tr>
</tbody>
</table>

—Elizabeth Murphy, RN, CEN, BSBA, Quality Assurance Representative, Rex Healthcare, Raleigh, NC; emurphy1@nc.rr.com

Answer 4:
There is no national US standard. Defense attorneys and risk managers recommend against setting specific times. The schedule set forth by the CTAS seems reasonable, especially because allowances are made for some variability.

I think it is also important to distinguish between a true reassessment and an almost meaningless charting entry, such as “in no acute distress” (ie, the patient is alive). Not every patient needs a repeat set of vital signs with each assessment. For stable patients with isolated or single-system problems in particular, a simple re-check should do.
—Gordon Rogers, RN, CEN, Clinical Supervisor, Emergency Department, University of Missouri Hospital, Columbia, Mo; grogersrn@yahoo.com

Answer 5:
The 5-tier Australian Triage Scale (ATS) has the same times as the CTAS for initial maximum time and does not address reassessment. Most individual emergency departments have some policy about the triage nurse being responsible for reassessing patients in the waiting room, but most are generic and often unworkable. In reality, as the emergency department becomes busier and “backed up,” the triage nurse has less time available to reassess now when reassessment is probably needed the most.

In 2003, the New South Wales Health Department introduced a new position of Clinical Initiatives Nurse into some of the emergency departments with higher volume. The Clinical Initiatives Nurse is responsible for the initiation of investigations and treatments, as well as the reassessments of the waiting room patients.1
—Toni G. McCallum Pardey, RN, General Certificate, A & E Certificate, MCN, MRCNA, MNurs(NursePrac), Clinical Nurse Specialist, Emergency Department, Wyong Hospital, NSW, Australia; ToniMcCallum@bigpond.com.au

REFERENCE

MEASURING/DOCUMENTING INDICATORS ON MOUNTED EKG STRIPS

Do other emergency departments require the nurses to document key information, such as PR interval and QRS width, on mounted EKG strips?

Answer 1:
Our ED policy calls for ED nurses to mount the strips and document the interpretation. We have found that is
adequate for supporting both emergent and non-emergent treatment. The hospital’s inpatient cardiac care nurses do time measurements as part of their unit’s protocol.

—Ellen Campeau, RN, MSN, CEN, Clinical Nurse Specialist, Henry Ford Wyandotte Hospital, Wyandotte, Mich; ecampea1@HFHS.ORG

Answer 2:
Our documentation standards include:

- An initial rhythm strip when cardiac monitoring is initiated with the patient’s name, the time, date, and lead is recorded on the strip.
- Each follow-up rhythm strip (if any) must have the date, time, lead, and RN’s initials.
- The heart rate, rhythm, heart sounds, and pulse characteristics are documented (if applicable to this patient’s complaint) in ED flow record under systems review. If appropriate, jugular vein distension is assessed and noted if it is present.

We do not require measurements of the PR, QRS, and QT intervals. A 12-lead EKG is done upon the patient’s ED arrival and for any subsequent changes in symptoms or rhythm. The intervals are measured on this.

—Elizabeth Murphy, RN, CEN, BSBA, Quality Assurance Representative, Rex Healthcare, Raleigh, NC; emurphy1@nc.rr.com

Answer 3:
When I worked at Baptist Memphis Hospital, we mounted the strips and had a column to the left to document the rate, PR interval, QRS width, etc, and initialed it. This was the expectation even before Baptist Memphis built a Heart Hospital in 2000, which was a “hospital within a hospital,” even though there was no separate “heart hospital emergency department.” Now, always achieving 100% compliance with this expectation was another issue.

—Ouida Lester, RN, Staff ED Nurse, Western Baptist Hospital, Paducah, Ky; Ouida509@aol.com

Answer 4:
Our ED nurses are expected to document a strip (eg, mount and measure the intervals) when placing a patient on a cardiac monitor and whenever there are changes in the patient’s rhythm or condition, regardless if the patient is having an EKG done. We also follow the hospital policy of documenting a strip once a shift on our “border” telemetry patients.

I support these procedures when you consider the following possibilities.

- The interpretation alone (without the strip and/or measurements) may be inaccurate. Some rhythms, such as blocks, can be a bit elusive. I often see this during Advanced Cardiac Life Support (ACLS) courses, during which participants have difficulty distinguishing Mobitz II from third-degree A-V block.
- It is possible to “miss” things (eg, lengthening of the QT interval, P-R interval longer than normal) if these measurements are not specifically made.
- Baseline measurements are needed to evaluate the response to some drugs, such as procainamide hydrochloride (Proenstyl).

—Sara Johnson, MSN, RN, Education Specialist, Waterbury Hospital, Prospect, Conn; SJohnson@WTBYHOSP.CHIME.ORG

Answer 5:
We have an ST Elevation Caremap. The target time from door to EKG is 5 minutes. If there is ST elevation, the interventionalist is called so the patient can go to the catheterization laboratory quickly. We document times on the caremap: the interventionalist notification and arrival, medications given, transport to the catheterization laboratory, etc. Our door to balloon times are among the best in the United States.

We require our ED nurses to recognize and record ST elevation and ST depression on rhythm strips so that they can notify the ED physician; we also teach them to recognize ST depression to notify the emergency physician.

—Diane Gurney, RN, MS, CEN, Educator & Trauma Coordinator, Cape Cod Hospital, Hyannis, Mass; DGurney@Capecodhealth.org

Answer 6:
In our ACLS courses, we provide the following chart. We find “plugging in” the rough findings into the graft helps practitioners to quickly identify the rhythm without measuring.

—Craig L. Olesen, MD, Special Assistant to the President for Legal and Governmental Affairs, American Medical Resources Foundation, Libertyville, Ill; craig.olesen@comcast.net
I think an issue just as important is the role of a monitor technician. I believe, especially in these days of Medicare fraud and abuse investigations, that if someone is not continually watching the monitor, then the patient is not being “monitored.” If we are billing a patient for “monitoring,” then we had better be providing the service. It is not possible for the nurse to render care for a patient and watch the monitor at the same time. It is not the standard of care for inpatients, so it should not be an acceptable standard for emergency patients. The level of care a patient receives should be based on their condition, not on where they are located.

Placing a patient on a monitor is not the same as “monitoring” a patient. I maintain dysrhythmia alarms augment, but not replace, the role of ED monitor technicians.

Remember the nursing process? Measuring monitor strips is data collection. Comparing them with previous strips is part of the analysis or assessment. Only then can our actions be planned based on the analysis of the data.

—Robert W. Stein III, BSN, MSHA, RN, CEN, CHE, Director, Emergency Services, Health Central, Ocoee, Fla; Roberts@health-central.org

TWO PATIENT IDENTIFICATIONS

What are other emergency departments using for the Joint Commission for Accreditation of Healthcare Organization’s (JCAHO’s) 2 patient identifications?

Answer 1:
We use the patient’s (first, middle initial, last) name and birth date, which is also on their name band. It has been very helpful because we have some patients with the same name in our Hmong population. If they are awake and alert, we also ask for their Social Security number (our electrocardiogram system’s identifier) before we perform the EKG.

—Jane Hottinger, RN, MSN, CEN, ED Nurse Clinician, Mercy Medical Center, Oshkosh, Wis; dhottinger@New.RR.COM

Answer 2:
We are using the birth date and Social Security number. We also have the patient identify themselves and give us the information (if able), in addition to checking the armband.

In one instance, a local triage nurse asked the psychiatric patient in the processing area if he was “so and so” prior to attaching his name band with all of the correct information. The patient responded, “You can call me that.” Unknown to the nurse, there were two patients waiting for processing and the armband had been placed on the wrong one.

—Kathleen (Kathie) Carlson, RN, MSN, CEN, Emergency Department Managers, Sentara CarePlex Hospital, Hampton, Va; KKCARLS@aol.com

Answer 3:
We request photo identification from all patients. Patients who cannot provide one are asked for other identifications, such as a Social Security card or birth certificate. This
information stays with the patient’s record. We take a picture of the patient and it stays with the patient record.
—Lorraine Salavec, MS, RN, CEN, Emergency Department Clinical Educator, Norwalk Hospital, Norwalk, Conn; Lorraine.Salavec@norwalkhealth.org

Answer 4:
Prior to registration, we use the patient’s name and date of birth. After registration, we use name and medical record number (Health Information Management [HIM] number).

The problem is to meet the JCAHO’s expectation for 2 pieces of information if the physician is using the patient’s paper chart and/or the patient is in isolation. What we have done is to take a patient label (which has the name and HIM number on it) into the room. This does create a new problem: how to shred it, because it has patient information on it.

For unconscious patients, we use Mr or Ms Xa, Xb, Xc, etc. I know some institutions use John or Jane Doe A, B, C, etc. Assigning these codes allows us to generate a HIM number to order tests. When the person is identified later, we change over the count in the computer.

—Robert G. Flade, RN, BS, Director, Emergency Department, New Britain General Hospital, New Britain, CT; RGFFlade@nbgh.org

Answer 5:
Our policy is that the order must be written on the chart. I take the paper chart with me to the room with the medication. This provides me with a way to verify the patient by using the name and birth date on the chart.

We use a 3-copy paper chart. The first 2 pages are identical and have the triage assessment and doctor orders written on them. The third page is the same on the upper half, but the bottom half is the flow sheet for charting nurses’ notes and medications. If the physician is using the chart after writing an order, I pull the third sheet, transcribe the order, and take it to the automated medication dispensing machine (Pxyis) and in the patient’s room.

—Beverly Beard, RN, ED Staff Nurse, Providence Everett Medical Center, Everett, WA; angelbev@juno.com

RECORDED REPORT TO THE FLOOR
We still struggle with getting a nurse to come to the phone to take report and do not want to go to faxing the report. Do you have any other ideas?

Answer:
Our emergency department calls reports to the voice mailbox specifically designated for report. We first call the unit secretary, verify that the bed is actually ready, and then tell them the report is being recorded.

A template guide helps keep the information communicated in a consistent manner. The template form is laminated, with the voice mailbox numbers for each unit listed on the back, and kept at the nurses station.

After recording the report, we wait 10 minutes and then take the patient up. This process was piloted with our cardiac step-down unit, and worked well. We are expanding the process to include all other nursing units, including ICU/CCU.

—Louann Bean, RN, BSN, Director, Emergency and Urgent Care Services, Harrison Hospital, Bremerton, Wash; LouannBean@HMH.WESTSOUND.NET

POC AND HEMOCCULT TESTING COMPETENCIES AND DOCUMENTATION

How do other emergency departments handle the bedside occult blood testing (or other point-of-care [POC] testing)? We are concerned about the handling of competency and documentation.

Answer 1:
Primarily our physicians perform hemoccult tests and document the results, along with the appropriate lot numbers and expiration dates, on a quality assurance form, which then goes to the laboratory. We have always had nurses and technicians (eg, “staff”) maintain annual documented competencies in our POC testing.

Surprisingly, on our recent JCAHO survey, the physician surveyor wanted to see the documented competencies for the ED physicians who were performing the
tests. We have a statement in our laboratory policies regarding board-certified physicians being competent to do this type of bedside testing by virtue of their training, but this was not adequate according to the surveyors.

JCAHO regards the physicians as “staff” with the same competency requirements as nursing staff in this area of bedside testing (JCAHO Standard: PC.16.30: Staff performing tests have adequate, specific training, and orientation to perform the tests and demonstrates satisfactory levels of compliance). Our surveyor indicated that 80% of emergency departments were noncompliant in this area of “staff” documented competencies.

—Carl Ray, RN, ED Nurse Manager, DePaul Medical Center, Norfolk, Va; carl_ray@fastmail.fm

Answer 2:
We keep bottles of developer in 2 designated areas: the trauma bay and the soiled utility room. Testing is performed only in the designated locations. All staff can perform the testing after demonstrating competency, which is done during orientation (an hour-long session with the laboratory ancillary testing coordinator, who also maintains the documentation).

The ED technicians are responsible for performing the daily quality control testing and documenting the results in the logbook for each opened bottle. One quality control documentation sheet is maintained for each bottle.

—Lisa Doddy, RN, CEN, Patient Care Manager, Emergency Department, St Luke’s Hospital and Health Network, Bethlehem, Pa; doddyl@slhn.org

Answer 3:
We record the lot number, expiration date, and results of the quality control testing in the patient’s medical record in our electronic ED documentation system’s template. All nurses and technicians are checked off on POC testing in a yearly skills fair, and this was acceptable to our June 2004 JCAHO surveyor (who was an ED physician).

—Dotty Kuell, RN, BSN, CEN, ED Manager, First-Health Moore Regional Hospital, Pinehurst, NC; Dkuell@firsthealth.org

Answer 4:
We currently use a POC testing sheet for quality control but are in the process of moving this documentation into the ATM (eg, Pyxis) machine to create an automated log. We found the extra work of POC testing quality control and competencies worth it. By incorporating bedside troponin, we decreased our length of stay on applicable patients by 1½ hours.

—Ann Marie Tyrell, RN, CEN, MS, Former Network Director, Emergency Services, Cape Fear Valley Medical Center, Fayetteville, NC and Consultant, HealthLink, Inc, Wilmington, NC; atyrell@healthlinkinc.com

Answer 5:
Our ED physicians, nurses, and technicians perform the tests. Each is required to do an annual competency that includes a written posttest. The hospital has a POC testing coordinator as part of the laboratory staff. Her role is to work with each hospital department to develop CLIA-compliant processes that are not a burden.

Just as for the pregnancy and POC troponin testing, the individual test result is entered onto a form, along with date, patient number, hemoccult slide lot number, developer lot number, and expiration dates. It is then sent to the laboratory, which tracks it centrally.

We achieve reimbursement for POC testing by assigned acuity points.

—Louis Kaeter, RN, BSN, Patient Care Manager, Emergency Department/CDART Unit, Minneapolis, Minn; Louis.Kaeter@allina.com

Answer 6:
VHA found that POC testing is widely used for glucose (95%), urine dip (54%), urine pregnancy (33%), ISTA (23%), rapid strep (21%), troponin (19%) and blood gas (18%). Overall, the trend has been less POC testing except for glucose.

In our experience, the laboratory leadership is more willing to support the ED POC testing if they have a process to own the ED throughput and bill for the procedure to receive the revenue. Depending on the ED volume, it is sometimes possible to justify a laboratory technician specifically responsible for the ED phlebotomy and POC testing. Overall, the fewer people doing the POC and quality checks, the better. There is no silver bullet for possible problems, but it is the way of the future.

—Jeanne McGrayne, RN, MSN, Director, VHA Emergency Department Consulting, Charlotte, NC; jmgrayne@vha.com
SYNCRONIZED DEPARTMENT CLOCKS

We do not have 2 wall/monitor clocks in our emergency department that have the same time. Are there any ideas on what we can do besides “synchronizing our watches” at the beginning of a shift?

Answer 1:
I believe this is an important issue. My personal solution is to ignore all other clocks in the department during a critically timed period and use only my digital wristwatch. I set my watch according to a known standard: the government NIST clock or the “phone company” time announcement. I figure that way I can always say, “Yes, Your Honor, I can accurately say the exact time this occurred, because…”

—Tom Trimble, RN, CEN, Staff Nurse, Emergency Department, University of California San Francisco Medical Center, San Francisco, Calif; List Administrator for Em-Nsg-L; Tom@ENW.org

Answer 2:
Our BioMed department has an atomic clock that they use to synchronize the defibrillation clocks. It is nice for the timed printouts for our code reports.

Prior to this, we had small clocks attached to the code chart clipboards that were synched by BioMed on a routine basis. Unfortunately, not all of our other wall clocks are tied into a single system.

—Jean A. Proehl, RN, MN, CEN, CCRN, Emergency Department Clinical Nurse Specialist, Dartmouth-Hitchcock Medical Center, Lebanon, NH; Jean.A.Proehl@hitchcock.org

Answer 3:
I have found this same clock scenario very frustrating, especially for a patient care situation when you know the times will be reviewed (eg, door to EKG time). One thing we tried was to buy small digital clocks (2 inches x 2 inches) and put Velcro on the backs and the clip of the chart. When we have a patient for whom accurate tracking times are needed, we grab one of those clocks, attach it to the chart, and everyone knows to use only that time. The clocks are stored in a central spot on the main nursing station desk.

The idea is great but the practice is spotty. These types of patients are time intensive and we do not always have time to figure out where the clocks are “hiding” this time.

—Beverly Beard, RN, ED Staff Nurse, Providence Everett Medical Center, Everett, Wash; angelbev@juno.com

BENCHMARKING RESTRAINT AND SECLUSION USAGE

We have been able to reduce the number of events, as well as the hours per event, for restraint and seclusion usage. However, we would like to know how we compare with other hospitals.

Answer:
I have looked in many different sources (government, regulatory, and consultants). Frankly, no one wants to give up these data, and there is no national database.

Our emergency department’s restraints use runs about 0.25% to 0.45% per visit over the past 3 years. We dropped down significantly several years ago after a very labor-intensive initiative to reduce the number of restraints while maintaining safety. We track 100% of our restraint use, and we have consistently hovered within this range. We have concluded that below 0.25% we are probably endangering staff, patients, or visitors, and above 0.45% we are concerned about inappropriate use or failure to consider alternatives. We do not have a special ED seclusion room.

—Robert G. Flade, RN, BS, Director, Emergency Department, New Britain General Hospital, New Britain, Conn; RGFlake@nbgc.org

DOMESTIC VIOLENCE ABUSE POLICY AND PROCEDURE TIPS

I know the JCAHO requires us to have protocols and staff training on domestic violence. Do you have any tips to include in my department’s policy and education?

Answer 1:
We use a simplified screening tool of 3 questions in our assessment forms.

• Have you ever felt threatened in your home?
• Do you have a history of or are currently being sexually, emotionally, or physically abused?
• Do you need additional emotional, spiritual or cultural support?
— Sylvie Simpson, RN, BSN, ED Nurse Clinician, Orlando Regional Medical Center, Orlando, Fla; sylvies@orhs.org

Answer 2: We have the primary care ED nurse ask about abuse/neglect during his or her assessment of every patient. We even ask an infant’s parent if they know about resources if anyone was ever hurting or abusing their child. It was difficult at first because parents thought that we were questioning if they were abusing their child. We have learned to preface the inquiry with “Because we want you and/or your child to be safe….” And then offer written information on abuse.

We offer a referral card with resources for any type of abuse (spousal abuse, child abuse, smoking and alcohol abuse, etc) so they will personally have options without having to admit anything and to enhance awareness. Even if they say no, there is information in the room that they can access. And I verbally go through some options, just in case.

— Jane Hottinger, RN, MSN, CEN, Nurse Clinician, Mercy Medical Center, Oshkosh, Wis; jhottinger@new.rr.com

Answer 3: Some points we include in our SANE training for sexual assault victims include:

- Avoid the word “rape” in your initial questioning. Instead ask, “Did anyone touch you sexually in a way that made you feel uncomfortable, that was against your will, or that hurt you?” Many victims do not initially label the sexual assault as a “rape.”

Documentation:

- Establish the time of the sexual assault. Most guidelines use a 72-hour window for a sexual assault evidentiary examination, although some a 96-hour window. At times an examination will even be done a week later as there can still be some epithelial cells around the cervix.
- Be alert for statements about a “black out” period. The victim may say things like, “I don’t remember what happened.” Or “I don’t remember anything after he brought me a drink.” The assault may have been drug-facilitated and some date rape drugs, such as Xyrem (GHB), dissipate very quickly, requiring a timely specimen collection.

- Never write “alleged rape” as the complaint. It implies you do not believe the victim. We do not write “alleged kidney stone” even though that isn’t proven. Write “sexual assault” or “For sexual assault examination.”

Care:

- Automatically call the SANE or rape advocate when the victim arrives, because research shows it is best to not ask the patient if this is desired. We do not get patient’s consent for medical specialist involvement.
- Offer a warm blanket to wrap around the victim.
- Do not offer the victim anything to eat and drink because it destroys evidence.
- Encourage the victim to not use the bathroom prior to the forensic examination. If it is necessary, instruct the patient to “drip dry,” because wiping destroys evidence. Most crime laboratories do not want toilet paper or toilet water that may have sperm.
- Avoid cutting through any tears or stains on the clothing.

I strongly advocate having a SANE or sexual assault response team (SART) for your hospital. Using these programs improves victim care, reporting to authorities, forensic evidence collection, the successful identification and prosecution of the assailant, and reduces the facilities liability. For resources about these programs, go to www.sane-sart.com and/or the Office for Victims of Crime, Training, and Technical Assistance Center.¹

— Linda E. Ledray, RN, SANE-A, PhD, FAAN, and Carol J. Schwartz, RN, SANE-A, Sexual Assault Resource Service, Minneapolis, Minn; linda.ledray@co.hennepin.mn.us

REFERENCE


Answer 5: The ENA has a position statement on care of sexual assault victims. It can be accessed at ena.org.

— Patti Howard, RN, PhD, CEN, Staff Development Specialist, Emergency Department, University of Kentucky Hospital, Lexington, Ky, and President, ENA; pkhoward@uky.edu
DIVERTING AN AMBULANCE TO A DIFFERENT TYPE OF FACILITY

We are a community hospital. When we get a call that a coming ambulance’s patient has an obvious significant burn injury, are we allowed to divert the ambulance to a specialized center located within a reasonable distance? It would be better equipped to care for the patient’s specialized needs.

Answer:
No. The US Court of Appeals for the 9th Circuit has ruled that if an inbound ambulance requests to bring a patient to your hospital, you may not divert it unless your facility is formally on diversion (pursuant to a community-wide plan, not just an unilateral or case-by-case decision).
—Stephen A Frew, JD, Risk Management Consultant, Physicians Insurance Company of Wisconsin, Madison, Wis; sfrew@medlaw.com

TELEMERGENCY MEDICINE

I want to learn more about rural NPS practicing through telephone consultations with physicians. Is this the same as telephone triage?

Answer:
Providing qualified emergency care in rural hospitals with low patient volumes can be cost prohibitive; in addition, it is difficult to retain physicians. By using a nurse practitioner as the health care provider, the Emergency Department of the University of Mississippi Medical Center (UMC) provides emergency coverage for treatment to these participating hospitals through the rural health telemedicine initiative called TelEmergency system.

Family nurse practitioners who have completed UMC’s emergency medicine training course and clinical residency are eligible to work in this program. The nurse practitioners evaluate and treat emergency patients by collaborating with the supervising emergency physicians at UMC as needed.

Rural hospitals have contracted with the UMC to provide the physician backup for the nurse practitioners who completed the program and were hired by the local facility. When these nurse practitioners staff the rural emergency department, they communicate with emergency medicine physicians at UMC via T-1 lines and a sophisticated telemedicine set-up.

The program began operation on October 1, 2003, as a pilot project approved by the Boards of Medicine and Nursing, and their providers have since seen an average of approximately 1000 patients per month who would otherwise not have access to this high level of emergency care.
—Kristi Henderson, RN, MSN, CFNP, CACNP, Nursing Director of Emergency Services, University of Missouri Medical Center, Jackson, Missouri; khenderson@nursing.umsmed.edu

Acknowledgments
Many thanks to Toni G. McCallum Pardey, RN, General Certificate, A & E Certificate, MCN, MRCNA, Mnurse (NursePrac) from Wyong Hospital, Australia; Barb Pierce, RN, MN, Director of Critical Care/Emergency Department from Southeast Georgia Medical Center, Brunswick, Georgia; and Tom Trimble, RN, CEN, ED Staff Nurse from University of California–San Francisco Medical Center and List Administrator for Em-Nsg-L, for their help with obtaining sources and content for this column.
be frozen. Then more information is provided regarding the treatment of the patient and the pathophysiology of a GHB overdose.

The index is somewhat complete. For example, the Kleihauer-Betke stain, which is used to check for fetal-maternal hemorrhage, is not listed in the index, but the Betke-Kleihauer stain is listed; in a very complete description of the test and condition, the authors note that the test goes by both names. One minor detraction: When looking up “restless leg syndrome” in the index, the reader is referred to restless leg syndrome in the first section of the book. Here the reader is referred to sleep disorders, where polysomnography is noted.

Laboratory Tests & Diagnostic Procedures would make a good quick reference book for the emergency department.—Dennis Emerson, BS, RN


The foundations upon which we deliver quality patient care are based on the simple concept of do no harm. Significant advances have been made in patient safety, but many questions remain regarding safety practices and the best way to implement them. The authors of Patient Safety: Principles and Practices have provided an extremely comprehensive resource for every aspect of patient safety. From theoretic concepts to practical applications, this book provides a complete reference guide for health care providers and health care organizations.

Each chapter is well organized and presents the information with pertinent evidence-based practice theories and concepts, supporting data to include regulatory and health care professional agencies, and specific examples of patient safety principles. Web resources are provided at the end of each chapter with a brief description of the site for the reader to reference.

The beginning bedside clinician and/or experienced direct care provider may find this book to be overwhelming with concepts, research citing, and statistical data. Not until “Part III: Patient Safety in Specific Settings and Populations” do the authors address practical applications for ensuring safety practices in specialized patient populations. In addition, because the authors frequently refer to future chapters to provide additional information for the concepts being discussed, the beginning chapters are more difficult to understand. It would have been helpful to have this information presented right along with the aspect of patient safety the authors were trying to convey.

We recommend this book for nursing leadership (eg, managers and directors), especially the new manager coming from a direct care position or those responsible for patient safety, which includes developing and maintaining a Patient Safety program. This text provides a thorough guide and understanding of patient safety principles needed to ensure that those responsible for keeping patients safe “first, do no harm.”—Diane Liebeskind, RN, CEN, and Lynda Bartko, BSN, RN

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A 23-Year-Old Man With Chest Pressure, Pallor, Tachypnea, and Tonsillitis

History of current illness

A 23-year-old obese man presents to the emergency department (ED) with a chief complaint of substernal chest pressure and dizziness for 2½ hours. The pain is a 6 on a scale of 10 and radiates to his back. The patient is diaphoretic, markedly pale, tachypneic, and complaining of shortness of breath. After triage, the nurse takes the patient immediately to the treatment area and places him on a cardiac monitor. The ED team initiates intravenous access with normal saline solution at 100 mL/h and oxygen therapy at 3 L/min by nasal cannula.

PERTINENT MEDICAL HISTORY

The patient had seen his primary care physician and an ear, nose, and throat (ENT) specialist the previous day and had been diagnosed with streptococcal tonsillitis, although no laboratory tests were done to confirm this diagnosis. Medications. The ENT specialist prescribed amoxicillin and clavulanate potassium (Augmentin), but the patient did not fill the prescription because he could not afford it. Family history. The patient has no family history of early cardiovascular disease. Social history. The patient is a nonsmoker and denies recreational drug use.

Physical examination

Skin, head, eyes, ears, nose, and throat. Examination found bilateral cervical adenopathy and an erythematous pharynx with bilaterally enlarged exudative tonsils; the neck was supple.
Initial vital signs were as follows: pulse, 86 beats/min; blood pressure, 98/66 mm Hg; respiratory rate, 40 breaths/min; temperature, 37.9°C (100.2°F); SpO2, 98% on room air. Lungs were clear; heart tones were normal without murmur; no jugular venous distention or peripheral edema was noted.

What are your differential diagnoses?

This patient presents both a diagnostic and a management dilemma. His symptoms are consistent with an acute cardiac event; however, his only risk factor is his obesity. His recent medical history suggests an infectious process, possibly causing cardiac complications. Also, despite his denial about recreational drug use, a drug-induced cardiac event is a possibility. Our initial differential diagnoses include a primary cardiac event, drug effect, sepsis, dehydration, bacterial endocarditis, viral myocarditis, and rheumatic fever.

What initial interventions and diagnostics does he need?

We obtain blood for laboratory analysis (Table 1). An electrocardiogram (ECG) reveals peaked T waves in the anterior leads. The results of a rapid Streptococcus test are negative. Because the patient has chest pressure, we administer 325 mg of aspirin and nitroglycerin 1:150 grains sublingually, but the chest discomfort is not relieved. After the nitroglycerin is administered, the patient’s blood pressure drops to 78/44 mm Hg but improves when we administer 1000 mL of intravenous normal saline solution. The ED physician interprets the patient’s chest radiograph as normal.

Our initial differential diagnoses include a primary cardiac event, drug effect, sepsis, dehydration, bacterial endocarditis, viral myocarditis, and rheumatic fever.

What do you think?

The results of the diagnostic studies do not readily clarify the problem. Clearly, on the basis of his abnormal cardiac enzyme levels, the patient has had some type of cardiac event. In addition, in spite of the normal findings on the chest radiograph, the patient’s abnormal B-type natriuretic peptide (BNP) level indicates that he is in mild heart failure. Furthermore, the erythrocyte sedimentation rate (ESR) indicates that there is an inflammatory component to his condition. Although the white blood cells (WBCs) typically are elevated with a cardiac event, the degree of elevation along with the abnormal banding indicate an infectious process.

What additional interventions and diagnostics does he need?

We administer morphine 1 mg intravenously, which relieves the chest pressure, and 2 g of intravenous ceftriaxone for the infection. An emergency echocardiogram reveals a normal ejection fraction and heart valves and no evidence of tamponade. The ED physician consults cardiology, internal medicine, and ENT physicians to admit the patient to telemetry with an initial diagnosis of rheumatic fever versus viral myocarditis.

Outcome

Results of blood cultures and an antistreptolysin O titer were negative for any bacterial pathogen, effectively ruling out rheumatic fever and bacterial endocarditis. The ENT specialist ruled out epiglotitis. During hospitalization, the patient underwent a cardiac catheterization that again revealed a normal ejection fraction, no valvular pathologic condition, and normal coronary arteries. His heart failure was treated with furosemide, lisinopril, and carvedilol with good resolution of symptoms. He continued to receive intravenous antibiotics, and indomethacin for the inflammation. The patient was discharged after 5 days of hospitalization with a diagnosis of viral myocarditis. He continued to take the cardiac medications and antibiotics for a few weeks after discharge and was expected to make a full recovery.

Discussion

Viral myocarditis is an inflammatory disorder of the myocardium. The two most common pathogens are...
adenovirus and enterovirus (eg, Coxsackie virus). Other causative viral agents include influenza, hepatitis A and C, human immunodeficiency virus, and cytomegalovirus. The specific virus causing this patient’s myocarditis was not identified.

Suspect [viral myocarditis] in patients who present with cardiac symptoms in the absence of a history of heart disease or cardiac risk factors but with a recent infectious illness.

The result of the infection is impaired myocardial functioning resulting from myocyte cell death. This causes myocardial enlargement and increased preload from volume overload related to dysfunctional contraction of the heart. As this cycle progresses, heart failure develops and, without intervention, end-stage cardiac failure and death result.

The presenting symptoms and history are variable and often are nonspecific. A history of a recent infectious illness should provide a clue. This patient’s shortness of breath, chest discomfort, fever, hypotension, pallor, and heart failure are common findings. In addition, his laboratory results showed the typical elevations in WBCs, ESR, and cardiac enzymes. Although his chest radiograph revealed normal findings, radiographs in 50% of cases of viral myocarditis will show cardiomegaly. Common findings on the ECG are nonspecific ST-T wave changes, low voltage, and sinus tachycardia.

Treatment is aimed at stabilizing the patient’s hemodynamic condition, controlling the heart failure, and increasing cardiac output with standard interventions including acetylcholinesterase inhibitors, diuretics, anticoagulation based on patient condition, oxygen therapy, and inotropic agents such as digoxin.

The most cost-effective test is the echocardiogram, which usually demonstrates global hypokinesis. A biopsy of the myocardium provides a definitive diagnosis, but this is not a first-line test and it would not be performed in the ED.

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<table>
<thead>
<tr>
<th>TABLE 1</th>
<th>Pertinent abnormal laboratory results</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Laboratory test</strong></td>
<td><strong>Result</strong></td>
</tr>
<tr>
<td>CBC</td>
<td>WBC 20.2 ×10⁹/μL</td>
</tr>
<tr>
<td></td>
<td>Segments 72%</td>
</tr>
<tr>
<td></td>
<td>Bands 11%</td>
</tr>
<tr>
<td>Chemistry panel</td>
<td>Carbon dioxide 18 mmol/L</td>
</tr>
<tr>
<td>Cardiac enzymes</td>
<td>CPK 633 IU/L</td>
</tr>
<tr>
<td></td>
<td>CPK MB 36 ng/mL</td>
</tr>
<tr>
<td></td>
<td>Troponin I 20.50 ng/mL</td>
</tr>
<tr>
<td>Rapid <em>Streptococcus</em> test</td>
<td>Negative</td>
</tr>
<tr>
<td>Urine drug screen</td>
<td>Negative</td>
</tr>
<tr>
<td>ESR</td>
<td>56 mm/h</td>
</tr>
<tr>
<td>BNP</td>
<td>191 ng/L</td>
</tr>
</tbody>
</table>

CBC, Complete blood count; CPK, creatinine phosphokinase.
fluid resuscitation, frequent assessment of lung sounds is vital for early detection of heart failure. A small number of patients will require cardiac transplantation as a result of irreversible cardiac damage. If the diagnosis of viral myocarditis is certain, antibiotic therapy would not be indicated.

Viral myocarditis is an uncommon but potentially fatal disease. Suspect it in patients with cardiac symptoms in the absence of a history of heart disease or cardiac risk factors but with a recent infectious illness.

REFERENCE
Emergency Nursing
Pediatric Course (ENPC):
The New 3rd Edition

The ENPC is a great course,” notes a participant in the newly revised Emergency Nurse Pediatric Course (ENPC). ENPC teaches nurses in a way that other courses such as the American Heart Association (AHA), Pediatric Advanced Life Support (PALS), and American Academy of Pediatrics Advanced Pediatric Life Support (APLS) do not. PALS and APLS are written for all health professionals (physicians, registered nurses, and emergency medical technicians) who provide emergency pediatric care. ENPC, on the other hand, is a fundamental nursing course that puts the information in the format of the nursing process.

Providing nursing care to critically ill or injured pediatric patients is one of the most complicated and stressful tasks for nurses. We know children are not small adults, but what else do we need to know to provide quality nursing care? Since 1993, ENPC has provided the core knowledge and skills needed to provide that care. ENPC is a course written for nurses by expert pediatric emergency nurses. ENA introduced ENPC in response to member needs. ENPC has now gained a worldwide presence and is taught in Australia, Canada, Netherlands, Sweden, and the United States. Pediatric emergency nursing practice has evolved during the past 11 years. The newly released third edition of ENPC reflects the essential components of emergency nursing care for the pediatric patient in 2004. This course will help your practice be more efficient, current and competent.

What exactly is new?
The entire ENPC course has changed. Let’s start with the book: It is smaller, easier to read, and more likely to be a reference you will use in your everyday practice. Useful,
organized, and bulleted tables have been moved from the unread back of the book to the body of the chapters. Tables support the important chapter content and allow for quick reference. The format of the chapters is reader friendly, with information given in paragraph form. NANDA Accepted Nursing Diagnoses have been consolidated at the end of chapter 21.

The new content

Through the use of medical technology, more children are surviving and are cared for at home. Statistics (1998)1 reveal that “Eighteen percent of children under age of 18 had a condition which met special health care needs criteria.” When problems arise, these pediatric patients and their anxious families come to our emergency departments. In response to this trend, and in keeping with Joint Commission for Accreditation of Healthcare Organizations’ standards for age-specific competency, ENPC has expanded “Care of Children with Special Health Care Needs” from one slide to an entire chapter. Specific information regarding this population is given that is dependent on medical technology. For example, this chapter presents an organized approach using the DOPE mnemonic (displacement, obstruction, pneumothorax, and equipment failure) for troubleshooting emergencies without knowledge of idiosyncrasies of a specific brand of equipment. The chapter emphasizes that our best resource when taking care of children with special health care needs is their primary caregiver. They are the experts regarding their child’s care.

The number of pediatric psychiatric emergencies is paralyzing our emergency departments nationwide. The emergency department is where pediatric patients and their families are most likely to present at the height of a mental health crisis. Because of a lack of pediatric inpatient psychiatric beds, the length of stay for these patients in the emergency department may extend from several hours to several days. In response to this situation, ENPC has added a basic informational chapter entitled “Psychiatric Emergencies.” In our opinion, this is the most useful chapter in the book. Topics covered include suicide, out-of-control aggressive behavior, substance abuse, and psychosis. Antipsychotic medications have many serious adverse effects that emergency nurses need to know about. Once again the table format provides readily accessible, need-to-know information. Table 19-5, “Signs and Symptoms of Lithium Toxicity,” is very useful for everyday reference.1

Skill stations

The skill stations are now streamlined. “Resuscitation” and “Trauma Skills” stations are combined as the “Management of Ill or Injured Pediatric Patient” station. This skill station reflects true emergency situations where you never know what is arriving on your doorstep. The new scenarios require the participants to demonstrate critical thinking to intervene appropriately as the case progresses. The “Pediatric Considerations Station” has been renamed “Clinical Interventions” and remains a nontested station. Course directors have the option of choosing which 3 of 7 content areas they will teach, which allows them more flexibility to best address the learning needs of participants as a group. The “Triage Skill” station is less ambiguous than in the second edition ENPC. If participants are thorough in their triage assessment, most should have little difficulty in ascertaining which child is the “sick, sicker, and sickest.”

After attending ENPC and successfully completing the “Rhythm Disturbance” skill station, participants will be able to recertify their PALS status. This approach is cost-effective and time-efficient for both nurses and employers.

PALS recertification option

Persons in multiple disciplines take care of the same patient. ENPC content consultants worked with other organizations that offer pediatric life support education to ensure continuity of terms and information across these courses. In many settings, ENPC instructors wear dual hats and often are also PALS instructors. During the third revision of ENPC, ENA fulfilled the requirements of the AHA and is now able to offer a PALS renewal option. The “Rhythm Disturbance Lecture” now conforms to the AHA Pediatric Advanced Life Support Course. Likewise, content and concepts contained in the “Shock Lecture” and “Respiratory Emergencies Lecture” are consistent with
those of the PALS curriculum. After attending ENPC and successfully completing the “Rhythm Disturbance” skill station, participants will be able to recertify their PALS status. This approach is cost-effective and time-efficient for both nurses and employers.

The 3rd edition ENPC remains a very full course. Each lecture is crammed with information essential to your care of the pediatric patient, and participants can expect fast-paced lectures. The course outline allows for little extra time for ENPC instructors to dwell on individual subjects or actual cases. To gain the most benefit from an ENPC course, we offer the following tips. Sign up for your ENPC course early, so you will have maximum time to read the material prior to the course. The lectures closely follow the text. Basic and essential tested information is repeated often. Bringing a highlighter to the course will enable you to quickly highlight basic key points. Maximize your participation in the skill stations. Course participants who have practiced the scenarios before testing do better. When practicing and testing the skills stations, have a mindset outside of your work arena. Use the ENPC mnemonics (A-I and CIAMPEDS) fully and you will be successful.

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Conclusion

As seasoned ENPC instructors, we say “hats off” to the 3rd edition ENPC content consultants. They have responded to feedback from instructors and participants and have improved an already quality program. The 3rd edition ENPC addresses the current issues facing emergency departments in 2005 and lays the foundation for safe, competent nursing practice for pediatric emergency patients.

To emergency nurses in general, we would like to say that if you have never taken an ENPC course, take it! This course will teach you what you need to provide basic pediatric emergency nursing care. ENPC is a nursing course written by expert pediatric emergency nurses for the nurse who delivers emergency care to children. It will give you the tools you need to provide calm, confident, and competent pediatric nursing care. If you have taken the ENPC course before, take it again. This course will challenge you with new material worthy of a second look.

Acknowledgment

We thank Joan Meunier Sham, RN, MSN, Pediatric Clinical Nurse Specialist, Pediatric Emergency Department, Boston Medical Center, for her review of this article.

REFERENCE

Low serum glucose is one of the more common causes of central nervous system dysfunction seen in the emergency department.

**Glucose metabolism**

The essential functions of the body require energy to work, and this energy is supplied primarily by adenosine triphosphate (ATP). ATP is a combination of adenine, ribose, and phosphate, and the phosphate is attached to the ATP molecule by high-energy bonds. When the bonds are broken, energy is released and is used to drive these vital processes.

The metabolism of glucose is an important source of ATP. Glucose is transported with the help of insulin into the cells where it is used to form ATP. It also can be stored as fat or stored in the liver and muscles as glycogen, which can be broken down to glucose.

The normal serum level of glucose is 60 to 100 mg/dL, and this level is closely regulated. If the serum glucose falls below 60 mg/dL, the body secretes glucagon and epinephrine, hormones that change glycogen to glucose. If the serum glucose level is above 100 mg/dL, insulin is secreted. This narrow range is maintained because levels that are too high or too low can have serious consequences.

**Hypoglycemia**

Hypoglycemia is defined as serum glucose <60 mg/dL and the signs and symptoms characteristic of low blood sugar. The most dramatic of these are neurologic because glucose is, by far, the most important source of energy for the brain. Fatty acids do not cross the blood-brain barrier, and the metabolism of proteins to glucose occurs too slowly to be
useful when the serum glucose level quickly falls. Thus
the brain depends on a consistent supply of glucose, and if
this is not provided, the results can be catastrophic: pro-
longed hypoglycemia can cause seizures, permanent neuro-
logic damage, or death. Other neurologic signs—agitation,
confusion, somnolence—often are present, especially in the
early stages of hypoglycemia. Tachycardia and diaphoresis
are common; these are caused by the release of epinephrine.

Low serum glucose is one of the more
common causes of central nervous
system dysfunction seen in the
emergency department.

Drug-induced hypoglycemia

The most common drugs that can cause hypoglycemia
are insulin and the sulfonylureas, for example, glipizide.
Hypoglycemia caused by excess insulin is seen quickly after
injection, and the duration is usually less than 24 hours. For
the sulfonylureas, the time of onset can be greatly delayed
and the duration of action of the drugs can be greatly pro-
longed. We have seen several cases at our Poison Control
Center in which the onset of hypoglycemia after a sulfo-
ylurea overdose, or after a single dose ingested by a child, has
been delayed many hours. Many of the cases of sulfonylurea
overdose that we have managed have been remarkable for
hypoglycemia that persists for 3 or 4 days. Even a single dose
of a sulfonylurea in a child or a sulfonylurea-naïve adult can
result in life-threatening hypoglycemia.2

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death. Other neurologic signs—
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often are present, especially in the early
stages of hypoglycemia. Tachycardia
and diaphoresis are common; these are
caused by the release of epinephrine.

Ethanol also can produce hypoglycemia. Many
patients who are intoxicated with ethanol have not been
eating, they may be chronic abusers of ethanol who are
mala...
• Adverse effects: Hyperglycemia, precipitation of Wernicke-Korsakoff syndrome, and irritation of peripheral veins
• Dose: 50 to 100 mL of 50% solution for adults, 2 to 4 mL/kg of 25% solution for children; titrate 10% or 20% infusions to maintain euglycemia
• Route: Intravenous; 10% or 20% solution should be given via central venous catheter

GLUCAGON
• Indications: Serum glucose <60 mg/dL or signs and symptoms of hypoglycemia
• Contraindications: Sensitivity to the drug or pheochromocytoma
• Adverse effects: Nausea and vomiting
• Dose: 5 to 10 mg then 1 to 5 mg/kg/hour infusion; for children, 0.15 mg/kg then 0.05 to 0.1 mg/kg/hour
• Route: Intravenous

OCTREOTIDE
• Indications: Serum glucose <60 mg/dL or signs and symptoms of hypoglycemia that cannot be treated with glucose infusions
• Contraindications: Sensitivity to the drug
• Adverse effects: Pain at the injection site
• Dose: 50 to 100 micrograms every 6 to 12 hours for adults; for children, 4 to 5 mcg/kg/day divided every 6 hours
• Route: Subcutaneous or intravenous; for intravenous, dilute the dose in 50 mL of normal saline solution or 5% dextrose and infuse over 15 to 30 minutes, or give intravenous push over 3 minutes

REFERENCES
Policy Advocacy for Children

In the health care professions, speakers often preface lectures regarding caring for children with the comment, “children are not just little adults.” But in my opinion, adults are just “big kids,” many of whom have forgotten the powerlessness and frustration of being a child. For this reason, children’s special needs may be ignored in policy discussions.

Traditionally, policy advocates provide a voice for those who are not heard. Some persons challenge the idea of advocacy by stating that we increase dependency when we speak for others, rather than empowering them to speak for themselves. However, a child is dependent on others in many respects. An advocate best serves the child or children she represents by encouraging the child to be “seen and heard.” For example, emergency nurses can form departmental committees to advocate for a policy that all children aged 7 years or older who are evaluated in the emergency care system have the opportunity to give written assent for care. More complex issues such as ensuring that all children who are evaluated in the emergency department are fully immunized require additional collaboration, research, and funding. However, in all cases, nurses can remind professionals that the needs of the child, not just the system, should be included in the health care conversation.

Why advocate for children?

I have been part of child policy advocacy services in the emergency medical community for 20 years, and I have found that often children are either not considered as different from the adult population, are considered as a “subgroup” of it, or are seen as a “special population.” In the worst cases, children are not considered at all. For example, as I travel the United States and visit hospitals to assess
pediatric emergency preparedness, I find that many clinicians do not have the knowledge, access to training, or specialized equipment needed to care for the emergency ill or injured child. Even fewer facilities and agencies have policies that include specific procedures on addressing the needs of children and families in mass casualty incidents. To address this issue, I secured grant funding to convene a multidisciplinary meeting of national pediatric disaster specialists, who prepared a Pediatric Mass Casualty Incident Guideline. This document is now available at http://dukehealth1.org/deps/bioterrorism.asp and has been adopted and distributed by other projects. (This material was also discussed in an article I wrote for Connections, ENA’s membership newsletter.)

In addition to helping children, being a child advocate also may have unexpected benefits for clinicians. When I joined the North Carolina State Office of EMS as the EMS for Children Specialist, I was asked to attend meetings of the State Child Fatality Prevention Task Force. At the first meeting, I discovered that there had been several cases of child abuse fatalities where the child previously had emergency care for suspicious injuries that had gone unreported to Child Protective Services. The Task Force was frustrated; they were now ready to recommend prosecution of EMS professionals for failure to appropriately report child abuse and neglect. However, as we discussed the systems failures, it became clear that while there were reporting mandates, there was no mandated, consistent education program for these health care professionals. The solution was new partnerships that included statewide EMS-conducted child abuse recognition education programs (http://www.ncems.org/emsc.htm) and Medical Examiner child fatality investigation, training approximately 2200 professionals. EMS reporting is now rarely a problematic issue in Child Fatality Prevention Team reviews; EMS professionals report greater knowledge and comfort levels, and reports from Department of Social Services professionals indicate that EMS is generating more child abuse and neglect reports. Discussions of prosecution of EMS professionals for failure to report are now rare. Thus, while advocating for children, we were also able to advocate for our colleagues in a very tangible way.

**How can we advocate for children?**

Because we see the results of catastrophic injury and illness, the most important thing that emergency nurses can do to advocate for children is to be a resource to those who are uninformed about how a child’s world is affected. Emergency nurses already are involved in prevention efforts such as reduction of motor vehicle crash injury through programs such as ENCare. To take child policy advocacy efforts to the next level, it is important for nurses to use our personal experience and professional expertise by meeting with our government representatives, writing letters to the editor of our newspapers, and attending meetings and hearings on child health care issues. Confidently testifying before policy makers with both examples from your practice and statistics is powerful.

Child abuse and neglect recognition, motor vehicle crash injury reduction, and pediatric emergency preparedness are just a few of the policy issues where emergency nurses have special expertise and knowledge. Other key areas include adequate emergency health care access and coverage for children, particularly mental health crisis care; funding for teen pregnancy prevention; and the need for systems of blameless reporting of mistakes and “near-misses” in the health care system. Health care professionals can advocate for children by ensuring that their special needs are included in planning for new facilities, the purchase of new equipment, and in competency education and policy formation. We can support legislative issues and politicians who champion children’s rights. A continuum for the care of children includes all who are advocating in different ways. By joining together, we can create change on behalf of children and their families.

**Resources**

Emergency Medical Services for Children: www.ems-c.org
North Carolina Child Advocacy Institute: www.ncchild.org
Children’s Defense Fund: www.childrensdefense.org

**Submissions** to this column are welcomed and encouraged. Submissions may be sent to:

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A 36-year-old man sustained a penetrating wound to his chest from a screwdriver. Upon arrival at the emergency department, he was quite anxious and complained of not being able to take a full deep breath. His initial vital signs were as follows: heart rate, 126 beats per minute; blood pressure, 131/95 mm Hg; respiratory rate, 26 breaths per minute; and SpO₂, 98% on 4 L oxygen by nasal cannula. He had no evidence of jugular venous distension and no cardiac rub or murmur. His lungs were clear to auscultation bilaterally. He had a small penetrating wound near the fifth intercostal space, 2 to 3 cm left of the sternum (Figure 1).

The ED team performed an immediate bedside ultrasound examination that showed a 1-cm pericardial stripe along the inferior apical border of the heart. A transthoracic echocardiogram revealed a moderate pericardial effusion causing impairment of ventricular filling. En route to the operating room, the patient’s systolic blood pressure dropped to 100 mm Hg, while his heart rate increased to 140 beats per minute.

In the operating room, the team evacuated a large amount of pericardial blood. The patient had a through and through stab wound to the left ventricle. The anterior wound was just 2 to 3 mm from the left anterior descending coronary artery. The team was able to successfully repair both the anterior and posterior wounds, and the patient made an uneventful recovery.

Penetrating trauma to the heart can be life-threatening to the patient and extremely challenging for the trauma team. Ivatury reports that most patients with cardiac trauma will die before they make it into the emergency department.

The normal pericardium is a tough, fibrous sac containing approximately 25 to 35 mL serous fluid. The
fluid allows the heart to move and beat in a frictionless environment. When additional fluid accumulates within the pericardial sac, the condition is called pericardial effusion. Although the pericardium is not elastic, it can accommodate a small amount of additional fluid without affecting pericardial pressure. However, the addition of as little as 60 mL of blood and clots in the pericardium can double intrapericardial pressure and cause rapid decompensation, known as tamponade. The transition between clinically stable and near extremis can be precipitous.

By definition, cardiac tamponade is an accumulation of fluid under pressure leading to a filling impairment of one or both ventricles. This impaired filling can lead to low cardiac output, hypotension, systemic acidosis, myocardial ischemia, and ultimately, death. With small penetrating wounds, the pericardial laceration may self-seal by a blood clot or adjacent fat. As the laceration seals, the blood and clots accumulate in the pericardial space, leading to the development of cardiac tamponade.

The physiologic changes of cardiac tamponade start as pericardial blood accumulates, transmitting pressure across the myocardial wall, compressing the atria, and decreasing stroke volume. Reflex compensatory mechanisms kick in, with heart rate increasing to maintain cardiac output and arteries and veins constricting to restore filling gradients. Clinical signs of this activity are a narrow pulse pressure and tachycardia. This is considered the “compensated zone,” where the patient is relatively hemodynamically stable.

If the intrapericardial pressure continues to rise, the patient’s normal compensatory mechanisms start to fail. The body will increase right atrial pressure in an effort to enhance right ventricular diastolic filling. A pulmonary artery catheter reading at this time would show right atrial pressure, right ventricular diastolic pressure, pulmonary artery diastolic pressure, and pulmonary capillary wedge pressure virtually identical. The pressure on the right side of the heart causes the septum to shift to the left. This decreases left side ventricular filling and consequently reduces cardiac output. At this point, the patient’s condition will deteriorate rapidly.

Making the diagnosis early and intervening quickly is critical. The early signs of cardiac tamponade are, unfortunately, nonspecific and include dyspnea, agitation, and tachycardia. In the case of trauma, acute tamponade can resemble tension pneumothorax, large hemothorax, severe right ventricular contusion, and pulmonary embolism. Ivatury reports that the most helpful clinical findings are a penetrating chest wound and hemodynamic instability. The “classic” clinical signs of cardiac tamponade are not particularly useful in the trauma setting. For example, Beck’s triad (muffled heart tones, distended neck veins, and hypotension) is found in only 10% to 40% of the patients with cardiac tamponade. Muffled heart tones can be extremely difficult to appreciate in a noisy trauma bay,
and the patient may have flat neck veins if there is associated bleeding outside the pericardial sac.

Pulsus paradoxus is another “classic” sign of cardiac tamponade. This is an exaggerated fall (>12 mm Hg) of the systolic blood pressure during inspiration. To measure pulsus paradoxus, deflate the blood pressure cuff more slowly than usual. While deflating the cuff, listen for the first Korotkoff sound heard and note the value. This sound will occur during expiration. Continue to deflate the cuff until the pulse is heard during inspiration as well. Calculate the difference between the 2 values, and if the value is greater than 12 mm Hg, the patient has a pulsus paradoxus. In the trauma setting, this process can be awkward and time consuming.

In hemodynamically stable patients, 2-dimensional echocardiography is extremely useful in making the diagnosis. It is noninvasive and very accurate. Bedside ultrasound also has gained support and has the advantage that it is easily repeatable. Routine chest radiograph and 12-lead EKG may be helpful if you are suspicious about pericardial effusion and tamponade, but they cannot make the definitive diagnosis. Cardiac size and shape does not change acutely with traumatic effusion, but a chest radiograph can show a hemothorax, penetrating object, or air around the heart. Suggestive EKG changes include PR-segment depression and low-voltage QRS segments, but it is important to note that these findings do not distinguish between effusion and tamponade.

The management of patients with penetrating cardiac trauma starts with ensuring that airway and ventilation are maintained. Supplemental oxygen is essential and the patient should have excellent venous access. The definitive treatment is to remove the fluid from the pericardial sac and repair the injured heart (cardiorrhaphy). Ivatury recommends pericardiocentesis for hospitals not able to perform major cardiac procedures and thoracotomy or sternotomy with cardiorrhaphy for centers that are equipped to perform such procedures. It is important to remember that pericardiocentesis is not the definitive treatment for the patient with penetrating trauma to the heart. It can, however, buy the patient some time until operative management is available.

Our patient presented with compensated pericardial effusion that was rapidly progressing to tamponade. He had an obvious stab wound over the left chest that was not outwardly impressive but was certainly clinically significant. The speed of the fluid collection in the pericardium influences the hemodynamic effect for the patient. Make every minute count!

REFERENCES
A 61-year-old Man With a Self-diagnosed Back Injury and Difficulty Walking: Be Suspicious, Ask the Question

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A 61-year-old man presents to triage with a chief complaint of low back pain that he attributes to lifting heavy objects. He says that he can hardly walk. He has just traveled here from 300 miles away. His medical history includes gout, congestive heart failure, and a myocardial infarction with subsequent 5-vessel coronary artery bypass. He also has an implanted cardiac defibrillator. His medications include digoxin, Ecotrin, Coumadin, Lasix, Lipitor, potassium, and allopurinal. His vital signs are as follows: blood pressure, 131/86; pulse, 97; respirations, 18; pulse oximetry, 97%; and temperature, 97.2°F. His score on a pain scale is 4 out of 10. He is triaged as an ESI 4 (needing pain medication) and asked to have a seat in the waiting room.

Further assessment in the main department demonstrates that the patient’s lungs are clear and his abdomen is soft and nontender, with bowel sounds in all 4 quadrants. There is some tenderness in his lumbar spine, but his gait is found to be ataxic and his toes are tingling. He admits that he has had progressive weakness and stumbling associated with the difficulty walking during the past few days. The emergency physician completes his examination; the patient’s straight leg raises are negative, and there is no strength or dorsiflexion in his feet. The patient’s vital capacity is measured as 3.9 L.

Is this, indeed, just a strained back, as the patient says? What do you suspect?

This patient is exhibiting some type of neuropathy; it could be from lead or shellfish poisoning. A 24-hour urine test for heavy metal is ordered. The patient denies having eaten any shellfish recently. The neuropathy also could be from a nutritional deficit; a vitamin B12 laboratory test is ordered. Results of a complete blood cell count and electrolytes are normal, as are results of the lead and...
vitamin B12 tests. The Lyme titer is normal. A computerized tomography scan of his back shows degenerative disease of the spine. A lumbar puncture is performed, and serum and urine protein electrophoreses are ordered. The level of protein in the cerebral spinal fluid is elevated, and the serum electrophoresis is elevated. The patient is diagnosed with Guillain-Barre syndrome.

Guillain-Barre syndrome

Guillain-Barre syndrome (GBS) is described as a collection of clinical syndromes from an acute inflammatory polyradiculoneuropathy. Mostly anecdotal information cites vaccinations, surgical procedures, infections, and trauma as triggers for GBS. The 1976 swine flu vaccine was shown to carry a small but definable increased risk for contracting GBS.1

GBS is thought to be immune-mediated and results in antibody production that distributes throughout the myelin in the peripheral nervous system. The weakness is usually symmetrical and begins in the lower limbs, ascending to the upper limbs. Respiratory muscles can be affected. The process is acute, then progresses over days to weeks. Severity can be mild to severe, and some patients need ventilatory support. Most patients complain of back pain, leg pain, or both, just as our patient did. The pain is most likely from the inflamed nerve roots. Dysesthesias in the lower extremities described as burning, tingling, or shocklike sensations are more common in the lower extremities than in the upper extremities. On questioning, our patient did describe burning and tingling. He did not report respiratory symptoms such as shortness of breath, which are reported by some patients with GBS. With this disease, reflexes are absent or hyporeflexic, just as with our patient. Babinski’s sign is absent. Although the initial presentation of our patient was classic, he had no identifiable trigger, and his course was mild and short-lived.

Hospital course and outcome

The patient received intravenous immunoglobulin, was admitted for observation, monitoring, and physical therapy, and was discharged after several days with follow-up.

SECTION EDITOR’S NOTE

This patient’s self-diagnosis was far from his actual diagnosis, which underscores the fact that triage nurses need to be suspicious about patients who present at triage with a self-diagnosis. When triage nurses believe the self-diagnosis of the patient, they do not “ask the question.” For example, in our patient, a question such as, “Are you having any other symptoms?” would have elicited a report of the burning in his feet. It is always prudent to ask a few questions to validate patients’ claims. One of the “disconnects” with this patient was that while he complained of pain and had difficulty walking, he only rated his pain as a 4 out of 10. Why would pain that is rated so low cause such difficulty walking?

When I teach triage, a patient scenario I use to illustrate the importance of questioning a patient’s self-diagnosis involves a man who presents reporting a stomach flu:

There have been several cases of the flu today and the triage nurse asks, “How many times have you vomited and/or had diarrhea today?” He replies, “I haven’t had either one.” The triage nurse then asks, “What are your symptoms?” “Well, I got really sick to my stomach and my chest got tight and I must have had a fever, because I got all sweaty and thought I was going to pass out. Now I just feel like I have bad heartburn.” The triage nurse in this case immediately knows that it is not the flu, but rather a high-risk cardiac patient.

Another composite teaching example of a self-diagnosing patient involves a woman who presents saying that she broke her ankle when she twisted it a couple of days ago.

The ankle is swollen, very painful and getting worse. This time, when the triage nurse questions the patient further, the patient says that she is taking warfarin (Coumadin). The swelling is from bleeding; there is no fracture.

The lesson? Beware of patients who self-diagnose. They can close your mind!

REFERENCE


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Journal Update

The Journal encourages and welcomes submissions of general interest to emergency nurses for the Update section. Please refer to the Instructions for Authors section for specific advice on manuscript preparation. All materials should be sent to the Managing Editor, Journal of Emergency Nursing, 77 Rolling Ridge Rd, Amherst, MA 01002; E-mail: awbkelly@comcast.net.

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Medical Mission to Bolivia: A Photo Essay

The following pictures were taken by me as I traveled with colleagues from across the United States on a 10-day trip to Bolivia in August 2003. This was my third trip and the fifth trip into Bolivia for Project Helping Hands (PHH), a medical mission group that uses both medical and nonmedical volunteers to minister to the health care needs of persons in third-world countries. For the past several years, Bolivia has been a central focus of PHH, and several teams have traveled across the countryside setting up makeshift clinics, educating, and, in the process, learning to love the people and their beautiful country. These medical mission trips are continuing throughout the year. Anyone interested in becoming a part of this group may contact the director of Project Helping Hands, Jeff Solheim, RN, at jeff@solheimenterprises.com.

FIGURE 1

The road. The roads we had to travel to reach various clinic sites were treacherous one-lane “highways” and country roads, often with deep ruts and wet surfaces. This is the highway from the capital city of LaPaz to Caranavi, the city from which each team disperses to provide care to villages throughout the country. When cars and trucks meet each other coming around a curve, one of the drivers must back up to a wider spot where they can then pass each other. Sometimes on some of the smaller roads, we met “roadblocks” — herds of goats and sheep.
Our team consisted of 4 nurses, a nurse practitioner, a physical therapist, and 2 nonmedical personnel, one of whom assisted with translation (members of the missionary group and community members also travel with us to assist with translation).

In Bolivia you learn that riding in the back of pick-up trucks is the only way to get everything—supplies and people—to the places they need to go. There are only so many trucks and drivers to go around, and you do what is necessary at the time. A 5- to 6-hour ride is approximately the normal travel time between villages, accompanied by dust! And, of course, the number of showers are minimal if available at all in the areas where we traveled.

FIGURE 2

The gifts. Nurses at the Caranavi hospital enjoy T-shirts with an ENA logo. Posing here with staff at the local hospital are emergency nurses and ENA members Ginny Meyerscough and Pat Clutter. This picture was taken the day of our seminar for local village health care providers in the building next to the hospital. The hospital is small but contains surgery suites. The ambulance and small emergency department are sparsely supplied.

FIGURE 3

The trauma. The second day of our travels took us to the village of Sararia to set up a clinic. The Cup of Cold Water Ministry decides which villages we will travel to, and each of those villages and their surrounding community is aware of our visit date. The night before our arrival, a girl and her grandfather were burned in their village while burning trash. Armed with the knowledge that we would be in Sararia the next day, they came by boat to this village to await our arrival. We found an 8-year-old girl with second- and third-degree circumferential burns to both legs, her genitalia, buttocks, and back. After administering fluids and IV antibiotics we happened to have, we transferred her to the bed in this clinic from the thatch roofed hut we found her in. She was found lying crosswise on a wooden bed with her legs hanging off the edge, covered with woolen blankets near an open window where a piece of material flapped in the humid breeze. Her tachycardia diminished and she
became much more alert after our initial efforts.

We also inserted a red rubber tube we found in our supplies as a Foley catheter (no balloon). It took a great deal of explanation and support to convince her parents to allow us to send her to the hospital in Caranavi (about 5 hours away) and then on to La Paz (another 6 to 9 hours), which would mean separating her from them. Once in Caranavi, there was a delay of several days before she could go on to La Paz because of political road blocks that were in place. We tried to persuade the family to allow us to bring her to the United States for further care, but the father would not give his permission.

Each nurse (and/or physician, if available on the team) takes a “spot” in the room and begins to interview, examine, and assess patients through interpreters. Privacy is difficult and very often nonexistent. If need be, blankets or sheets are held around the patient. Sometimes villages have a larger building and separate rooms to be used. Here Julie Stapp, nurse practitioner, discusses a patient situation through Rafael and Allen Solheim, team members and translators.

**FIGURE 4**
The assessment.

Clinics are held in various places, depending on what is available, in each village. In Quilipituni, we used the school house. Team members worked to put together makeshift tables for examinations, consultations, and pharmacy space from pieces of wood, straw bales, desks, and benches. Before patients were allowed in, the floor is swept with a piece of a broken broom. Medications are donated from a variety of places throughout the year prior to our departure from the United States and carried over in our second piece of luggage.

**FIGURE 5**
The rivers.

Fording rivers is an everyday occurrence as we travel from village to village. Sometimes, finding the road on the other side can be difficult, as we discovered one dark, lonely night as we drove down the middle of the river searching for the road. Joey Kittelson, Rose Lameroux, and Ben Wynthein, team members, ride in the back of this truck, hoping it stays upright!
FIGURE 6

The right attitude. In the village of Pacallo, we were unable to secure a building for the clinic. This village is built on the side of a mountain and is very difficult terrain to maneuver. However, the people here had anxiously awaited our arrival for many days, and we simply opened supply bags on the ground and held the “clinic.” At least when we left, the people felt cared for and many wore their “dollar store” glasses with pride, now able to see more clearly. The children also enjoyed the educational coloring books and crayons we brought. PHH developed these books to teach basic first aid and other healthy habits. Many adults ask for these too! We treated the patients as best we could, made friends, and moved on.

FIGURE 7

The defeat. This village of Santa Rosa holds many memories, not all pleasant. We were present as an apneic stillborn came into this world and engaged in a 25-minute “code” (CPR and epinephrine via umbilical cord), but we could not resuscitate the baby. Simultaneously, in another attached building, an unrelated 4-year-old girl cried for help from her mama. She appeared to be in respiratory distress and was being treated with oxygen from the huge green oxygen tank and given intravenous fluids and antibiotics. Once the red rubber tube went into her gastrointestinal tract, we could see that saving her would be practically impossible. Bright red blood poured out of it into an open receptacle. The origin of the “bleed” was impossible to determine. We considered the possibility that she was infested with worms and they might have ruptured through her intestines, stomach, or liver. There was no way to intubate, one huge oxygen tank being carried between the two, with no suction, no surgeon, few intravenous supplies, and the nearest help at least 5 hours of curving, rough, washed out, rocky road away. She was finally sent in a vehicle to Guanay but died within minutes of arriving at the hospital.

The emotions of this day were almost too much to bear. No matter who we are and how much training we have, we can never save everyone. We grieved for the children, their parents, and their loved ones. It took many months before we could talk about these children to others.
TAKE 1, 2, OR 3 TESTS TO RECEIVE CONTINUING EDUCATION (CE) CREDIT. SEE INSTRUCTIONS BELOW.

1. After reading the articles, darken the appropriate circles on the answer sheet on page 226 (or a photocopy). Each question has only 1 correct answer.
2. Review learning objectives on this page and complete the registration information and program evaluation* on the answer sheet.
3. Send the answer sheet with your registration fee to: Continuing Education Group, Lippincott Williams & Wilkins, 333 7th Avenue, 19th Fl, New York, NY 10001.

Within 6 weeks after Lippincott Williams & Wilkins receives your answer sheet, you will be notified of your test results. If you pass, Lippincott Williams & Wilkins will send you a CE certificate indicating the number of contact hours you have earned. If you fail, Lippincott Williams & Wilkins gives you the option of taking the test again at no additional cost. All answer sheets for this test must be received by April 30, 2007.

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GENERAL PURPOSE

To provide registered professional nurses with current information on a variety of clinical, research, and professional or administrative topics of interest to emergency nurses.

*In accordance with Iowa Board of Nursing administrative rules governing grievances, a copy of your evaluation of the CE offering may be submitted directly to the Iowa Board of Nursing.

LEARNING OBJECTIVES—RESEARCH (CONTACT HOURS 3.0; FEE $19.95)

After reading these articles and taking this test, you will be able to:
1. Discuss the findings of a study that investigated the primary reasons for ED visits for patients who were seen by nurse practitioners in emergency departments in the United States, and the services and procedures that the patients received.
2. Discuss a review of the literature on irrigating simple, acute traumatic wounds.
3. Discuss the results of emergency nurses’ answers to the research question, “What do emergency nurses need to increase their ability to assist patients with advance directives?”

LEARNING OBJECTIVES—CLINICAL (CONTACT HOURS 4.0; FEE $27.00)

After reading these articles and taking this test, you will be able to:
1. Identify the triggers, clinical findings and common treatment for Guillain-Barré syndrome (GBS).
2. Describe the clinical findings, diagnosis of, and definitive treatment for cardiac tamponade.
3. Outline the causes, clinical findings, treatment, and prevention of human babesiosis.
4. List the causes of and treatment for hypoglycemia.
5. Explain the appropriate treatment and discharge instructions for a patient who may have been exposed to rabies.
6. Outline the appropriate use and implications of a Mental Health Triage Assessment Tool.

LEARNING OBJECTIVES—PROFESSIONAL/ADMINISTRATIVE (CONTACT HOURS 1.0; FEE $8.95)

After reading this article and taking this test, you will be able to:
1. Discuss the DOVE Program (Developing Options for Violent Emergencies) and its impact on Intimate Partner Violence Victims (IPVs).
RESEARCH TEST QUESTIONS

Primary Reasons for ED Visits and Procedures Performed for Patients Who Saw Nurse Practitioners (pp. 145)

1. Approximately three fourths of the patients seen by nurse practitioners (NPs) were in emergency departments located in
   A. rural and/or government, teaching hospitals.
   B. suburban and/or specialty, for-profit hospitals.
   C. urban and/or nongovernment, not-for-profit hospitals.
   D. community and/or government hospitals, minor teaching hospitals.

2. Demographic data about the majority of patients who saw NPs indicated that they were
   A. White.
   B. Hispanic.
   C. Pacific Islander.
   D. African-American.

3. The majority of ED patients who saw NPs indicated their primary expected source of payment was
   A. self-pay.
   B. Medicaid.
   C. Medicare.
   D. private insurance.

4. From available records, the average waiting time for a patient to be seen by an NP was
   A. 15 minutes.
   B. 35 minutes.
   C. 47 minutes.
   D. 62 minutes.

5. Of the patients with documented presenting pain levels, the greatest percentage of patients reported having
   A. no pain.
   B. mild pain.
   C. moderate pain.
   D. severe pain.

6. The category of symptoms with the most patient visits were symptoms referable to the
   A. digestive system.
   B. respiratory system.
   C. genitourinary system.
   D. musculoskeletal system.

7. A major injury type seen by NPs was
   A. rib fractures.
   B. lacerations to the facial area.
   C. fractures of the lower extremities.
   D. foreign bodies in the ears and nose.

8. Diagnostic/screening services data presented in this article reveal that patients categorized under the
   A. Respiratory Symptoms module were most likely to have an EKG performed.
   B. Musculoskeletal Symptoms module were most likely to have a CBC performed.
   C. Genitourinary Symptoms module were most likely to have their blood pressure checked.
   D. General Symptoms module were most likely to have a mental status exam performed.

9. Data reveal that intravenous fluids were most frequently administered to patients categorized in which of the following symptom modules?
   A. general
   B. digestive
   C. genitourinary
   D. musculoskeletal

10. Which of these statements about the disposition of patients seen by NPs in the emergency department is accurate?
    A. 5.7% of patients were told to return to a clinic PRN.
    B. 16.9% of patients were admitted to the hospital.
    C. 32.8% of patients were told to return to a referring physician.
    D. 46.4% of patients were referred to another physician or clinic.

11. An unanticipated finding from this study was the
    A. disproportionately high percentage of minority or economically disadvantaged patients seen by NPs.
    B. fairly high percentage of patients seen by NPs who did not have their blood pressure checked.
    C. relatively high percentage of patients seen by NPs who required hospitalization.
    D. moderately high percentage of long-term care residents seen by NPs.
What is Needed to Assist Patients with Advance Directives from the Perspective of Emergency Nurses (pp. 150)

12. Results of this study revealed that with regard to advance directive (AD) staff education, emergency nurses most often indicated a need for
   A. information on ways to display cultural sensitivity.
   B. information on JCAHO requirements related to ADs.
   C. general knowledge about ADs.
   D. tips on how to deal with personal feelings about death.

13. Nurses reported that a major issue in their ability to assist patients with ADs was
   A. lack of time.
   B. lack of motivation.
   C. patient disinterest.
   D. interference by family members.

14. Which of these was not indicated by nurses as a characteristic required to successfully assist patients with ADs?
   A. advocacy
   B. spirituality
   C. autonomy
   D. commitment

Irrigating Simple Acute Traumatic Wounds: A Review of the Current Literature (pp. 156)

15. A study by Dire and Welsh that compared irrigants in simple, acute traumatic wounds discovered
   A. wounds irrigated with 1% povidone-iodine had a much lower infection rate compared with pluronic F-68 (Shur Clens) and tap water.
   B. there was no added benefit in using 1% povidone-iodine or pluronic F-68 (Shur Clens) over normal saline solution.
   C. there was a statistically significant benefit in using tap water over 1% povidone-iodine and pluronic F-68 (Shur Clens).
   D. wounds irrigated with F-68 (Shur Clens) had a much faster rate of healing compared with those irrigated with 1% povidone-iodine or normal saline solution.

16. A major difference between using saline irrigant and tap water from the faucet was that wounds irrigated with
   A. tap water received an increased amount of pressure to the wound bed.
   B. tap water had better cosmetic results after wound healing.
   C. normal saline solution had a lower incidence of development of an infection.
   D. normal saline solution had a decreased length of time required for wound healing.

17. What appears to be the pressure that practitioners should use to provide the most effective wound irrigation?
   A. 0.5-2 psi
   B. 5-8 psi
   C. 11-27 psi
   D. 31-35 psi

18. Hollander and colleagues’ study of wound care practices of physicians found that
   A. infection rates of clean-appearing wounds that were not irrigated before being closed with sterile adhesive strips had the lowest infection rate.
   B. adults who received normal saline solution irrigation of highly vascular areas had lower rates of infection than those receiving no irrigation.
   C. children who received wound irrigation with tap water and closure with sterile adhesive strips had the highest infection rate.
   D. children were less likely to receive wound irrigation before wound closure and they had better cosmetic results after their wounds healed.

Clinical Test Questions

A 56-year-old Woman with Fever, Generalized Body Aches, and Anemia after a Tick Bite (pp. 137)

1. Human babesiosis is contracted via
   A. deer tick bite.
   B. Pacific Coast tick bite.
   C. Black-legged tick bite.
   D. American dog tick bite.

2. Lab results observed in a patient with human babesiosis include
   A. prolonged prothrombin time.
   B. increased total protein and albumin.
   C. elevated liver enzymes and bilirubin.
   D. increased hemoglobin and hematocrit.
3. The treatment of choice for human babesiosis is
   A. ceftriaxone and doxycycline.
   B. amoxicillin and levofloxacin.
   C. quinine sulfate and clindamycin.
   D. sulfamethoxazole and vancomycin.

4. Individuals can protect themselves from developing human babesiosis by
   A. using skin and clothing repellants.
   B. wearing dark clothing when outdoors.
   C. prophylactic use of antimalarial antibiotics.
   D. immunization with the *Hemophilus influenza* type B vaccine.

The Use of a Mental Health Triage Assessment Tool in a Busy Canadian Tertiary Care Children’s Hospital (pp. 161)

5. As a result of changes implemented in this facility, care is provided for patients with a mental health emergency who present to the emergency department by having the
   A. crisis intervention worker initially triage the patient.
   B. on-call psychiatrist arrange for all involuntary admissions.
   C. ED physician arrange for necessary admissions to the psychiatric unit.
   D. psychiatric unit staff complete the necessary admission history and physical.

6. Using the *Triage Guidelines for the Psychiatric Patient*, which of the following should be classified as urgent?
   A. suicide thoughts without attempt
   B. suicide attempt within the past week
   C. acute family crisis related to child’s behavior
   D. severe anxiety with obvious signs and symptoms

7. As a result of using the Mental Health Triage Assessment Tool and hiring additional staff
   A. a significantly higher number of patients received outpatient care.
   B. a significantly lower number of patients required inpatient hospitalization.
   C. waiting times were reduced, despite increasing numbers of patients.
   D. waiting times remained constant, despite increasing numbers of patients.

Designing a Rabies Post-Exposure Prophylaxis Program with Emphasis on Staff and Patient Education (pp. 173)

Questions 8, 9, and 10 apply to the following scenario.
On April 1, a 9-year-old patient presents to the emergency department with a dog bite to the left hand. The patient weighs 70 pounds, and immunizations are up to date. The dog has not been located and is not quarantined.

8. When administering prescribed rabies immune globulin (HRIG) to the patient, you should
   A. protect the medication from light.
   B. administer 70 IU intravenously over 2 to 3 minutes.
   C. raise the patient’s left hand above the level of the heart.
   D. inject part or all of the medication directly in and around the wound.

9. When administering rabies vaccine (RabAvert) you should
   A. calculate the second dose for the vaccine to be given on April 3.
   B. calculate the third dose for the vaccine to be given on April 9.
   C. administer the vaccine in the child’s vastus lateralis muscle.
   D. administer the vaccine in the same site where the HRIG vaccine was given.

10. Which statement should be included in the discharge instructions for this patient?
    A. “The immunizations will be discontinued once the dog is found.”
    B. “Wash the wound on the left hand with soap and water three to four times each day.”
    C. “Return to the emergency department if your child develops a low grade fever or body aches.”
    D. “Your child should not receive a tetanus immunization for at least 4 months.”

Confusion, Somnolence, Seizures, Tachycardia? Question Drug-Induced Hypoglycemia (pp. 206)

11. An example of the most common drugs that can cause hypoglycemia is
    A. rosiglitzone (Avandia).
    B. pioglitazone (Actos).
    C. metformin (Glucophage).
    D. glipizide (Glucotract).
12. The best treatment for a conscious adult patient with a blood glucose \( \leq 60 \text{ mg/dL} \) is
   A. dextrose 50% one ampule intravenously over 2 minutes.
   B. octreotide (Sandostatin) 20 mg intramuscularly.
   C. a quick-acting carbohydrate food.
   D. glucagon 1 mg subcutaneously.

13. The correct dosing of dextrose for a child with hypoglycemia is
   A. 0.05 mg/kg/h of 20% solution.
   B. 0.15 mg/kg of 10% solution.
   C. 2 to 4 ml/kg of 25% solution.
   D. 50 to 100 mL of 50% solution.

14. Glucagon is contraindicated in a patient
   A. with a pancreatic tumor.
   B. with a pheochromocytoma.
   C. who weighs less than 20 kg.
   D. who takes a prescribed beta-antagonist.

15. A side effect of octreotide (Sandostatin) is
   A. hypermagnesemia.
   B. pain at the injection site.
   C. irritation of peripheral veins.
   D. precipitation of Wernicke-Korsakoff syndrome.

16. Which of these statements about the pericardium is accurate?
   A. The normal pericardium contains approximately 25 to 35 mL of serous fluid.
   B. Tamponade typically occurs when pericardial fluid decreases to 15 mL.
   C. An effusion is the result of the pericardium becoming porous.
   D. The normal pericardium has a great capacity for stretch.

17. Which clinical findings indicate the “compensated zone” of cardiac tamponade?
   A. narrow pulse pressure and tachycardia
   B. pericardial friction rub and flat neck veins
   C. pulsus alternans and decreased pulse pressure
   D. right atrial pressure equal to right ventricular diastolic pressure

18. Which of these statements about Beck’s triad is accurate?
   A. Its presence is associated with a 42% mortality rate.
   B. It is present in 50% to 85% of patients with cardiac tamponade.
   C. Its presence indicates a cardiac output of less than 1.5 L/min.
   D. It consists of muffled heart tones, distended neck veins, and hypotension.

19. Which of these diagnostic procedures is considered extremely useful in making a diagnosis of cardiac tamponade in a hemodynamically stable patient?
   A. chest radiograph
   B. 12-lead electrocardiogram (ECG)
   C. two-dimensional echocardiography
   D. magnetic resonance imaging (MRI)

20. The definitive treatment for cardiac tamponade is
   A. ablation.
   B. cardiorrhaphy.
   C. pericardiocentesis.
   D. synchronized cardioversion.

21. Most anecdotal information cites which of the following as triggers for Guillain-Barré syndrome (GBS)?
   A. lactation
   B. vaccinations
   C. spring weather
   D. vitamin B\(_{12}\) deficiency

22. A finding commonly noted in patients with GBS is
   A. symmetrical ascending muscle weakness.
   B. shuffling gait and pill-rolling tremor.
   C. bilateral visual-spatial deficits.
   D. ptosis and diplopia.

23. Which drug is commonly prescribed to treat GBS?
   A. amphotericin B
   B. cyanocobalamin
   C. doxycycline
   D. immunoglobulin
1. The direct and indirect costs of Intimate Partner Violence (IPV) are estimated at
   A. $10-20 million annually.
   B. $50-70 million annually.
   C. $1-2 billion annually.
   D. $3-5 billion annually.

2. The DOVE program is
   A. staffed by crisis intervention workers.
   B. completely funded by private donations.
   C. a program developed in 1990 by two social workers.
   D. an independent, nurse-managed hospital program.

3. What is the reported impact of the DOVE program?
   A. an increase in reported self-esteem by IPV patients
   B. a 15% decrease in ED visits for woman ages 18 to 43
   C. a 25% decrease in reported IPV cases within the community
   D. a decrease in ED visits by IPV patients in the following year

4. What was the average cost of a DOVE examination for IPV victims?
   A. $150
   B. $250
   C. $400
   D. $500
April 2005 issue—Journal of Emergency Nursing

Expiration Date: February 28, 2007
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FEES AND CONTACT HOURS LISTED ABOVE
RESOURCE FOR FINDING ED POLICIES, PROCEDURES, GUIDELINES: WWW.ENA.ORG

DOCUMENT SHARING AREA

This newly developed ENA member benefit is an area where emergency nurses can share forms, documents, and policies with each other. It can be found on the ENA Web site at http://www.ena.org/document_share/default.asp. From the ENA home page, go to Nursing Practice and select Document Sharing Area from the drop-down window. Because this is a Members Only benefit, you will be required to log in to access this area. Then select Document Sharing from the menu at the top of the Members Only home page. Documents are posted in PDF and Word (as available) and can be printed or downloaded in either format. We have five topic categories:

- Documentation and Forms
- Policies and Procedures
- Staffing and Scheduling
- Standards of Care
- Triage

These category headings will expand as we continue to receive different documents. For instructions on submitting a document to share with colleagues, go to http://www.ena.org/document_share/Instructions.asp (login required), or send an e-mail to webmaster@ena.org with questions.

OSHA BEST PRACTICES FOR HOSPITAL-BASED FIRST RECEIVERS OF VICTIMS FROM MASS CASUALTY INCIDENTS INVOLVING THE RELEASE OF HAZARDOUS SUBSTANCES

WASHINGTON—The US Department of Labor’s Occupational Safety and Health Administration (OSHA) released on December 21, 2004, information to help hospitals safeguard their own employees as they care for patients injured in incidents involving chemical, biologic, or radiologic materials.

Entitled OSHA Best Practices for Hospital-Based First Receivers of Victims from Mass Casualty Incidents Involving the Release of Hazardous Substances, the document is available on OSHA’s Web site and offers useful information to help hospitals create emergency plans based on worst-case scenarios. It focuses on suggestions for appropriate training and suitable personal protective equipment for health care employees who may be exposed to hazardous substances when they treat victims of mass casualties. The document includes appendices with practical examples of decontamination procedures and medical monitoring for first receivers who respond to a mass casualty incident. Web site: http://www.osha.gov/dts/osta/bestpractices/html/hospital_firstreceivers.html#.

CALL FOR 2005 AWARD NOMINEES—NOMINATIONS DUE FRIDAY, MAY 6, 2005

The Emergency Nurses Association is pleased to announce a call for nominees for the 2005 ENA Awards. This is the opportunity to give recognition to the innovators, leaders, and those who continually go above and beyond the call of duty in the emergency nursing profession: colleagues, mentors, and friends. ENA’s Injury Prevention Institute/EN CARE is pleased to announce a call for nominees for the 2005 EN CARE Injury Prevention Awards. This is the opportunity to give recognition to those who continually strive for and contribute to the promotion of injury prevention in the community.

The Award Categories are:

- Judith C. Kelleher Award
- Gail P. Lenehan Advocacy Award
- Lifetime Achievement Award
- Emergency Nurses Association Foundation Pillar Award
- Injury Prevention Institute Award
- Injury Prevention Law Enforcement Award
- Barbara A. Foley Injury Prevention Leadership Award
- Media Award
- Nursing Competence in Aging Award
- Nurse Education Award
- Nurse Manager Award
- Nursing Practice Award
- Nursing Professionalism Award
- Nursing Research Award
- Rising Star Award
- State Council/Chapter Government Affairs Award
- Team Award

A complete listing of the awards criteria and the nomination form is available at www.ena.org/about/awards/ or by contacting the ENA National Office, (800) 900-9659, ext 4092, or kzick@ena.org. You must be an ENA member or an EN CARE provider to submit a nomination. All award nominations require a minimum of two letters of support, unless otherwise specifically stated. Please read the award criteria carefully because some requirements may have changed.

Please send nomination packets to:

- E-mail (preferred method) to: kzick@ena.org
- Mail to: ENA National Office
Recognizing the importance of ongoing education and research opportunities in emergency nursing, ENA established the Foundation in 1991. The purpose of the Foundation is to enhance emergency health services to the public through education and research in emergency care. Funding is a direct result of contributions provided by emergency nurses, ENA State Councils and Chapters, corporations, and friends of emergency nursing. Your tax-deductible contribution is welcomed. You may download an application in Word format from the ENA Web site at wwwENA.org/foundation/grants. For more information, contact the Foundation office at (800) 900-9659, ext 4100.

The following scholarships are available with a June 1, 2005, postmark deadline date:

- Charles Kunz Memorial Undergraduate Scholarship—1 award—$4000
- Margaret Miller Memorial Undergraduate Scholarship—1 award—$2000
- Additional ENA Foundation Undergraduate Scholarships—8 awards—1 at $5000; 7 at $3000
- JEMS (Journal of Emergency Medical Services)/Elsevier Nursing Scholarship—1 award—$5000
- New York State ENA September 11 Scholarship Fund—1 award—$2000
- Karen O’Neil Endowed Advanced Nursing Practice Scholarship—1 award—$3000
- Medtronic Physio-Control Advanced Nursing Practice Scholarship—1 award—$3000
- Additional ENA Foundation Advanced Practice Scholarships—2 awards—$5000 each
- Pamela Stinson Kidd Memorial Doctoral Scholarship—1 award—$10,000
- Faculty Doctoral Scholarship—1 award—$6000

NEW 2005 MEMBER-GET-A-MEMBER PROGRAM

The 2005 Member-Get-a-Member Campaign began in January 2005. Current ENA members will earn one award point redeemable for gifts and ENA merchandise, including emergency nursing texts. Go to www.ENA.org or call (800) 243-8362 for details. Sponsoring new members strengthens the powerful network of support and professional advancement that membership in ENA offers to all emergency nurses. Look for complete details in the new 2005 Member-Get-a-Member brochure enclosed in the February issue of ENA Connection.

ENA RESOLUTIONS COMMITTEE—NOW AVAILABLE TO THE MEMBERSHIP!

ENA members will now have the opportunity to get assistance in bringing important professional emergency nursing issues to the 2005 General Assembly. The ENA General Assembly meets annually to determine official Association policy and positions by reviewing, debating, and voting on proposed bylaw amendments and resolutions. Proposed bylaw amendments and resolutions may be submitted by ENA members; the ENA Board of Directors; Association chapters (must be signed by the chapter and state president attesting to their acknowledgement and coordination); state councils (signed by the state president); and all other national committees and Boards.

New this year, the Resolutions Committee will be available to ENA members for assistance with developing proposed bylaw amendments and resolutions all year long. This will allow members to have the resources needed to effectively write proposed bylaw amendments and resolutions in the proper format before the deadline. The delegates will debate and vote on each proposed bylaw amendment and resolution presented. Formal consideration of proposed resolutions will take place at the 2005 General Assembly, September 14-15, 2005, in Nashville, Tenn.

If an ENA member is interested in bringing a proposed bylaw amendment or resolution to the 2005 General Assembly, they should contact the ENA RESOLUTIONS COMMITTEE with a copy of all proposed bylaw amendments and resolutions. A February 1 deadline is recommended for submission of proposed bylaw amendments and resolutions.

The ENA Board of Directors and the 2005 General Assembly will consider these resolutions at their meeting on September 14-15, 2005. If an ENA member is interested in bringing a proposed bylaw amendment or resolution to the 2005 General Assembly, they should contact the ENA RESOLUTIONS COMMITTEE with a copy of all proposed bylaw amendments and resolutions. A February 1 deadline is recommended for submission of proposed bylaw amendments and resolutions. The ENA Board of Directors and the 2005 General Assembly will consider these resolutions at their meeting on September 14-15, 2005.

*The Journal of Emergency Nursing has begun a new tradition. The ENA member securing the highest number of new members works with the Journal Editor, Gail Lenehan, RN, EdD, FAAN, as coeditor on an issue of the upcoming year’s Journal.
Assembly, please visit the ENA Web site at www.ena.org to obtain the Primer on Writing and Presenting Resolutions and Bylaw Changes. For further writing assistance from Resolutions Committee members, please contact Kari Zick, Resolutions Committee, staff liaison at kzick@ena.org or call (800) 900-9659, ext 4092.

Look in the February 2005 issue of ENA Connection for the official call for proposed bylaw amendments and resolutions!

DON’T MISS THE BOAT! THE ENA RECREATIONAL BOATING INJURY STUDY 2005

Ahoy! The ENA Recreational Boating Study sails into 2005 with regional training sessions to be held in January and February 2005 in New York, Oregon, Illinois, Massachusetts, and Florida. This is a great opportunity to participate in cutting-edge research in your emergency department and your community. For this study, ENA is collecting data focusing on patients who have been treated in emergency departments for injuries relating to recreational boating. ENA is specifically recruiting site coordinators in emergency departments that see a higher incidence of these specific types of injuries. Limited scholarship money is available to offset costs of attending the training session, so apply early. For more details, visit us online at www.ena.org/research/current or call us at (800) 900-9659, ext 4119, or send us an e-mail at res@ena.org.

NEWLY DESIGNED LAPEL PIN COMMEMORATES 35th ANNIVERSARY OF ENA

Make a donation of $35 or more to the ENA Foundation and receive this special ENA lapel pin! The supply of pins is limited and will be sent to donors on a first-come, first-served basis. All contributions benefit ENA Foundation’s outreach efforts to provide research grants and undergraduate, graduate, and doctoral scholarships, and they are fully tax deductible.

For more information about purchasing your ENA 35th Anniversary Pin, contact Ellen Siciliano at (847) 460-4103 or send her an e-mail at esiciliano@ena.org.

THE CENTER FOR NURSING ADVOCACY

The Center for Nursing Advocacy focuses on the portrayal of nurses in the media because the image of nurses and nursing is important at any time, but crucially important during a nursing shortage. The Center’s Best and Worst portrayals of Nursing for 2004 are listed at the following Web site: http://www.nursingadvocacy.org/press/releases/2004_awards.html#golden.
Coming Meetings

APRIL 2005

Setting the Pace 2005

Cool Topics in Emergency and Trauma Care

MAY 2005

Injury and Violence in America: Meeting Challenges, Sharing Solutions
May 9-11, 2005, The Adam’s Mark Hotel and Conference Center, Denver, Colo. Sponsors: Centers for Disease Control and Prevention’s (CDC) National Center for Injury Prevention and Control (NCIPC), the National Association of Injury Control Research Centers (NAICRC), and the State and Territorial Injury Prevention Directors’ Association (STIPDA). Contact: Sandra Bonzo, Mailstop K65, 4770 Buford Highway NE, Atlanta, GA 30341-3724. Phone: (770) 488-1506. Fax: (770) 488-1667. E-mail: seb2@cdc.gov.

31st Annual New England Regional Symposium
May 16-18, 2005, Marriott Sable Oakes, South Portland, Me. Sponsor: Maine Emergency Nurses Association. Contact: Wendy Nivison, RN. E-mail: niv@adelphia.net. Phone: (207) 877-0544 or Carol Minnis, RN. E-mail:dminnis@tdstelme.net. Phone: (207) 938-4166.

Medicine and the Spirit of Adventure
May 18-22, 2005, Sweeney Convention Center, Santa Fe, NM. Joint sponsorship by American College of Emergency Physicians (ACEP, CAL/ACEP) and Wilderness and Travel Medical Seminars. Contact: Carlson Travel Station, 1822 W Lincoln, Bozeman, MT 59715. Phone: (800) 522-8747, (406) 587-8747. Fax (406) 587-2541. E-mail: wilderness@thetravelstation.com. Registration and information: www.wilderness-medicine.com.

CEN Review Course
May 19-20, 2005, Raddison Hotel, New Rochelle, NY. Sponsor: Montefiore Medical Center, Bronx NY. Contact: Lisa Kosits. Phone: (718) 920-5241. E-mail: Ikosits@montefiore.org.

JUNE 2005

Third National Sexual Assault Response Team (SART) Training Conference

Survival Skills Field Course
June 11-17, 2005, Whitewater Raft Expedition and Optional Mt. Shasta Climb, Northern California. Joint sponsorship by American College of Emergency Physicians (ACEP, CAL/ACEP) and Wilderness and Travel Medical Seminars. Contact: Carlson Travel Station, 1822 W Lincoln, Bozeman, MT 59715. Phone: (800) 522-8747, (406) 587-8747. Fax: (406) 587-2541. E-mail: wilderness@thetravelstation.com. Registration and information: www.wilderness-medicine.com.
AUGUST 2005

Twentieth Annual National Conference on Wilderness Medicine
August 3-7, 2005, Yellowstone Convention Center, Big Sky, Mont.
Joint sponsorship by American College of Emergency Physicians (ACEP, CAL/AECP) and Wilderness and Travel Medical Seminars. Contact: Carlson Travel Station, 1822 W Lincoln, Bozeman, MT 59715. Phone: (800) 522-8747, (406) 587-8747. Fax: (406) 587-2541. E-mail: wilderness@thetravelstation.com. Registration and information: www.wilderness-medicine.com.

SEPTEMBER 2005

2005 ENA Annual Meeting
September 14-17, 2005, Opryland Hotel and Convention Center, Nashville, Tenn. Sponsor: Emergency Nurses Association. Contact: Emergency Nurses Association, 915 Lee St, Des Plaines, IL 60016. Phone: (800) 243-8362. Fax: (847) 460-4001. E-mail: enainfo@ena.org.

OCTOBER 2005

5th International Conference for Emergency Nurses

NOVEMBER 2005

CEN Review Course
November 3-4, 2005, Sheraton LaGuardia East Hotel, Flushing, NY. Sponsor: Montefiore Medical Center. Contact: Lisa Kosits. Phone: (718) 920-5241. E-mail: lkosis@montefiore.org.

2005 Canadian Injury Prevention and Safety Promotion Conference Evidence to Action: Injury, Violence and Suicide Prevention
November 6-8, 2005, Westin Nova Scotian Hotel, Halifax, Nova Scotia, Canada. Contact: Purple Dog Consulting. Phone: (613) 798-8029. E-mail: purpledog@sympatico.ca. Web site: www.injurypreventionconference.ca.

FEBRUARY 2006

ENA Leadership Challenge