



Management®

The monthly update on Emergency Department Management

Vol. 15, No. 3

Inside

■ **Joint Commission:** Use technology to comply with new patient safety goals 27

■ **Admission holds:** Solutions to speed the process of inpatient orders 29

■ **Care of inpatients:** How to avoid problems with the Joint Commission 30

■ **Reimbursement:** Collaborate with coders or risk losing \$30 per visit 32

■ **EMTALA Q&A:** Patient sent to ED for narcotic injection by physician 33

■ **Journal Review:** Consistency of coding for ED charges 35

Enclosed in this issue:

- Admitted Patient Transitional Order Sheet

March 2003

NOW AVAILABLE ON-LINE!
www.ahcpub.com/online.html
Call (800) 688-2421 for details.

Are pediatric drug errors occurring in your ED? Act now before tragedy strikes

Research reveals high rate of medication mistakes in the ED

While caring for a 3-year-old boy who had been hit by a car, an ED physician mistakenly ordered the adult dose of a defasciculating agent, which was a full paralytic dose for the injured child.

The nurse drew up the dose and gave it, calling out “1 mg vecuronium.”

“Another physician in the area heard the call out and realized that it was a 10 times overdose for this child,” says **Robert L. Wears, MD, MS, FACEP**, professor of emergency medicine for the College of Medicine at the University of Florida and director of the Center for Safety in Emergency Care, both in Jacksonville, FL.

The doctor informed the team that the patient had just received not a defasciculating dose, but a full paralytic dose and needed prompt intubation, Wears recalls.

The call-out procedure allowed the team to intubate the child quickly rather than be caught by surprise when he stopped breathing, Wears explains. The child was intubated without complications and recovered fully, he reports. The strategies you use can determine whether an incident is a near miss or a tragedy, Wears says.

If you fail to implement effective systems to prevent pediatric medication errors, there can be liability risks for you and your facility, warns **Emory Petrack, MD, MPH, MS**, chief of the division of pediatric emergency medicine at Rainbow Babies and Childrens Hospital in Cleveland. “In addition, it is very demoralizing for staff when a major adverse outcome occurs that could have been prevented,” he says.

Dramatic findings from recent research point to disturbingly high pediatric drug errors in the ED. One study looked at pediatric drug orders in an Albany, NY, ED over a four-year period and found 176 prescribing errors. Many of the errors involved miscalculated doses based on a child’s weight. About a third of the errors could have caused serious adverse outcomes, and 6% were potentially life-threatening.¹

Children are at higher risk for drug errors in the ED for many reasons, including a

Executive Summary

Children are at high risk for errors in the ED, and the mistakes often are due to weight-based dosing errors.

- Reduce the number of drugs, concentrations, formulations, and suppliers used.
- Have ED prescriptions reviewed by a pharmacist.
- Have two nurses or physicians verify dosages for high-risk drugs such as sedating agents.

lack of pediatric-trained personnel, prescriptions that aren't reviewed by a pharmacist, and an overall hectic environment, says **Paula Mialon**, PharmD, ED pharmacist at Children's Medical Center in Dallas. "Sometimes, prescriptions are written with the theory that 'children are just small adults,'" she says.

Here are strategies to reduce pediatric medication errors:

- **Address weight-based dosing errors.** "One dose

ED Management® (ISSN 1044-9167) is published monthly by American Health Consultants®, 3525 Piedmont Road, N.E., Six Piedmont Center, Suite 400, Atlanta, GA 30305. Telephone: (404) 262-7436. Periodicals postage paid at Atlanta, GA. POSTMASTER: Send address changes to **ED Management**®, P.O. Box 740059, Atlanta, GA 30374-9815.

ED Management® is approved for approximately 18 nursing contact hours. This offering is sponsored by American Health Consultants®, which is accredited as a provider of continuing education in nursing by the American Nurses' Credentialing Center's Commission on Accreditation. Provider approved by the California Board of Registered Nursing, Provider Number CEP 10864, for approximately 18 contact hours. This program (#0904-1) has been approved by an AACN Certification Corp.-approved provider (#10852) under established AACN Certification Corp. guidelines for 18 contact hours, CERP Category A. American Health Consultants® is accredited by the Accreditation Council for Continuing Medical Education to sponsor CME for physicians. American Health Consultants® designates this educational activity for a maximum of 18 hours in Category 1 credit toward the American Medical Association Physicians' Recognition Award. Each physician should claim only those credits that he/she actually spend in the activity. This activity was planned and produced in accordance with ACCME Essentials. **ED Management**® is also approved by the American College of Emergency Physicians for 18 hours of ACEP Category 1 credit. Physician members of American Health Consultants® 1999 Continuing Medical Education Council: Stephen A. Brunton, MD; Dan L. Longo, MD; Ken Noller, MD; Gregory Wise, MD and Fred Kauffman, MD, FACEP.

Subscriber Information

Customer Service: (800) 688-2421 or fax (800) 284-3291 (customerservice@ahcpub.com).
Hours of operation: 8:30 a.m.-6 p.m. Monday-Thursday; 8:30 a.m.-4:30 p.m. Friday, EST.
Subscription rates: U.S.A., one year (12 issues), \$449. Outside U.S., add \$30 per year, total prepaid in U.S. funds. Two to nine additional copies, \$359 per year; 10 to 20 additional copies, \$269 per year; for more than 20, call (800) 688-2421 for special handling. Missing issues will be fulfilled by customer service free of charge when contacted within 1 month of the missing issue date. Back issues, when available, are \$75 each. (GST registration number R128870672.)

Photocopying: No part of this newsletter may be reproduced in any form or incorporated into any information retrieval system without the written permission of the copyright owner. For reprint permission, please contact American Health Consultants®. Address: P.O. Box 740056, Atlanta, GA 30374. Telephone: (800) 688-2421, ext. 5491. Fax: (800) 284-3291. World Wide Web: <http://www.ahcpub.com>.

Opinions expressed are not necessarily those of this publication. Mention of products or services does not constitute endorsement. Clinical, legal, tax, and other comments are offered for general guidance only; professional counsel should be sought for specific situations.

Editor: Staci Kusterbeck.

Vice President/Group Publisher: Brenda Mooney, (404) 262-5403, (brenda.mooney@ahcpub.com).

Editorial Group Head: Valerie Loner, (404) 262-5475, (valerie.loner@ahcpub.com).

Senior Managing Editor: Joy Daugherty Dickinson, (229) 377-8044, (joy.dickinson@ahcpub.com).

Senior Production Editor: Ann Duncan.

Copyright © 2003 by American Health Consultants®.

ED Management® is a registered trademark of American Health Consultants®. The trademark **ED Management**® is used herein under license. All rights reserved.

Statement of financial disclosure: To reveal any potential bias in this publication, and in accordance with the Accreditation Council for Continuing Medical Education guidelines, we disclose that Dr. Auer (editorial advisory board member) discloses that she has no conflicts of interest; Dr. Bukata (advisory board member) is president of the Center for Medical Education and is the developer of EDITS software; Dr. Joseph discloses that he is a stockholder in AMC Registry. Dr. Mayer (advisory board member) is a stockholder in Emergency Physicians of Northern Virginia Ltd. and Patient Care and ED Survival Skills Ltd.; Dr. Yeh (advisory board member) serves as a consultant to Dynamics Resource Group, a spokesperson for Medic Alert, and a member of the board of directors for Vital Solutions and MassPRO.

THOMSON
★
AMERICAN HEALTH CONSULTANTS

Editorial Questions

For questions or comments, call Joy Daugherty Dickinson, (229) 377-8044.

does not fit all" for children, Petrack emphasizes.

"While some medications have a wide margin of safety for per-kilogram dosing, many others require careful attention to appropriate dosing based on weight," he says. "Generally, the younger the patient, the more concerning this becomes." For critical cases, you may have to "guesstimate" the child's age and/or weight, Wears says. "People are, in general, pretty bad at this, although they think they're pretty good," he adds.

To obtain the correct dose, you have to multiply the child's weight by the dose and do that correctly, Wears notes. "There is a baseline error rate in simple arithmetic of about 3% when done under good conditions, and you're allowed to check your work," he says. "Now think about doing it at the end of a 12-hour night shift in the ED, in your head, when you're managing a critically ill child and you've been interrupted twice by phone calls or pages."

Sometimes, you have to carry out an additional calculation to get the correct dilution, Wears says. "In all these calculations, a misplaced decimal point is a risk of a tenfold over- or underdose," he says.

The goal should be to eliminate the use of math, Wears says. He recommends using tools that allow you to stop relying on memory and calculation, such as pre-packaged "standard orders" for weight ranges.

Use programs available for PDAs, such as PEPID (Portable Emergency and Primary Care Information Database) manufactured by Chicago-based PEPID, which quickly calculates dosages based on a child's weight or age, Petrack advises. "Automation of the dosing process can help reduce error," he says. **(See related story on technology and Joint Commission patient safety goals, p. 27. For more information on color-coded products used for pediatric dosages, see *ED Management*, March 2000, p. 30.)**

• **Get staff accustomed to looking for "pediatric" dosages.** When treating children, you'll need to obtain uncommonly used drug dosages, such as milligrams/kilogram, or micrograms/kilogram, instead of standard doses such as 0.25 mg of digoxin or 1.0 g of ceftriaxone, Wears notes. He points to the possibility of confusing milligrams and micrograms and other sound-alike units. "That's a 1,000-fold difference, so the potential for a disaster is obvious," he says.

This also can occur with adults, but with children, there are fewer red flags to signal that the dose is wrong, Wears says. He gives the example of someone ordering a tenfold overdose of epinephrine in an adult patient. "By the time the nurse opened the second or third vial, someone might have suspected something was wrong," he says. "But a tenfold overdose of epinephrine in a child would not be so immediately obvious."

Since many EDs rarely treat critically ill children, it is

Sources/Resources

For more information on pediatric drug errors, contact:

- **Paula Mialon**, PharmD, Children's Medical Center, Department of Pharmacy Services, 1935 Motor St., Dallas, TX 75235. Telephone: (214) 456-2279. Fax: (214) 456-6014. E-mail: paula.mialon@childrens.com.
- **Emory Petrack**, MD, MPH, MS, Chief, Division of Pediatric Emergency Medicine, Rainbow Babies and Childrens Hospital, 11100 Euclid Ave., Mail Stop MTH6097, Cleveland, OH 44106. Telephone: (216) 844-8716. Fax: (216) 844-8233. E-mail: emp4@po.cwru.edu.
- **Robert L. Wears**, MD, MS, FACEP, Department of Emergency Medicine, University of Florida Health Center Jacksonville, 655 W. Eighth St., Jacksonville, FL 32209. Telephone: (904) 244-4124. Fax: (904) 244-4508. E-mail: wears@ufl.edu.

The complete report *Summary of Information submitted to MEDMARX in the Year 2001: A Human Factors Approach to Medication Errors* (Item Number: 3MXDS01) costs \$49. Shipping varies according to location. The report can be ordered on-line at The U.S. Pharmacopeia web site (www.usp.org). Click on "Products." Or contact Customer Service Department, 12601 Twinbrook Parkway, Rockville, MD. 20852. Telephone: (800) 227-8772 or (301) 881-0666. Fax: (301) 816-8148. For a list of recommendations for preventing pediatric drug errors, go to www.usp.org and click on "USP Issues Pediatric Recommendations."

PEPID ED is a portable medical and pharmacological database for emergency physicians. For more information, contact PEPID, 7344 N. Western Ave., Chicago, IL 60645. Telephone: (888) 321-7828. Fax: (773) 761-5011. E-mail: support@pepid.com. Web: www.pepid.com.

easy for a commonly used adult dose to be inadvertently ordered and not recognized as unusual, he explains. To address this problem, you should reduce the numbers of different drugs used and also keep the number of different concentrations and formulations to a minimum, Wears says.

"We should also stop changing suppliers every time we think we can save a few pennies, so drug containers stop changing their appearance constantly," he points out.

- **Involve a pharmacist.** When an 11 kg child was undergoing conscious sedation, a resident wrote an order for 110 mg of ketamine, a general anesthetic, which was a tenfold overdose.

In another incident, an order was written for the antibiotic gentamicin based on weight, for a child weighing 100 kg. The dose is 2.5 mg/kg, but the resident didn't realize that there is a maximum dose, which ranges from 80-120 mg for an adult, Mialon explains. "Gentamicin in large doses can cause renal

failure and ototoxicity," she adds.

Both these errors were caught by Mialon before the drugs were administered.

Dosages that are compounded, prepared in serial dilutions, or extensively manipulated should be verified by a pharmacist, says the Rockville, MD-based U.S. Pharmacopeia's Center for the Advancement of Patient Safety in its recommendations for preventing drug errors in children.

Mialon carries a portable phone so she can act as a reference before an order is written for any ED patient. "The residents just call to ask what the correct dose is, so they write it correctly the first time," she says. "The nursing staff love it." **(For more information on the benefits of an ED pharmacist, see *ED Management*, August 2002, p. 89.)**

- **Find out which drugs are causing errors.** Identify the drugs that are most risky for dangerous errors in your ED, such as sedating agents, Petrack advises. "Ideally, dosing for these drugs should be verified by two physicians or nurses," he says.

Reference

1. Rasmus RE, Mitchell AL, Lesar TS. Medication prescribing errors in pediatric emergency medicine: Albany (NY) Medical Center. Abstract presented at American Academy of Pediatrics National Conference, Boston; October 2002. ■

Joint Commission

Use these tools to comply with patient safety goals

Now that the Joint Commission on Accreditation of Healthcare Organizations has announced its 2003 National Patient Safety Goals, what are you doing to comply? Technology could be a crucial part of your strategy.

Effective Jan. 1, surveyors are looking to see whether you have implemented the Joint Commission's recommendations, and failure to comply will result in a special Type 1 recommendation.

EDs are at high risk for errors for several reasons, says **Catherine A. Hamilton**, RN, MPH, clinical coordinator for the department of emergency medicine at University Hospital in Cincinnati. "This is due to the breadth of cases seen, the complexity of the many hospital systems involved in patient care, and the inherent lack of control in the ED environment," she says.

Overcrowding and delays increase risk, she says.

Executive Summary

Technology can help you comply with the 2003 National Patient Safety Goals from the Joint Commission on Accreditation of Healthcare Organizations. EDs are beginning to invest in these resources:

- Bar-coding systems can ensure that patients receive the correct medication.
- Software can alert physicians when nonstandard doses are ordered.
- Computerized order entry can give correct doses if you enter the patient's weight.

"With the current increases in ED census and length of stay, systems that functioned well or marginally are being tasked beyond their design," she explains.

Use of tools such as bar-coded arm bands and physician order entry could prevent errors in the ED, Hamilton says. "These can provide effective short-term fixes to take steps out of complicated processes," she says. "We at University Hospital are just beginning to look into these possibilities."

The ED is becoming an increasingly unsafe environment due to overcrowding, according to **Jonathan Kent**, RN, CEN, assistant director for the emergency center at Medical Center of Central Georgia in Macon. Consider how technology can be used to reduce risks, Kent urges. "I know it is expensive to implement new products, and it is difficult to win folks over in the change process, but it is essential to our goal of doing no harm," he says.

Here are ways to use technology to comply with the patient safety goals:

- **Bar-coding systems.** Use bar-code reading pocket computers that are linked to the admission/discharge/transfer system, Kent recommends. "These will alert you if you try to give a drug that has not been OK'd for the patient by a pharmacist or entered by a physician," he says.

Kent's ED has implemented bar coding on patient armbands, which required the purchase of eight dedicated printers with upgraded memory at about \$5,000 each, and \$26,000 for custom-built software. "This has been a good investment," he says. "We see lots of applications for increased speed and accuracy of data entry."

Bar coding can ensure that the medication or test ordered for a particular patient is actually the one they receive, says **Andrew Sucov**, MD, medical director of Rhode Island Hospital's ED. "With the use of Bluetooth or similar technologies, it also can decrease documentation issues. This makes staff more available, which indirectly contributes to safety." (*Editor's note: For more information, go to www.bluetooth.com/util/faq1.asp.)*

- **Medication dispensers.** Kent's ED recently

invested in five new MedStation System 2000 automated medication dispensers, manufactured by San Diego-based Pyxis Corp. These allow for more accurate control and referencing of medications, Kent reports.

- **Computerized order entry.** With this system, you are required only to indicate the patient's weight, and the computer calculates the correct dosage, Sucov says "Assuming the patient's weight is correct, this virtually should eliminate this type of error," he adds.

Computer order entry is effective at preventing errors for nonstandard dosages, says Sucov. "This has great potential to ensure correct pediatric dosing," he

Sources/Resources

- **Catherine A. Hamilton**, RN, MPH, Clinical Coordinator, Department of Emergency Medicine, University Hospital, 231 Albert Sabin Way, Cincinnati, OH 45267-0769. Telephone: (513) 558-8081. Fax: (513) 558-5791. E-mail: Catherine.Hamilton@uc.edu.
- **Jonathan Kent**, RN, CEN, Assistant Director, Emergency Center, Medical Center of Central Georgia, P.O. Box 6000, Box 142, Macon, GA 31208. Telephone: (478) 633-3038. Fax: (478) 633-7879. E-mail: Kent.Jonathan@mccg.org.
- **Andrew Sucov**, MD, FAEM, Medical Director, Emergency Department, Rhode Island Hospital, 593 Eddy St., Davol 141, Providence, RI 02903. Telephone: (401) 444-2840. Fax: (401) 444-4307. E-mail: ASucov@LifeSpan.org.
- The report, *Computerized Physician Order Entry: A Look at the Vendor Marketplace and Getting Started*, is available free at the Washington, DC-based Leapfrog Group's web site (www.leapfroggroup.org/hospital.htm). Click on "CPOE Reports."
- The 2003 National Patient Safety Goals and associated recommendations can be accessed at the August 2002 *JCAHOnline — Monthly News Brief* at www.jcaho.org. Click on "JCAHOnline" and then "August 2002." Frequently Asked Questions about the National Patient Safety Goals also are available on the web site.

Pathways for Medication Safety is a set of articles to reduce medication errors, developed by the American Hospital Association, the Health Research and Educational Trust, and the Institute for Safe Medication Practices. This resource is free at www.medpathways.info. The articles provide hospitals with a process to incorporate medication safety initiatives into strategic plans, perform an organizationwide risk assessment to identify areas for improvement, and assess the organization's readiness to implement a bar-coding system for administering medications. For more information, contact: Health Research and Educational Trust, One N. Franklin, Suite 3000, Chicago, IL 60606. Telephone: (312) 422-2600. Fax: (312) 422-4568. E-mail: medpathways@aha.org.

says. Mistakes with pediatric doses are common, especially in the ED, according to recent research.¹

The goal is to stop physicians from accidentally ordering nonstandard doses, Kent says. "The system sends up red flags for potential mistakes," he says.

For instance, if the patient has a known allergy, and someone inputs an order for a medication that is a potential allergen, the physician subsequently would have to take extra steps to verify that he or she wants to order the drug in question, Kent explains.

The system you choose should be seamless and easy to use, Kent says. "It will have to be secure from those who don't need to access it, but easy to navigate for the ED docs. It has to be *fast*," he says.

Kent's facility's information services department is working on "getting order-entry devices as close to the bedside as possible" in the ED. So far, his ED has implemented the Accu-Chek Inform System, a "smart" glucometer manufactured by Basel, Switzerland-based Roche Diagnostics, he says.

He says that the costs included system upgrades, a server license agreement for five years to transmit the

data from the glucometer to the system, and the per-meter cost of \$625. "We have six meters and transmitter servers in the ED," says Kent.

"It is built on a Palm hand-held computer platform, so it is a model for the way an order-entry system would work in our institution," he says. The eventual cost for computerized order entry would include new hardware and software licenses, says Kent. The cost would vary widely based on the individual ED and facility. Since order entry is computerized, errors due to transcription mistakes also are reduced, notes Kent.

"However, you still have to deal with problems with deciphering bad handwriting, unless the order goes directly from the computer to a printer or Pyxis machine that isn't susceptible to this type of error," he says.

Reference

1. Rasmus RE, Mitchell AL, Lesar TS. Medication prescribing errors in pediatric emergency medicine: Albany (NY) Medical Center. Abstract presented at American Academy of Pediatrics National Conference, Boston; October 2002. ■

Speed up orders for inpatients held in ED

What is your No. 1 obstacle to reducing delays and improving patient flow? For many ED managers, the culprit increasingly is inpatients being held in the ED for hours or even days.

"If we can expedite getting the patients out of the ED, of course that is best," says **Jay Kaplan, MD, FACEP**, medical director of the Studer Group, a Gulf Breeze, FL-based group that specializes in operational and service improvement in EDs and health care facilities.

"If we can't, it is vital to recognize what orders need to be carried out immediately and which can wait until the patient gets to the floor," Kaplan says. "The problem, of course, is that too often you don't have any idea how long the patient is going to be held in the ED."

Here are strategies to manage orders for inpatients held in the ED:

- **Determine which orders need to be carried out immediately.**

You need a foolproof system to ensure that important orders are carried out while the patient is in the ED, Kaplan says.

"The problem is that often this system is not set up, and thus there may be a delay in important orders being carried out," he says. (See story on ensuring quality care for inpatients in the ED, p. 30.)

Executive Summary

You need a policy to ensure that important orders are carried out for admitted patients being held in the ED.

- ED physicians should not succumb to pressure to write inpatient orders.
- Transitional orders can be used for stable inpatients during their stay in the ED.
- By using transitional orders, inpatients being held in the ED can be sent upstairs more quickly.

Often, inpatient order sheets are used, which fail to differentiate which orders must be done in the ED and which ones can wait, Kaplan notes.

"Given the uncertainty as to how long the patient will be in the ED, there is confusion, and it must not be left up to an individual's discretion as to which orders are carried out," he says.

"It is equally unreasonable to expect ED nurses, with all of their other patient responsibilities, to do everything. This is problematic," Kaplan adds.

Use a protocol for inpatient orders to ensure that important orders are carried out while the patient is still in the ED, he recommends.

- **Resist pressure for ED physicians to write inpatient orders.**

The Dallas-based American College of Emergency Positions has taken a position against ED physicians writing inpatient orders, Kaplan says.

"In that scenario, once the patient leaves the ED, the

Sources

For more about orders for admitted patients, contact:

- **Stuart M. Caplen**, MD, Chief, Department of Emergency Medicine, Englewood Hospital and Medical Center, 350 Engle St., Englewood, NJ 07631. Telephone: (201) 894-3527. Fax: (201) 541-2977. E-mail: Stuart.Caplen@ehmc.com.
- **Jay Kaplan**, MD, FACEP, Medical Director, The Studer Group, 913 Gulf Breeze Parkway, Suite Six, Gulf Breeze, FL 32561. Telephone: (602) 381-0788. Fax: (602) 381-0886. E-mail: jay.kaplan@studergr.com.

emergency physician is taking responsibility for the patient on the inpatient unit and before the attending physician has taken charge of the care,” he explains.

“This is an untenable situation. You can’t have two captains steering the same ship.” However, there often is pressure put on ED physicians to write these orders so that private attendings do not have to see patients, Kaplan says.

Create a template that includes the statement “Call Dr. _____ upon patient arrival to unit for orders,” advises Kaplan.

There also should be a clear statement that once a private physician has called in orders on a patient, or house staff have come down and written orders on behalf of an attending physician, the ED physician no longer is responsible for the patient unless there is a life-threatening emergency, he says.

• Use transitional orders.

At Englewood (NJ) Hospital and Medical Center, patients being held in the ED encountered a Catch-22 scenario: Inpatient units would not accept patients without orders, and the ED physicians did not want to write admitting orders because of the liability risks involved, reports **Stuart M. Caplen**, MD, chief of the department of emergency medicine.

As a result, patients would wait in the ED until the residents worked them up, he explains.

Caplen’s ED found an effective solution by working with the departments of medicine and nursing to develop “transitional” orders to use for inpatients being held in the ED. The orders provide for activity, diet, and first dose of pain medication or other stat medications.

The patient’s attending physician and the resident are called and notified that the patient will be sent to the floor for the admitting history, physical, and orders. A preprinted sheet is used and one of the first orders is to page the resident when the patient arrives on the floor. (See **Admitted Patient Transitional Order Sheet, enclosed in this issue.**)

Transitional orders are used only for relatively

stable patients, such as patients with infections who have gotten their first doses of antibiotics in the ED, who can safely wait one or two hours for the resident to see them on the inpatient floor, Caplen notes.

When transitional orders were first implemented, the ED agreed to wait one hour to notify the resident before using the orders to give the resident time if he or she wanted to see the patient in the ED. The one-hour waiting period has been eliminated to speed the process when the ED is busy, he says.

The transitional orders have gotten patients up to the floor several hours quicker, by not having to wait for the resident to examine the patient in the ED and write admitting orders, Caplen reports.

A recent example involved an elderly patient with pneumonia who was not in acute respiratory distress, he says. The woman received the first dose of antibiotics in the ED and later went to the inpatient floor, where the resident examined the patient and did the history and physical.

“An additional bed for new ED patients opened up several hours earlier than it would have, had the transitional orders not been used,” says Caplen. ■

Deluged with inpatient holds? Avoid violations

Are you giving admitted patients being held in your ED the same level of care they would receive in the critical care units?

If not, you are violating standards from the Joint Commission on Accreditation of Healthcare Organizations that require the same standard of care be provided.

Caring for critical care inpatients in the ED presents many risks, says **Karen Clark**, RN, MSN, CCRN, an ED and critical care nurse for Adventist Health Care System in Silver Spring, MD.

Executive Summary

To comply with standards of the Joint Commission on Accreditation of Healthcare Organizations, you must provide the same level of care to inpatients held in your ED as they would receive in critical care units.

- Train the entire staff in telemetry monitoring.
- Give patients the same level of services from radiology, laboratory, and pharmacy as they would receive upstairs.
- Have ED nurse work occasional shifts in critical care units.

“EDs are designed to assess, stabilize, admit, transfer, or release — not to manage ongoing plans of care,” she explains.

To safely manage inpatients held in your ED, you must overhaul the way you provide care, says Clark. “We must change the way we practice and deliver care. This is not an easy objective,” she adds.

According to a study that surveyed directors of EDs and critical care services in hospitals in six mid-Atlantic states, admission orders often are delayed while patients are held in EDs.¹ This could lead to adverse outcomes and also Type 1 recommendations from the Joint Commission, Clark says, the study’s principal investigator.

Here are key findings of the study:

- Of the EDs that responded, 71.6% did not have processes or committees to address critical care patients held in the ED.
- Nearly 59% reported difficulties in getting critical care patients out of EDs into critical care beds.
- More than half said there was inadequate staff to complete important admission orders for tests of admitted patients held in the ED.

Here are effective strategies to improve consistency of care for critical care inpatients held in the ED:

- **Access the resources of your facility.**

All the resources of your facility must be shared with the ED, Clark emphasizes. “The goal is to include the ED as if it is an inpatient unit,” she says.

The patients being held in the ED must receive the same support from radiology, laboratory, pharmacy, and ancillary staff as if they were occupying an inpatient bed, Clark explains.

Staffing changes based on fluctuations in inpatient census also should include ED volumes, according to the study’s co-investigator, **Loretta Brush Normile**, PhD, RN, assistant professor at the College of Nursing and Health Science at George Mason University in Fairfax, VA.

“This would facilitate implementation of inpatient admission orders as if the patient occupied an inpatient bed,” she says. “This also decreases the length of stay by implementing plans of care earlier rather than later.” (For more on reducing delays caused by inpatient holds, see “Reduce ‘boarder’ patients in your department,” *ED Management*, February 2001, p. 17.)

- **Have a dedicated role to manage inpatients.**

Hospitalists or intensivists could manage the inpatient population more effectively in the ED, Clark suggests. They could facilitate rapid-sequence triage protocols that would accelerate patient flow, she says.

“They would manage admitted patients, thus relieving ED physicians of unexpected crisis and interventions,” she explains.

- **Provide telemetry monitoring in the ED.**

Consider training your entire staff in telemetry monitoring, Clark advises. “The goal is to provide telemetry monitoring throughout the hospital regardless of where,” she says.

Many cardiac monitoring systems are equipped with specific alarms to indicate the degree of severity and type of arrhythmia, Clark says.

“However, these alarms are for the most part ignored in the ED setting and in some instances disabled,” she says. “There is so much noise in an ED at times, that everyone is on sensory overload.”

She gives this solution: Train all ED nurses and ED techs in arrhythmia recognition and provide a monitor technician, especially during periods of high census. This would lessen the chance of missing malignant arrhythmias such as life-threatening bradycardia, she says.

“I have personally witnessed runs of v. tach and brady rhythms not printed out by the monitoring system because the alarms were disabled, and I just happened to walk by,” Clark reports. She has seen this scenario occur in EDs and critical care units.

“With the increasing acuity and severity of illness we are seeing in EDs, implementing the monitor tech role, though initially costly, would improve outcomes,” she argues.

By recognizing changes as they occur and intervening, critical events could be avoided that increase length of stay, morbidity, and cost, Clark explains.

Training should involve all staff in the ED including technicians, and two weeks of training should be provided, she recommends.

“Our standard of care would be closer to meeting the standard of care the patient would receive in the critical care setting,” she says.

- **Train ED nurses in critical care.**

To ensure ED nurses are comfortable managing critical care patients, give nurses direct exposure to the inpatient areas, Clark advises. Rotate ED nurses to the critical care unit for a specified period of time, she recommends.

Sources

For more on caring for inpatients in the ED, contact:

- **Karen Clark**, RN, MSN, CCRN, 10881 Kipe Drive, Waynesboro, PA. 17268. E-mail: healthmart@yahoo.com.
- **Loretta Brush Normile**, PhD, RN, Assistant Professor, George Mason University, College of Nursing and Health Science, Mail Stop 3C2, Fairfax, VA 22030-4444. Telephone: (703) 993-1945. Fax: (703) 993-1964. E-mail: lnormile@gmu.edu.

“Both specialties share common knowledge, but manage patients differently,” she explains.

Rotating ED nurses and critical care nurses in both areas would improve patient outcomes, says Normile. “Critical care nurses would be more comfortable managing critical care patients in the ED, once exposed sufficiently to the setting,” she says.

Similarly, training ED nurses in the critical care units would improve care of complicated patients held in the ED, adds Clark. “Giving ED nurses the chance to put into practice what they learn in the classroom would benefit all concerned,” she says.

Reference

1. Clark K, Normile LB. Delays in implementing admission orders for critical care patients associated with length of stay in emergency departments in six mid-Atlantic states. *J Emerg Nurs* 2002; 28:489-495. ■



Work closely with coders or ED revenue may be lost

By **Caral Edelberg, CPC, CCS-P**
President/CEO
Medical Management Resources/Team Health
Jacksonville, FL

Without connectivity between ED clinical staff, business office, medical records, and compliance, your ED stands to lose significant revenue.

Streamlining your ED coding and billing system isn't something you can do alone.

It takes the expertise and cooperation of numerous individuals working together on each element of the process. However, the rewards are great both in the areas of improving revenue and assuring conformance with the hospital compliance program.

The amount of revenue you may be losing depends on many components of your ED coding and billing process. It is not uncommon to find between \$15 and \$30 *per patient* in lost ED facility charges on just levels and procedures alone!

The lost net revenue for Medicare patients is quite easy to assess by identifying improperly coded facility levels or procedures that were omitted altogether and assigning the ambulatory payment classification (APC) payment amount to each.

Are your ED staff making costly coding errors?

Here is a partial list of frequent coding errors or omissions of facility procedure, identified by **Caral Edelberg, CPC, CCS-P**, president and CEO of Jacksonville, FL-based Medical Management Resources/TeamHealth:

- failure to accurately identify facility levels consistent with written criteria;
- coding of simple instead of intermediate laceration repairs;
- coding of simple instead of complicated incision and drainage;
- failure to accurately identify separately identifiable procedures (for example, fractures, dislocations, splints, cardiopulmonary resuscitation, infusions, and injections);
- coding for intravenous administration and fluids with the wrong codes or omitting them entirely;
- omission of coding for intramuscular antibiotics;
- improper use of the -25 modifier and other facility required modifiers, without which claims are suspended or denied;
- listing diagnostic tests under the wrong revenue center;
- errors in reporting multiple visits on the same calendar day to the ED;
- omitting an appropriate facility level when billing facility procedures.

Here are ways to collaborate with coders to improve reimbursement:

- **Make sure that criteria are followed.**

Nursing criteria must accurately and uniformly reflect the services provided to patients by ED staff. Compliance problems will occur without use of objective criteria by the coding team.

It is not uncommon to find excellent documentation by clinical staff that is not accurately interpreted and coded. Coders and clinical providers must work together to develop an understanding of the underlying factors illustrated by the words entered in the medical record.

Providers should earmark select cases that illustrate moderate to high level of acuity, resources, and patient care.

Track these cases through the coding and billing process or work with coders prior to their assigning the codes to discuss how coding will be performed based on submitted documentation.

Discuss those differences in how coders interpret

the documentation and apply coding rules.

The Centers for Medicare & Medicaid Services (CMS) initially proposed new facility levels codes starting in January 2003, but it didn't implement them in the final rule. It looks as if it will be 2004 before a nationally uniform facility coding criteria will go into effect.

Until then, you must ensure that levels are stratified by acuity and resources, and you must ensure that coding staff follow the criteria. If criteria is too subjective, coders will not be able to uniformly assign levels to services, which is a problem for revenue and compliance.

- **Perform outside audits.**

Routine outside audits can help you stay on track and identify areas that need tightening. If all seems to be working well but there are no outside audits to ensure that internal criteria is followed and coding and billing are being performed under current rules, a compliance problem may exist that ultimately will result in paying some of that revenue back.

- **Work with coders to review denials and suspended claims.**

When documentation, coding, and billing are performed appropriately, but there is no ongoing review of denials and suspended claims, coders never learn what rules certain payers may follow. In other words, the work is done, but the payer wants it reported in a special language.

- **Ensure that coders identify additional procedures.**

Coding for surgical procedures performed in the ED is a new concept for facility billing introduced with APCs. Coding of these services depends on documentation provided by clinical staff, and it can be missed easily if documentation is not complete and detailed.

When coded correctly, these procedures add significant revenue to the ED. (See box with list of the most frequent coding errors or omissions of facility procedures, p. 32.)

- **Work with coders to monitor ED chargemaster.**

If documentation and coding are correct, but the chargemaster is not functioning appropriately and services that are coded are omitted from the billing form, revenue is lost. The ED chargemaster requires ongoing revision to reflect all services that can be performed in the ED — approximately 450 codes!

You must review it on a regular basis, communicate with coding staff to identify services that are performed but not included in the chargemaster, and be sure that these chargemaster codes appear on the billing forms when used. Consistently review documentation to ensure that medical necessity is clearly indicated.

- **Work with coders to ensure adequate documentation of medical necessity and the service rendered.**

You cannot overestimate the importance of documenting the medical necessity for the treatment that is provided to ED patients. Under Local Medical Review Policy (LMRP), Medicare determines the conditions and diagnoses that must be identified on the claim for services to be paid.

Often the services are performed, but documentation does not provide enough detail to allow coders to identify the services to the highest level of specificity required by Medicare. Clinical staff in the ED won't know that is expected of them in documenting these services, unless someone in coding and billing provides the necessary feedback on denied or suspended claims. To enhance collaboration between coders and ED staff, plan routine meetings to discuss ways to address documentation issues that have impact on coding.

Some ED services that require LMRP monitoring include electrocardiograms, pulse oximetry, troponin, cardiopulmonary resuscitation, and chest X-rays. Without this level of oversight, you can guarantee lost revenue and billing errors.

[Editor's note: Medical Management Resources/Team Health specializes in Emergency Department billing, coding, and compliance. Edelberg can be reached at Medical Management Resources/Team Health, 8001 Belfort Parkway, Suite 200, Jacksonville, FL 32256. Telephone: (904) 725-4889. Fax: (904) 724-1948. E-mail: Caral_Edelberg@teamhealth.com.] ■



[Editor's note: This column is part of an ongoing series that will address reader questions about the Emergency Medical Treatment and Labor Act (EMTALA). If you have a question you'd like answered, contact Staci Kusterbeck, Editor, ED Management, 280 Nassau Road, Huntington, NY 11743. Telephone: (631) 425-9760. Fax: (631) 271-1603. E-mail: StaciKusterbeck@aol.com.]

Question: Some of our physicians insist on sending their patients to our ED for injections to treat ongoing medical conditions. One patient was scheduled for magnetic resonance imaging (MRI), but due to back pain, he was unable to lie still for the test. The physician ordered a narcotic injection to be given to assist the patient in getting through the test. Even though the MRI was scheduled and the injection order was included with the MRI order, we in the ED refused to

administer the medication without a medical screening examination (MSE). The physician was irate, and the patient left unhappy. Did we do the right thing?

Answer: “Generally speaking, an irate physician and unhappy, untreated patient should be confirmation enough that you did *not* do the ‘right thing,’” according to **Robert A. Bitterman**, MD, JD, FACEP, director of risk management and managed care for the department of emergency medicine at Carolinas Medical Center in Charlotte, NC.

The when-in-doubt rule to follow is to treat the patient appropriately medically, rather than be overly preoccupied with legal consequences, he says.

“Recognize too, that EMTALA is a complaint-driven process,” says Bitterman. “CMS [The Centers for Medicare & Medicaid Services] does not conduct EMTALA investigations unless someone complains about the care provided.”

The above patient presented to the hospital to obtain an MRI, not to seek an MSE from the ED for a potential emergency medical condition, he notes. “Do you do an MSE on every patient administered barium in the radiology suite, to every patient given an insulin tolerance test, or to every patient given adenosine for a cardiac stress test in the cardiology noninvasive lab?” he asks.

In each of these instances, that patient’s physician has ordered a study done at the hospital to be done with a medication injection, exactly the same as an MRI with narcotic or benzodiazepine to be done in radiology, Bitterman says.

The common denominator is that the patient is *not* asking for an MSE from the ED, he says. “This is the reason why EMTALA should not apply to these situations,” says Bitterman.

Before EMTALA applies to a patient encounter, the law requires *two* triggering elements to be present: First, the patient must come to the ED, and second, the patient or someone on the patient’s behalf actually must request examination or treatment for a medical condition, he explains.

“Interestingly, if CMS was consistent in its interpretation of the law, it would require everyone presenting to the hospital for any examination or treatment of any medical condition to be provided a medical screening exam,” says Bitterman.

CMS officials contend that anywhere on hospital property constitutes “coming to the ED,” he says. According to the regulations, every patient who presents to the lab for a routine blood draw has “come to the ED,” Bitterman says. The statute requires an MSE for everyone requesting “examination or treatment of a medical condition,” explains Bitterman, noting that the language does not say “for examination or treatment of an *emergency* medical condition.” Therefore, by the

letter of the law, every patient at the hospital for a routine blood draw should be given an MSE, Bitterman says.

“Ludicrous, but that’s what the statute would require if CMS’s interpretation of the ‘comes to the ED’ language was enforced,” he says. “What CMS really means, and properly seeks to achieve, is that patients truly seeking emergency care are not denied such care by virtue of what department of the hospital they enter.”

Therefore, the rule to follow is that patients outside of the ED, if seeking *emergency* care, are deemed to have come to the ED and requested an MSE, he says.

CMS tries to mitigate its inconsistency by stating that patients presenting to the “ED,” which is defined as “anywhere on hospital property” for *scheduled* care do not trigger EMTALA’s medical screening requirement, he says.

“The language of the statute does not in any way differentiate scheduled care from unscheduled care; it’s simply a ruse to get around an overly expansive definition of ‘comes to the ED,’” he says.

Bitterman recommends using an intake form that simply asks, “Why are you here?” to document the patient’s intentions and the fact that the patient is expressly *not* requesting an MSE to determine if an emergency medical condition exists.

“Without such a request, EMTALA plainly does not apply, and then the doctors, nurses, and the patients can determine the parameters of proper medical care, not the government,” he says.

In the above case, it’s clear the patient isn’t seeking emergency care, and EMTALA should not apply, Bitterman says.

The easiest way to circumvent this problem is to avoid administering the medications in the ED, and instead, allow nurses to administer the medications in radiology, he says.

“The less patients look like ED patients, the less likely CMS will deem them to be ED patients, and thus trigger unnecessary, unwanted, and unwarranted expensive ‘medical screening’ examinations,” adds Bitterman. ■

Source

For more information about the Emergency Medical Treatment and Labor Act, contact:

- **Robert A. Bitterman**, MD, JD, FACEP, Director of Risk Management and Managed Care, Department of Emergency Medicine, Carolinas Medical Center, 1000 Blythe Blvd., Charlotte, NC 28203. Telephone: (704) 355-5291. Fax: (704) 355-8356. E-mail: rbitterman@carolinas.org.



JOURNAL REVIEW

Bentley PN, Wilson AG, Derwin ME, et al.
Reliability of assigning correct current procedural terminology-4 E/M codes. *Ann Emerg Med* 2002; 40:269-274.

Agreement in coding of emergency charts between coding agencies was only poor to fair, and the distribution of assigned Current Procedural Terminology (CPT)-4 codes was significantly different, says this study from William Beaumont Hospital System in Royal Oak, MI. The researchers did three prospective trials, with two interagency audits and one intra-agency audit. In addition to poor agreement in coding, they found that the distribution of CPT-4 codes was different significantly in each group. "We find this latter observation startling and disturbing, and if generalizable, this will have important economic and legal ramifications," they wrote, pointing to the possibility of prosecution for billing fraud. They suggest the following solutions:

- using templates to reduce variation of documentation;
- requiring more rigorous formatting of dictations for more consistent documentation;
- performing a more thorough review of documentation guidelines provided by the Baltimore-based Centers for Medicaid & Medicare Services for use in assigning CPT codes. ■

CE/CME instructions

Physicians and nurses participate in this CE/CME program by reading the issue, using the references for research, and studying the questions. Participants should select what they believe to be the correct answers, then refer to the answer key to test their knowledge. To clarify confusion on any questions answered incorrectly, consult the source material. After completing this semester's activity with this issue, **you must complete the evaluation form provided and return it in the reply envelope to receive a certificate of completion.** When your evaluation is received, a certificate will be mailed to you. ■

CE/CME questions

For directions on how to complete this education activity, please consult the CE/CME instruction box, below left. If you have any questions about the CE/CME program, please contact customer service at (800) 688-2421 or by e-mail at customerservice@ahcpub.com.

31. Which of the following is an effective way to reduce pediatric medication errors in the ED, according to Robert L. Wears, MD, MS, FACEP, professor of emergency medicine?
 - A. Estimating the child's weight
 - B. Relying on memory and calculation
 - C. Use of pre-packaged standard orders for weight ranges
 - D. Changing drug suppliers frequently
32. Which of the following tools will alert you if you try to administer the wrong medication to a patient?
 - A. Bar-coded arm bands
 - B. Smart glucometers
 - C. Computerized order entry
 - D. Hand-held computers
33. Which is an effective way to manage inpatient orders for admitted patients in the ED, according to Jay Kaplan, MD, FACEP, medical director of the Studer Group?
 - A. Leaving decisions about orders to the discretion of the ED staff
 - B. Using a protocol to ensure that important orders are carried out
 - C. Having ED physicians write all inpatient orders
 - D. Using inpatient order sheets that don't specify which orders must be done in the ED and which can wait
34. Which is an effective way to manage inpatients held in the ED, according to Karen Clark, RN, MSN, CCRN, an ED and critical care nurse?
 - A. Provide patients with a different standard of care in the ED.
 - B. Postpone all admission orders until a bed is available.
 - C. Provide telemetry monitoring only in critical care units.
 - D. Rotate ED nurses to critical care units.

COMING IN FUTURE MONTHS

■ Avoid liability risks of latex-allergic patients

■ Comply with new infection control standards

■ How to prevent HIPAA violations

■ Effective ways to educate staff on patient safety

35. For which of the following cases would EMTALA apply and a medical screening examination be required, according to Robert A. Bitterman, MD, JD, FACEP, director of risk management and managed care for the department of emergency medicine at Carolinas Medical Center?
- A patient sent to the ED for an injection to treat an ongoing medical condition
 - A patient who is administered barium in the radiology suite
 - A patient seeking a routine blood draw
 - Patients seeking emergency care who present elsewhere on hospital property
36. Which of the following is an effective strategy to improve consistency of coding, according to a study published in *Annals of Emergency Medicine*?
- Thoroughly reviewing documentation guidelines
 - Avoiding use of templates
 - Eliminating formatting of dictation
 - Using more than one coding agency

Answer Key: 31. C; 32. A; 33. B; 34. D; 35. D; 36. A

CE/CME objectives

- Name one recommendation for preventing pediatric medication errors in the ED. (See *"Are pediatric drug errors occurring in your ED? Act now before tragedy strikes,"* in this issue.)
- Identify a tool used to ensure that a patient is receiving the correct medication. (See *"Use these tools to comply with patient safety goals."*)
- Name an effective way to manage inpatient orders in the ED. (See *"Speed up orders for inpatients held in ED."*)
- Identify an effective way to ensure that quality care is given to admitted patients being held in the ED. (See *"Deluged with inpatient holds? Avoid violations."*)
- Cite one case in which a medical screening examination would *not* be required by EMTALA. (See *"EMTALA Q&A."*)
- List one way to improve consistency of coding. (See *"Journal Review."*) ■

Newsletter binder full?
Call **1-800-688-2421**
for a complimentary
replacement.



EDITORIAL ADVISORY BOARD

Executive Editor: Larry B. Mellick, MD, MS, FAAP, FACEP
Chair and Professor, Department of Emergency Medicine
Section Chief, Pediatric Emergency Medicine
Medical College of Georgia, Augusta, GA

Nancy Auer, MD, FACEP
Vice President for Medical Affairs
Swedish Health Services
Seattle

James J. Augustine, MD, FACEP
Vice Chair, Clinical Operations
Department of Emergency Medicine
Emory University, Atlanta

Kay Ball, RN, MSA, CNOR, FAAN
Perioperative Consultant/Educator
K & D Medical
Lewis Center, OH

Larry Bedard, MD, FACEP
Senior Partner
California Emergency Physicians
President
Bedard and Associates
Sausalito, CA

Robert A. Bitterman
MD, JD, FACEP
Director of Risk Management
& Managed Care
Department of Emergency Medicine
Carolinas Medical Center
Charlotte, NC

Richard Bukata, MD
Medical Director
Emergency Department
San Gabriel Valley Medical Center
San Gabriel, CA
Clinical Professor
Department of Emergency Medicine
Los Angeles County/
USC Medical Center

Diana S. Contino
RN MBA, CEN, CCRN
President
Emergency Management Systems
Monarch Beach, CA

William H. Cordell, MD, FACEP
Director, Emergency Medicine
Research and Informatics
Methodist Hospital
Indiana University School
of Medicine
Indianapolis

Nancy Eckle, RN, MSN
Program Manager,
Emergency Services
Children's Hospital,
Columbus, OH

Caral Edelberg, CPC, CCS-P
President
Medical Management Resources
Jacksonville, FL

James A. Espinosa, MD
FACEP, FAAFP
Chairman, Emergency Department
Overlook Hospital, Summit, NJ

Gregory L. Henry, MD, FACEP
Clinical Professor
Department of Emergency Medicine
University of Michigan Medical School
Risk Management Consultant
Emergency Physicians Medical Group
Chief Executive Officer
Medical Practice Risk Assessment Inc.
Ann Arbor, MI

Maryfran Hughes, RN, MSN, CEN
Nurse Manager
Emergency Department
Massachusetts General Hospital
Boston

Tony Joseph, MD, FACEP
President & CEO
AMC Registry Inc.
Columbus, OH

Marty Karpel
MPA, FACHE, FHFMA
Emergency Services Consultant
Karpel Consulting Group Inc.
Long Beach, CA

Thom A. Mayer, MD, FACEP
Chairman
Department of Emergency Medicine
Fairfax Hospital
Falls Church, VA

Richard Salluzzo, MD, FACEP
Chief Medical Officer
Senior Vice President
for Medical Affairs
Conemaugh Health System
Johnstown, PA

Norman J. Schneiderman, MD,
FACEP, Medical Director of
Integrative Care Management
Attending Physician, Emergency
and Trauma Center
Miami Valley Hospital
Clinical Professor
Emergency Medicine
Wright State University
Dayton, OH

Robert B. Takla, MD, FACEP
Medical Director
Emergency Services
St. John NorthEast
Community Hospital
Detroit

Michael J. Williams, MPA, HSA
President
The Abaris Group
Walnut Creek, CA

Charlotte Yeh, MD, FACEP
Medical Director, Medicare Policy
National Heritage Insurance Co.
Hingham, MA

Admitted Patient Transitional Order Sheet

Medical Resident Covered Patients

ALLERGIES: _____

Date & Time **Other Orders** **Prescription and Infusion Orders**

Diagnosis: _____ IV Order: _____

Activity: _____

Diet: _____

Other Orders: _____

Call medical resident on call (beeper 1700) when patient arrives on floor to examine patient and for further orders
Pain Medication: First Dose Only: _____

For Telemetry Patients

1. Notify medical resident on call or code team immediately for any life-threatening dysrhythmia, change in condition, or performance of any of the following orders: _____
2. Stat defibrillation of V. Fib or pulseless v. tach., as per ACLS guidelines. _____
3. Cardiovert v. tach. If unstable and unconscious as per ACLS guidelines. _____
4. For sustained v. tach. of 30 seconds or more: Lidocaine 1 mg/kg over 2 min and then: Lidocaine 2 GM in D5W 250 ml IV at 2 mg/min. _____
5. For symptomatic bradycardia: Attach pacemaker pads and start pacemaker at 30 MA setting with rate of 50 beats per minute. Increase MA setting upward until capture is attained. Have atropine 0.5 mg at bedside. If pacemaker unable to capture or pacemaker is not immediately available, give 0.5 mg atropine IV push. _____
6. For angina: Stat EKG then nitroglycerin gr 1/150 SL stat if not hypotensive. _____
7. Supplemental oxygen should be given for all the above conditions, to maintain oxygen saturation between 95% and 100%. If patient has COPD, maintain oxygen saturation between 90% and 95%. _____

Signature: _____

Source: Englewood (NJ) Hospital and Medical Center.