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Pages 25-36

## IN THIS ISSUE

- Prevent unsafe practices during invasive procedures. . . . . cover
- A simple solution to speed care of emergent conditions . . . . . 27
- Identify vague symptoms of pulmonary embolism. . . . . 28
- Avoid needless problems with lumbar punctures . . . . . 29
- Perform this simple intervention to help asthma patients . . . . . 30
- Take these life-saving actions for pediatric allergic reactions . . . 31
- Stop unintentional overdoses of same-acting meds . . . . . 33
- Learn why peds psych patients are unhappy with ED care . . . 34

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## Be alert for potential dangers: boarding, more invasive procedures

*Emergency nursing practices might be unsafe*

Have you inserted arterial or central lines, performed invasive pressure monitoring, or managed a mechanically ventilated patient in your ED recently? Invasive procedures such as these are being performed more often in EDs due to inpatients being boarded for long periods of time, which increases the potential for errors, warns Helen Sandkuhl, RN, MSN, CEN, TNS, FAEN, director of nursing for emergency and trauma services at Saint Louis (MO) University Hospital.

“Personnel caring for these patients may not be aware of practices that traditionally had ensured safety in preoperative settings,” Sandkuhl says.

One example is medication labeling. “Solutions being placed in unlabeled basins during procedures can lead to medication errors and patient deaths,” adds Sandkuhl. Also, patients might receive contrast media, when the order was to conduct the scan without it. “In busy settings where information may be scarce, wrong patients receiving contrast media can occur if two identifiers are not used,” says Sandkuhl. “Renal failure is a possible result of this error.”

To avoid these dangerous mistakes, Sandkuhl says to clarify verbal or written orders, and check lab values before sending patients for exams requiring contrast media.

Teresa Mancuso, RN, an ED nurse at Baptist Hospital of South Florida in Miami, says, “When an ICU patient boards in our department for long periods of time, patient-nurse ratio is compromised. The rest of the department must absorb the care of the ED patients. This can have a direct

## EXECUTIVE SUMMARY

Invasive procedures are being done in EDs more often because of boarding of inpatients for extended periods, and this can be dangerous for patients.

To reduce risks:

- Check lab values before sending patients for exams requiring contrast media.
- Make critical care competencies mandatory for ED nurses.
- Use triage-based care protocols to identify critical care patients quickly.

impact on a greater length of stay for our patients, adding to the boarding issue, overcrowding, and patients leaving without being seen or receiving treatment.”

## Risks increase

**Tia Valentine**, RN, CEN, clinical nurse educator for the ED at University of California — San Diego Medical Center, says, “Numerous studies have demonstrated the importance of having the patient get to the proper unit at the proper time. This helps decrease morbidity and mortality. Maintaining an ICU- or CCU-level patient within the ED for an indefinite time does

affect the end result of the patient.”

More invasive procedures and complex treatments are being done in the ED at Tufts Medical Center in Boston, due to the level of acuity of boarded patients, says **Alexandra Penzias**, RN, MEd, MSN, CEN, clinical nurse educator in the Department of Emergency Medicine. “The number of patients who board — defined as patients remaining in the ED longer than two hours beyond the decision to admit time — is a major concern at our facility,” says Penzias. “It is not uncommon for ED length of stay to exceed six hours.”

Penzias points to research showing that the overall mortality of critically ill patients increases considerably when they remain in the ED longer than six hours.<sup>1</sup> “As a result of this delay in disposition to an acute or critical care inpatient bed, ED nurses and physicians initiate ICU-level patient care management on these patients,” says Penzias.

## Safety is priority

Valentine reports that procedures such as bedside bronchoscopy, insertion of arterial, transvenous pacers or central venous pressure lines, and even ventriculostomy insertion are occurring on a more frequent basis.

“It may not even be uncommon in some EDs to have an intra-aortic balloon pump placed and maintained by a perfusionist, because of inability to move the patient to the CCU,” adds Valentine.

These interventions might be new to ED nurses, says Valentine, but “it is the responsibility of the practicing nurse to make sure that the fundamental knowledge is present. Safety is a number one priority.”

To better prepare nurses to care for critically ill patients, Tufts Medical Center implemented an ED Critical Care clinical excellence ladder. “This aims to match nurse competencies to patient characteristics, to achieve optimal outcomes,” says Penzias.

During annual mandatory education days, ED nurses review the setup and management of arterial lines, central venous pressure and intracranial pressure monitoring, and initiation and management of patients requiring peritoneal dialysis.

Valentine notes that some ICU/CCUs have nurses that are specifically trained on procedures such as continuous venovenous hemodialysis. When a patient needs this procedure, these nurses are assigned to them. “This can also be used within the ED,” suggests Valentine. “If the ED is boarding

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Editor: **Stacey Kusterbeck**.

Executive Editor: **Coles McKagen**  
([coles.mckagen@ahcmedia.com](mailto:coles.mckagen@ahcmedia.com)).

Senior Managing Editor: **Joy Daughtery Dickinson**  
([joy.dickinson@ahcmedia.com](mailto:joy.dickinson@ahcmedia.com)).

Production Editor: **Neill L. Kimball**.

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### Editorial Questions

For questions or comments, call Joy Daughtery Dickinson at (229) 551-9195.

## SOURCES

For more information on invasive procedures done in the ED, contact:

- **Teresa Mancuso**, RN, Emergency Department, Baptist Hospital of South Florida, Miami. Phone: (786) 596-1960. E-mail: [Teresama@baptisthealth.net](mailto:Teresama@baptisthealth.net).
- **Alexandra Penzias**, RN, M.Ed, MSN, CEN, Clinical Nurse Educator, Department of Emergency Medicine, Tufts Medical Center, Boston. Phone: (617) 636-5357. E-mail: [apenzias@tuftsmedicalcenter.org](mailto:apenzias@tuftsmedicalcenter.org).
- **Helen Sandkuhl**, RN, MSN, CEN, FAEN, Emergency Services, Saint Louis (MO) University Hospital. Phone: (314) 577-8774. E-mail: [Helen.Sandkuhl@tenethealth.com](mailto:Helen.Sandkuhl@tenethealth.com).

ICU-acuity patients, getting a CCU or ICU-trained nurse to come in and care for the patients within the ED may be an option.” (See “Can you afford to add nurse to care for inpatients?” ED Nursing, April 2009.)

When a critical care patient is boarded in Baptist Hospital’s ED, a critical care physician assumes care of the patient. “This practice allows for the ED physician to focus their care on other ED patients,” says Mancuso. “The ED doctor remains close for sudden patient decompensation, but the intensivist will control the course of patient care.” (See related stories on getting patients out of the ED quickly, below, and placing an arterial line, right.)

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1. Chalfin DB, Trzeciak S, Likourezos A, et al. Impact of delayed transfer of critically ill patients from the emergency department to the intensive care unit. *Crit Care Med* 2007;35:1477-1483. ■

## Get patients out of the ED quickly

At Baptist Hospital of South Florida in Miami, ED nurses utilize triage-based care protocols to identify critical care patients quickly.

“This facilitates quicker patient care, diagnosis, admission, transfer to inpatient areas, and thus, a shorter length of stay,” says **Teresa Mancuso**, RN, an ED nurse at the hospital. “This process begins with the front-line triage.”

When there is no bed available, ED nurses use diagnostic, therapeutic, and management regimens

for stable chest pain, pneumonia, asthma, renal colic, and headache. To get patients upstairs more quickly, phone report is used. “This is one strategy which allows us, the ED nurse, to quickly give report to the floor nurse and send the patient up within 30 minutes of receiving bed assignments,” says Mancuso. “The floor nurse must be available to take report right away. If not, the resource nurse will.”

The ED resource nurses attend a staffing meeting twice daily to communicate specific patient needs, such as intensive care unit or telemetry. “In turn, staffing is increased specifically to meet these patient needs,” says Mancuso. ■

## Clinical Tips

### Placing an arterial line? You should check for this

When placing an arterial line, make sure there are no bubbles in the line or transducer, says **Tia Valentine**, RN, CEN, clinical nurse educator for the ED at University of California — San Diego Medical Center. “This can skew the data or dampen the waveform,” Valentine says.

Consider these other tips:

- Maintain the pressure bag at 300 mmHg. “This delivers 3 cc/hr under pressure, which prevents blood from backing up into the line and clotting,” says Valentine.
- Be sure the dicrotic notch is present in an arterial line wave tracing. “If it is not present, consider catheter kinking or clotting,” says Valentine.
- Make sure that the waveform correlates to the EKG waveform. “If it doesn’t, this can mean there are some other medical issues looming that can result in a bad outcome,” says Valentine. ■

### ‘Quick kits’ speed care of emergent conditions

The ED at Gifford Medical Center in Randolph, VT, was crowded when a patient presented with acute anaphylaxis. The patient was treated

immediately, and no errors occurred.

“However, I found myself in a high-stress situation trying to figure out appropriate dosing and administration guidelines,” says **Andra T. Perreault**, RN, BSN, an ED nurse who cared for the patient.

This situation prompted Perreault to create “quick kits” to treat various emergent conditions. The ED’s Anaphylaxis Kit contains the appropriate medication, materials to draw up the medication, and a one-page, large-print laminated medication dosing guide for adults and children.

You might need to talk to the ED physician about dosing when caring for a patient with acute anaphylaxis, but he or she might not be readily available. Using the kit, ED nurses can draw up appropriate medications while awaiting the physician’s order.

“You are always second-guessing yourself when things are stressful,” says Perreault. “This is why I developed the quick reference guide. The ED staff can take the kit and bring it right to the bedside.”

First, Perreault performed a literature search on current treatment for acute anaphylaxis. She created “quick cheat” sheets and had them laminated by the hospital’s marketing department. Next, she asked pharmacy staff to review the treatment guideline, and the director of the ED approved the dosing guidelines.

The last step was buying a plastic container from the supermarket. “I filled it with the medications, syringes, and needles for drawing up,” says Perreault.

## Immediate treatment

ED nurses created similar kits for acute myocardial infarction (AMI), acute stroke, and for specific medication drips that require time and concentration to draw up. *[The contents of the Anaphylaxis kit and guideline and the AMI and acute stroke kits used by ED nurses are included with the online version of this month’s ED Nursing. For*

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## EXECUTIVE SUMMARY

ED nurses at Gifford Medical Center created “quick kits” to treat various emergent conditions, including anaphylaxis and acute myocardial infarction. Treatment delays were reduced with these practices:

- ED nurses bring the kits to the patient’s bedside.
- Nurses use laminated “cheat sheets.”
- The ED director and pharmacist review treatment and dosage guidelines.

## SOURCE

For more information about use of quick kits for emergent conditions, contact:

• **Andra T. Perreault**, RN, BSN, Emergency Department, Gifford Medical Center, Randolph, VT. E-mail: [aperreault@giffordmed.org](mailto:aperreault@giffordmed.org).

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“When a patient presents with a life-threatening condition, we are able to get the kit and treat the patient immediately,” says Perreault.

## Meds and pre-printed physician order set

The ED’s AMI Quick kit has all the appropriate medications and a pre-printed physician order set. “This helps facilitate rapid treatment and transfer to the tertiary care facility,” says Perreault. “Our acute stroke kit has tPA [tissue plasminogen activator] and everything you need to draw it up.” Another kit is used for amiodarone maintenance dosing.

When Perreault worked in a large ED in Boston, she knew the dosing of all these medications by heart, due to repetition. Also, there was always another staff member readily available to double check dosages. “Because we live in a rural area, it can be months before we use these medications. In a small ED it is usually just the ED doc and one other nurse, who both may be busy,” says Perreault.

Kits and quick dosing guidelines are helpful in this kind of environment, says Perreault, but she says to keep this in mind: “When you make these kits, make sure that someone is responsible for checking expiration dates and that the treatment is up to date.” ■

## PE misdiagnosed? Not on your watch

*Don’t ignore potential danger*

A truck driver parked his 18-wheeler outside the AED at Emory University Hospital — Midtown in Atlanta, and he told nurses he had some mild difficulty breathing and “just feeling like something was not right.”

“He was alert and oriented, and his vital signs were stable. Our triage nurse brought him to a bed right away, where she continued the primary assessment,” says ED nurse manager **Donna McCloud-Forbes**, MSN, RN, CEN.

Suddenly, the patient became unresponsive and had a respiratory arrest requiring immediate intubation and resuscitative efforts. A CT scan was performed immediately and showed several pulmonary emboli. The patient was stabilized, administered heparin, and admitted to the intensive care unit. “

This was thanks to the experience and the ‘intuition’ of our ED nurse. She was able to recognize the signs and symptoms right away, and after obtaining a quick history, knew the potential danger this patient was in,” says McCloud-Forbes.

## Vague symptoms

If your patient presents with sudden onset of difficulty breathing, tachycardia, and tachypnea, you’d probably think of pulmonary embolism immediately. Patients also might have subtle and vague symptoms, though.

“The patient may present with stable vital signs and just complaining of mild difficulty in breathing. This is a symptom of many different disease processes,” says McCloud-Forbes.

A pulmonary embolism patient might or might not be experiencing chest pain, hemoptysis, and/or a change in mental status, notes McCloud-Forbes, and the patient might be diaphoretic, weak, and hypotensive. “In these patients, time is of the essence. We would want to start high-flow oxygenation, start a peripheral IV, and monitor vital signs and cardiac rhythm,” she says.

Ask whether the patient has a recent history of being immobile, recent travel of more than four hours, and/or recent surgery, McCloud-Forbes says. “These are all risk factors for having a pulmonary embolism,” she explains.

To reduce delays in administering anticoagu-

lants to the patient, these steps are taken by Emory’s ED nurses:

- Lab studies are obtained right away.
  - Continuous assessment and monitoring is done, to detect subtle changes in the patient’s condition.
  - Standing orders are initiated before the patient is seen by the physician. “This saves a lot of time,” says McCloud-Forbes.
  - Heparin is stored in the ED’s automated medication dispenser for easy access.
- “We don’t have to wait to get it from the pharmacy,” says McCloud-Forbes. “We also have a CT scanner across the hall from our department, making it very accessible.” ■

## Avoid needless problems with lumbar punctures

### *Pain management is lacking*

**O**f 353 children who had lumbar punctures performed at Children’s Hospital at Montefiore in Bronx, NY, only 84 received some form of pain management before the procedure, according to a new study.<sup>1</sup>

“Our study highlighted the importance of all health care providers to advocate for adequate analgesia use for patients undergoing painful procedures, especially those patients that can’t advocate for themselves,” says **Daniel Fein**, MD, the study’s lead author and a fellow in the hospital’s Division of Pediatric Emergency Medicine.

Fein notes that there are many indications for a lumbar puncture, including infectious workups to rule out meningitis or encephalitis, and neurological workups to look for increased intracranial pressure to diagnose pseudotumor cerebri. He says that one helpful practice is identifying patients who potentially will have a lumbar puncture as early in the ED visit as possible. “This could potentially facilitate the early application of topical anesthetics such as EMLA [eutectic mixture of local anesthetic], which require time to achieve efficacy,” says Fein.

Here are other problems that can occur with lumbar punctures:

- **Spinal headache.**

Patients might report a dull ache with a stiff neck and nausea, says **Shannon Martin**, RN, an ED charge nurse at St. Anthony’s Medical Center

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## EXECUTIVE SUMMARY

Pulmonary embolism (PE) often is missed because of subtle and vague symptoms. To improve your assessment:

- Ask patients about risk factors.
- Use standing orders.
- Give ED nurses easy access to medications.

## EXECUTIVE SUMMARY

Pain management often is not given before lumbar punctures are performed on children in the ED, according to a new study. To avoid complications with this procedure:

- Decrease risk of spinal headache with reinsertion of the stylet before needle removal.
- Apply topical anesthetics.
- Reduce anxiety by giving patients information about the procedure.

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in St. Louis, MO. “It has been reported that it is necessary to lay flat for one hour and as long as 12 hours, but there is no evidence to support this theory,” he adds.<sup>2</sup>

Martin says that small-gauge, atraumatic needles might decrease the patient’s risk of headache. “Reinsertion of the stylet before needle removal should occur,” says Martin. “Patients do not require bed rest after the procedure.”

- **Cerebrospinal fluid leakage.**

This leakage is caused by the needle puncture into the spinal area, which causes a small amount of fluid to leak into the muscle and depletes the normal level of cerebrospinal fluid, says Martin.

- **Infection.**

“This is always a concern with any procedure. Sterility is the key to decrease the infection rate,” says Martin.

- **Bleeding.**

“A review of the patient’s medical history and medication list is primary to any procedure,” says Martin. “The use of blood-thinning medications may be contraindicated for the procedure. With any bleeding, firm pressure must be held.”

- **Anxiety.**

Sedation should be considered for young children or anyone who might be unable to tolerate the procedure, says Fein.

Martin says that lorazepam and diazepam often are used to reduce the patient’s anxiety and that understanding more about the procedure also is helpful. “Anxiety is a common problem and is as important as pain control to increase the chance of success and safety,” he says.

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# Asthma patients adhere to written action plans

*Clear instructions are critical*

A written action plan helps asthma patients to adhere to their recommended medications, says a new study of 219 children presenting to Montreal Children’s Hospital’s ED.<sup>1</sup>

All of the patients were given fluticasone and albuterol inhalers, but those who also received a written action plan had 50% adherence compared to 34% who didn’t. Also, 76% of the children filled their oral corticosteroid prescription and were well-controlled at 28 days, compared with 56% who didn’t receive a written plan.

“Written instructions are critical to improve a patient’s adherence,” concludes **Francine M. Ducharme, MD**, the study’s lead author and associate director of clinical research at the University of Montreal in Quebec, Canada.

However, written action plans are usually not given in the ED, says **Rena M. Rovere, RN, MS, FNP-C**, a clinical nurse specialist/nurse practitioner in the ED at Albany (NY) Medical Center. “Action plans are loosely given verbally, to a stressed and often exhausted parent or patient,” Rovere says. “It usually only entails ‘follow up with your primary care doctor tomorrow.’”

Busy ED nurses might simply present a paper for patients to sign without discussing the information. This might include complex instructions for how to use peak flows as a measure of when to return to the ED. “All too often, our excuse is we are too busy and the waiting room is full,” says Rovere. “But how would we want discharge diagnosis and follow-up care explained to our family or loved ones?”

At University of Montreal’s ED, the action plan is done in triplicate copies so that it is completed at the same time as the physician writes the prescription. “In cases where this is not available, the nurse could translate the

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## EXECUTIVE SUMMARY

Give asthma patients a written action plan to help them adhere to recommended medications, and include these items:

- an explanation of how to use spacers;
- instructions on how often to use rescue medications before seeking ED treatment;
- a list of specific symptoms to be concerned about.

## SOURCES

For more information on caring for asthma patients in the ED, contact:

- **Francine M. Ducharme**, MD, Associate Director of Clinical Research, University of Montreal, Quebec, Canada. Phone: (514) 345-4931. Fax: (514) 345-4822. E-mail: francine.m.ducharme@umontreal.ca.
- **Rena M. Rovere**, RN, MS, FNP-C, Clinical Nurse Specialist/Nurse Practitioner, Department of Emergency Medicine, Albany (NY) Medical Center. Phone: (518) 262-3477. Fax: (518) 262-0333. E-mail: roverer@mail.amc.edu.

prescription on a written discharge plan,” says Ducharme. “Although we did not test this, it may be beneficial.” [An Action Plan for Asthma Attacks is included with the online version of this month’s ED Nursing. For assistance, contact customer service at (800) 688-2421 or customerservice@ahcmedia.com.]

### Give this info

Include these instructions in a written action plan for your asthma patient, says Rovere:

- An explanation of how to use a spacer to more effectively deliver the inhaled medication.
- How often to use rescue medications before seeking ED treatment.

“If the child is able to use a peak flow meter, give them ranges based on age and height for predicted or known best peak flow,” says Rovere. “These should be tailored to the patient’s performance and prediction of worsening condition.”

- Specific symptoms to be concerned about.

These might include increased anxiety, more air hunger, faster breathing, rib cage retractions, and continued cough or grunting without improvement from rescue inhaler.

- A list of triggers, such as cold symptoms, cold weather, irritants, or seasonal allergies.
- A way to track how often rescue medications are used.

“Have the parents and child write down the frequency of use of the rescue inhaler,” says Rovere. Include instructions to seek care from a primary healthcare provider if it becomes more frequent than once or twice per day for more than two days.

- Instructions to bring the child to the ED if he or she looks ill or is not responding to treatments at home. “We are here, even it is to reassure the parent or care provider,” says Rovere. (See clinical tip on pulse oximetry readings, right.)

## REFERENCE

1. Ducharme FM, Zemek RL, Chalut D, et al. Written action plan in pediatric emergency room improves asthma prescribing, adherence and control. *Am J Respir Crit Care Med* 2010. Doi:10.1164/rccm.201001-0115OC. ■

## Clinical Tips

### Don’t rely only on pulse ox reading

The oxygen saturation reading you obtain from a pulse oximetry monitor for your asthma patient could be inaccurate if the patient’s perfusion is low, if the wave form is not consistent, or if it is not reading the pulse accurately, warns William Downum, RN, an ED nurse at St John’s Mercy Medical Center in St. Louis, MO.

“There should be a correlation between your patient assessment and any monitor readout you obtain,” says Downum. “Never rely on machines alone. Nothing takes the place of bedside assessment.” ■



### Expect to see many more severe allergic reactions

*Much room for improvement*

ED visits for allergic reactions more than doubled at Children’s Hospital Boston in the last few years, according to a new study.<sup>1</sup> There also was a surge in severe reactions, including anaphylaxis.

There is much room for improvement in ED care of these patients, says another study of 103 children who came to the ED for treatment of anaphylaxis over a five-year period at Children’s Hospital of Alabama in Birmingham.<sup>2</sup> Of the 91 patients who were not hospitalized, epinephrine was prescribed to only 63%, and referral to an

allergist was recommended to 33%.

“From a nursing perspective, I think that the implications to this research are profound,” says **William S. Russell, MD**, the study’s lead author, an assistant professor in the Department of Pediatric Emergency Medicine at Medical University of South Carolina (MUSC), and an ED physician at MUSC Children’s Hospital, both in Charleston.

“It is incumbent upon the whole staff — physicians *and* nurses — to do a better job teaching how to use the EpiPen and how to avoid triggers,” says Russell. “Make sure that families understand the action plan to use in the case of repeat cases of anaphylaxis.”

Encourage physicians to use epinephrine sooner and more frequently, Russell says. “I would also argue that it is much easier to use an EpiPen in the ED, rather than drawing up and giving intramuscular epinephrine,” he says. “There are fewer dosing errors, and it is faster. Secondly, it helps parents realize that this is the same drug they have at home. They can witness first-hand how well it works.” (*See clinical tip on giving epinephrine autoinjectors to patients, p. 33.*)

Seattle Children’s Hospital’s ED has seen many more anaphylaxis cases recently, says **Elaine Beardsley, MN, RN, CPEN**, an ED clinical nurse specialist. For this reason, ED nurses were given additional education, focusing on these areas:

- The pathophysiology of anaphylactic shock.
- How to give epinephrine 1:1000 intramuscularly, based on Pediatric Advanced Life Support (PALS) recommendations.
- Treatment protocols ordered by providers, including albuterol, histamine 1 and histamine 2 blockers, and steroids.
- The importance of patient education.

Families are given the book “Food Allergies for Dummies,” which were provided to the ED by the Northwest chapter of the Food Allergy Initiative. They are also given information on the Food

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## EXECUTIVE SUMMARY

The number of pediatric patients presenting to EDs with allergic reactions is rising dramatically, including anaphylactic reactions. Many are not prescribed medications or given referrals as appropriate, according to new research. To improve care of these patients:

- Teach patients to use epinephrine autoinjectors.
- Perform frequent assessments, as symptoms might re-occur.
- Remember that aggressive treatment is warranted.

Allergy & Anaphylaxis Network, a nonprofit organization in Fairfax, VA, that provides information on managing food allergies.

• The need to perform frequent assessments. “These are key. Symptoms may initially resolve from epinephrine, but can re-occur,” says Beardsley.

## Be aggressive

**Anne Meginniss, MSN, RN, FNP-BC**, education coordinator of emergency services at Children’s Hospital Boston, says, “Early recognition is key with allergic reactions. Seconds matter. A patient can go from talking to a full-blown anaphylaxis reaction in front of you.”

Meginniss says to be alert to patients with a history of an allergic reaction and to watch for any of these symptoms:

- mild symptoms include nausea, anxiety, hives, itching, sneezing, nasal congestion, cough, conjunctivitis, abdominal cramps, and tachycardia;
- moderate symptoms include malaise, urticaria, pulmonary congestion, dyspnea, wheezing, and bronchospasm, hoarseness, edema of the periorbital tissue and/or tongue and pharynx, dysphagia, nausea, vomiting, diarrhea, hypotension, syncope, and altered mental status;
- severe symptoms include pallor, cyanosis, stridor, airway occlusion, and hypoxia.

“If hypoxia is not treated, then respiratory and cardiac arrhythmia occur,” says Meginniss. “The severity of the presentation depends on the sensitivity of the patient. Aggressive treatment is warranted.”

Administration of epinephrine should *not* be delayed, she warns. “Nebulized beta-adrenergic agents, such as albuterol, can be used to treat wheezing. Intubation might be required,” says Meginniss.

Antihistamines can provide relief of symptoms, and simultaneous histamine 1 and histamine 2 blockade should be considered, Meginniss says. “Diphenhydramine stops itching and hives but does not relieve airway or gastrointestinal symptoms,” she adds.

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2. Russell S, Monroe K, Losek JD. Anaphylaxis management in the pediatric emergency department: opportunities for improvement. *Ped Emerg Care* 2010;26:71-76. ■

# Clinical Tips

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## Allergic reaction? Give this to patient

Be sure that any patient who has experienced an allergic or anaphylactic reaction is discharged home with an epinephrine auto injector, advises Anne Meginniss, MSN, RN, FNP-BC, education coordinator of emergency services at Children's Hospital Boston.

"This is a great nursing intervention," she says. "Teach the patient and their family how to administer the medication and to call 911 once administered." ■

## How you can avoid unintentional overdoses

*Patients takes multi doses of same meds*

Elaine Marshall, RN, BSN, MHA, an ED nurse at Rex Hospital, Raleigh, NC, says that at one time, she was "as reluctant to have to complete medication reconciliation as the next ED nurse. I was content with just obtaining names of medications."

Then, a 42-year-old woman presented in severe refractory bradycardia. She was a renal patient on dialysis, being managed by multiple physicians.

"It was the nursing staff that was able to diagnose her, through clarifying her medication history," says Marshall.

The woman was taking three prescriptions for calcium channel blockers prescribed by three physicians. None of the physicians realized that the others were writing the same prescription. "She did not know that they were all the same. One physician had given her samples, another had written a prescription for the generic, and yet another had written for a long-acting version of the medication," says Marshall. "Fortunately, the patient did well after the cause of her bradycardia was determined."

Obtaining a complete list of medications from your patient sounds simple, but it can become complicated. However, Donna Bowker, RN,

BSN, former director of the ED at Methodist Richardson (TX) Medical Center, says that obtaining a complete list is the single most important thing you can do to avoid unintentional overdoses. Use these practices:

- **Don't overlook any current medications.**

Additional medications given in the ED could cause a bad outcome in your patient, warns Kathie Pulchinski, RN, an ED nurse at Ridgeview Medical Center, Waconia, MN. "They could double up on a medication that they should be decreasing, like warfarin. This could cause dangerous bleeding," Pulchinski says.

- **Check more than one pharmacy, if necessary.**

Bowker says, "Patients who have multiple prescribing physicians will have an increased likelihood of duplicate prescriptions being taken."

Marshall says to look for pill bottles filled at more than one pharmacy. "Filling prescriptions has become a high-profit industry, with enticements for patients to change pharmacies," she says. "This means it can take multiple phone calls to get an accurate medication history. Nurses are becoming Sherlock Holmes on behalf of their patients."

- **Find out if medications are being reviewed by anyone.**

"Any patient who sees multiple physicians should be questioned to determine if any one physician reviews all of their medications or only the ones that they have prescribed," says Marshall.

- **Keep an eye out for brand and generic names being taken together.**

Bowker says, "I once had a patient taking furosemide from one bottle and Lasix from another, not realizing it was the same medicine."

- **Ask the patient a question multiple times, or in different ways, to obtain complete information.**

Simply asking, "What medications are you taking?" is not sufficient, says Bowker. "Specific and direct questioning should be sought during the interview regarding non-prescription medications,

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## EXECUTIVE SUMMARY

Patients might be taking multiple doses of similar but same-acting medications, which can lead to unintentional overdoses. Look for these situations:

- Patients might be taking medications prescribed by multiple physicians.
- Patients might take brand and generic versions of the same medication.
- Patients might need to be asked what they take medications for.

supplements, or treatments,” she explains.

- **Be especially diligent in listing all current medications for admitted patients.**

Marion Schneider, RN, MBA, director of emergency services at Adventist GlenOaks Hospital in Glendale Heights, IL, says, “Unintentional inconsistencies are most likely to occur when there is transition in care. Medication reconciliation helps avoid these inadvertent occurrences.” (See story with important question to ask your patient, below.)

## Clinical Tips

### Ask this question about patient’s meds

When doing a medication reconciliation, don’t stop at asking your patient the name and dosage of a drug.

“Patients often get names confused, especially since they hear and see medication names in commercials and print,” says Elaine Marshall, RN, BSN, MHA, an ED nurse at Rex Hospital in Raleigh, NC.

Instead, ask your patient why they take the medication, using body areas to jog the patient’s memory. “For example, point to their eyes or nose when discussing eye drops or nasal sprays,” says Marshall. ■

### Are peds psych patients unhappy with care?

*Refer them to community resources*

Pediatric patients and their caregivers coming to an ED for mental health concerns expected help and guidance, as well as assessment, evaluation, and diagnosis, according to research that surveyed 241 patients and their caregivers.<sup>1</sup> Unfortunately, they often leave dissatisfied.

When providing care in a busy ED with a high level of acuity, triage nurses might not perceive a high level of urgency in the patient’s presenting complaint, says Paula Cloutier, MA, the study’s lead author and a research associate at the Men-

tal Health Patient Service Unit at the Children’s Hospital of Eastern Ontario in Canada. “Youth and their caregivers’ subjective experience of distress, coupled with a lack of knowledge of mental health resources in the community, might lead them to seek assistance in the ED, even when an outpatient mental health setting would be more appropriate,” says Cloutier.

Triage nurses “need to be mindful of the patient and family’s perspective,” she says. “A good understanding of mental health issues in youth provides a foundation for empathy in clinicians.”

In a separate research project, Cloutier found that confidence with assessing and triaging youth with mental health issues was positively correlated with the number of years working in the ED.<sup>2</sup>

“The majority of triage nurses expressed the desire to have further training in mental health through hospital in-services,” says Cloutier. “Training in mental health would also play an important role in de-stigmatizing mental health issues.”

ED nurses also might be involved in the post-triage assessment of a child with mental health issues. “Some have specialized training in mental health, but many would not,” says Cloutier. “Addressing gaps in training in mental health is important for all ED clinical staff.” Here are some ways to improve care:

- **Educate ED staff about mental health resources.**

“This would permit them to inform patients and their caregivers about the mental health referral process and available community services,” says Cloutier. (See related story, p. 35, on underlying medical conditions.)

- **Acknowledge that patients and caregivers cannot necessarily have their expectations met.**

“They may not leave the ED satisfied with the service they receive,” says Cloutier.

#### COMING IN FUTURE MONTHS

- Screen adolescents for cyber bullying at triage

- Stop common weight-based dosage mistakes

- Avoid mistriage of myocardial infarction

- Don’t miss med doses for inpatients being boarded

## EXECUTIVE SUMMARY

Pediatric psychiatric patients and their caregivers might be disappointed with ED care because their expectations are too high, and triage nurses might not perceive a high level of urgency.

- Inform patients and caregivers about available community services.
- Remind patients that the ED is always open.
- Always perform a thorough assessment regardless of the presenting complaint.

---

- **Remind patients and families that the ED is always open.**

Denise Downey, RN, MSN, CPEN, nurse educator for emergency services at Children's Hospital Boston, says, "This is one of the most important interventions we can do upon discharge. I always make sure they have the phone number to the ED and give them permission to call or return if they have any serious concerns."

## REFERENCES

1. Cloutier PM, Kennedy A, Maysenhoelder H, et al. Pediatric mental health concerns in the emergency department: Caregiver and youth perceptions and expectations. *Ped Emerg Care* 2010;26:99-106.
2. Dion, J, Kennedy, A, Cloutier, P, et al. Evaluating crisis intervention services for youth within an ED: A view from within. *Child Care Practice* 2010;16:241-256. ■

# Clinical Tips

## Compile medical history for psych patients

*Underlying condition might be cause*

A patient walked into Children's Hospital Boston's ED hyperventilating, with a known history of anxiety and depression. The triage nurse assumed that the hyperventilation was due to the patient's anxiety disorder and instructed her to "calm down and take slow deep breaths" into a paper bag.

"Later on, upon clinical exam, the nurse auscultated the patient's breath sounds, and, much to her surprise, heard tight inspiratory and expiratory wheezing throughout," says Denise Downey, RN, MSN, CPEN, nurse educator for emergency

services. "The patient forgot to mention her new asthma diagnosis and recent intensive care unit admission for status asthmaticus. Her anxiety was triggered by the fact that she couldn't breathe."

Another teen-ager presented to triage with a complaint of suicidal ideation and was immediately escorted back in to a "safe" treatment room. At that point, ED nurses learned that she also was having chest pain since earlier that morning.

"The nurse decided to place the patient on the cardiac monitor and was stunned to see ventricular tachycardia dancing across the screen," says Downey. "The medical team was summoned immediately to the bedside to stabilize the patient."

## Avoid any biases

Pediatric patients who present to the ED with a known psychiatric history or complaint must always be medically cleared, advises Downey.

"If the nurse expects that the patient will require a mental health evaluation, the nurse might overlook or ignore any physical complaints that the patient might have," says Downey. "I don't believe this is due to a lack of training to spot medical emergencies -- rather, the nurse's dismissive attitude of 'Oh, they're just here for a psych eval.'"

Ask all mental health patients about their medical history, regardless of their presenting complaint. "As with any patient that presents to the ED, assess airway, breathing, and circulation regardless of the presenting complaint," says Downey. "Most importantly, the nurse must not have any biases toward the care and treatment of mental health patients." ■

## CNE INSTRUCTIONS

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

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

After completing this semester's activity with the June issue, you must complete the evaluation form provided and return it in the reply envelope provided in that issue to receive a letter of credit. When your evaluation is received, a letter will be mailed to you. ■

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## CNE OBJECTIVES/ QUESTIONS

Upon completion of this educational activity, participants should be able to:

- identify clinical, regulatory or social issues related to ED nursing;
- describe the effects of clinical, regulatory, or social issues related to ED nursing on nursing service delivery;
- integrate practical solutions to ED nursing challenges into daily practice.

1. Which of the following is true regarding lumbar punctures in the ED?

- A. Reinsertion of the stylet before needle removal is not advisable.
- B. Use of small gauge, atraumatic needles might increase the risk of headache.
- C. The early application of topical anesthetics can be facilitated by identifying patients requiring a lumbar puncture at triage.

2. Which is true regarding care of critical care patients boarded in the ED, according to Helen Sandkuhl, RN, MSN, CEN, TNS, FAEN, at Saint Louis University Hospital?

- A. Two identifiers are not necessary for patients receiving contrast media.
- B. It is not advisable to have an intensive care unit nurse care for patients within the ED.
- C. Triage-based protocols should not be used to identify critical care patients quickly.
- D. ED nurses should check lab values before sending patients for exams requiring contrast media.

3. Which is true regarding placement of arterial lines in the ED, according to Tia Valentine, RN, CEN, clinical nurse educator for the ED at University of California — San Diego Medical Center?

- A. Bubbles in the line or transducer will not dampen the waveform.
- B. Pressure bags should be maintained at 300 mmHg.

4. Which is recommended to improve care of pediatric patients with allergic reactions, according to Elaine Beardsley, MN, RN, CPEN, at Seattle Children's Hospital?

- A. Perform frequent assessments, as symptoms that initially have resolved from epinephrine may re-occur.
- B. Don't advise patients to use epinephrine autoinjectors.

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

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<b>Title:</b>	Treatment of ST-Segment Elevation Myocardial Infarction	<b>*Effective Date:</b>	2010-02-10	<b>Policy #:</b>	NUR-675
<b>Applies to:</b>	<input checked="" type="checkbox"/> Hospital <input type="checkbox"/> Nursing Home <input type="checkbox"/> GMC Employees (HR Policy) <input type="checkbox"/> Provider Practice <input type="checkbox"/> Medical Staff				
<b>Policy Type:</b>	Procedure				
<b>Contact:</b>	Emergency Department Nurse Manager				

<b>* Policy Statement:</b>	The following guidelines are to assist practitioners with the American Heart Associations/American College of Cardiology recommendations for the treatment of patients who present to the Emergency Department with symptoms consistent with an ST-segment elevation MI
----------------------------	---

**A. Patient Inclusion Criteria**

1. Patients presenting to the ED with symptoms consistent with an Acute MI.  
**AND**
2. EKG demonstrates ST elevation greater or equal to 1mm in two or more adjacent leads **or** new LBBB.

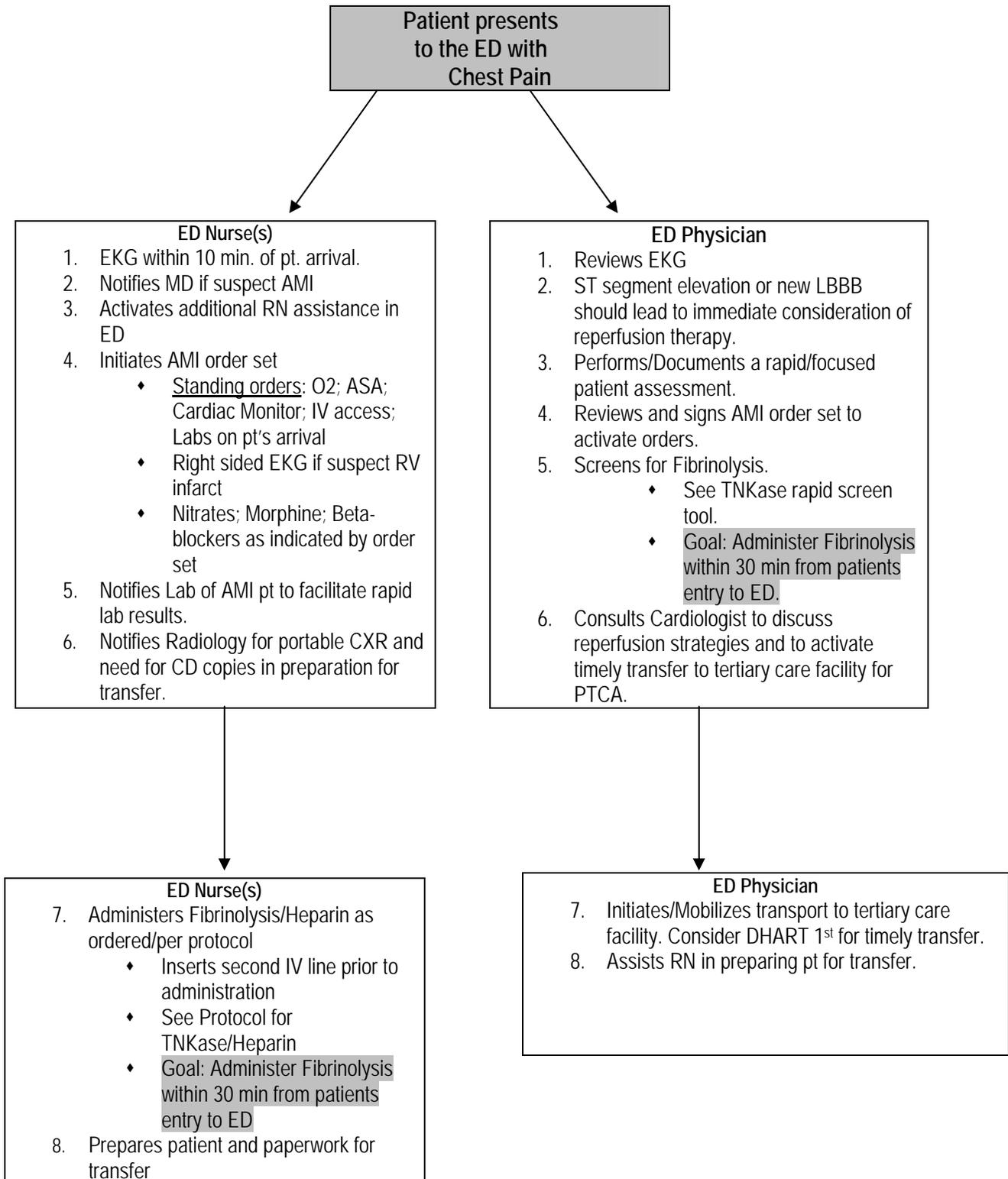
**B. Procedure**

1. Front desk staff will notify the ED nurse or the ED provider **immediately** when a patient arrives with complaints of chest pain.
2. The ED nurse and/or provider will evaluate the patient immediately and bring him/her to the treatment area for an EKG, cardiac monitoring, and rapid assessment. Our objective is to have an EKG within 10 minutes of patient’s arrival to the ED.
3. The ED nurse will notify the ED provider if symptoms and EKG are consistent with an Acute ST-segment elevation MI and will initiate AMI algorithm and AMI order set to expedite care. AMI algorithm is attached and AMI order set is available in the ED or CPSI. If indicated, our objective is to administer Fibrinolysis within 30 minutes of the patient’s arrival to the ED.

**C. The following additional policies may be relevant to the care of the patient with an AMI:**

1. Fibrinolysis/Tenecteplase (TNKase) Administration
2. Heparin Administration
3. Nitroglycerin Administration
4. **Transport/transfer via DHART or ambulance**

**Guideline: Algorithm for Acute ST Segment Elevation MI Assessment and Treatment**



Key Words: Acute Myocardial Infarction, ST elevation, Chest Pain, Thrombolytics

<b>Standard or Statute:</b>	Other	<b>Standard or Statute Details:</b>	American Heart Association and American College of Cardiology
<b>Date Created:</b>	2006-12-15		
<b>Last Review:</b>	2009-09-30	<b>Revised:</b>	Yes

Source: Gifford Medical Center, Randolph, VT



<b>Title:</b>	TPA (Alteplase) for Acute Ischemic Stroke	<b>*Effective Date:</b>	2007-07-15	<b>Policy #:</b>	PH-224
<b>Applies to:</b>	<input checked="" type="checkbox"/> Hospital <input type="checkbox"/> Nursing Home <input type="checkbox"/> GMC Employees (HR Policy) <input type="checkbox"/> Provider Practice <input type="checkbox"/> Medical Staff				
<b>Policy Type:</b>	Protocol				
<b>Contact:</b>	Director of Pharmacy				

<b>* Policy Statement:</b>	To safely administer TPA to an adult in the event of an acute ischemic stroke
----------------------------	---

**A. Inclusion Criteria:** Acute ischemic stroke with onset of symptoms within 3 hours of initiation of treatment.

**B. Absolute Contraindications**

1. Evidence of intracranial hemorrhage on pretreatment evaluation.
2. Suspicion of subarachnoid hemorrhage
3. Intracranial surgery, serious head trauma or previous stroke within past 3 mos.
4. Major surgery (CABG, organ biopsy, puncture at noncompressible vessel) within preceding 14 days.
5. History of intracranial hemorrhage
6. Recent myocardial infarction
7. Uncontrolled hypertension at time of treatment: SBP>185 mm Hg or DBP>110 mmHg that cannot be decreased by labetalol 10 to 20 mg IV over 1 to 2 minutes, may repeat x1; or Nitropaste 1 to 2 inches.
8. Seizure at onset of stroke
9. Internal bleeding (GI / Urinary) within preceding 21 days
10. Intracranial neoplasm, arteriovenous malformation, or aneurysm
11. Current use of anticoagulants or PT> 15 sec.(INR>1.7), or use of heparin within previous 48 hr. or elevated PTT, platelet count< 100,000.
12. Minor neurologic deficit (e.g. isolated ataxia, sensory loss, dysarthria, or minimal weakness.
13. Rapidly improving signs prior to initiation of treatment.
14. Early signs of infarction on pretreatment CT scan (substantial edema, mass effect, or midline shift).
15. Blood glucose < 50 or > 400 mg/dl.

**C. Relative Contraindications include, but are not limited to:**

1. Recent trauma
2. High likelihood of left heart thrombus
3. Acute pericarditis
4. Subacute bacterial endocarditis
5. Hemostatic defects including those secondary to severe hepatic or renal disease.
6. Significant hepatic dysfunction
7. Pregnancy
8. Diabetic hemorrhagic retinopathy, or other hemorrhagic ophthalmologic conditions.
9. Septic thrombophlebitis or occluded AV cannula at seriously infected site.
10. Advanced age (e.g. over 75 years old).
11. Severe deficits ( e.g. global aphasia, hemiparesis, and forced eye deviation, NIH SS > 22).

**D. Procedure**

1. The emergency room physician or attending physician determines that the patient meets the above criteria and that there are no contraindications.
2. A CT scan of the head is reviewed by the Gifford Medical Center radiologist or by a radiologist at another hospital.
3. Routine labs including PT/PTT, CBC with platelet count, comprehensive, and ESR are obtained and reviewed by the emergency room or attending physician. Use stool guaic and urinalysis to check for occult blood.
4. A telephone consultation is obtained with the on-call neurologist at the Dartmouth-Hitchcock Medical Center or FAHC. The patient's history, physical, neurologic exam, CT scan, and lab results will be presented. Confirmation to proceed with t-PA thrombolysis will be obtained with consultation from the on-call neurologist. **Clearly document the consultation in the patient's record including the name of the consulting physician/neurologist.**
5. Informed consent should be obtained whenever feasible. If the patient is aphasic or confused, consent should be obtained from the family members. The patient and/or family should understand that thrombolytic therapy carries a 6.4% risk of intracerebral hemorrhage. **It is recommended that this potential risk be written on the consent form.**
6. Patient is weighed.
7. **Do not** administer any aspirin, heparin, warfarin, ticlopidine, or other antithrombolytic or antiplatelet agent within the first 24 hours of treatment.
8. Administer t-PA (0.9 mg/kg, maximum 90 mg) with 10% of the total dose administered as a bolus over 1 minute followed by an infusion lasting 60 minutes.
9. A cranial CT should be repeated within 24 hours routinely and immediately with any change in severity or character of the neurologic deficit.

**E. Ancillary Management Practices**

1. Admit patient to ICU/SCU
2. Central venous access and arterial punctures are restricted during the first 24 hours.
3. Placement of an indwelling bladder catheter should be avoided during the period of drug infusion and for at least 30 minutes following the end of the infusion.
4. Insertion of a nasogastric tube should be avoided, if possible, during the first 24 hours after treatment.
5. Careful management of blood pressure is critical during the administration of TPA and the ensuing 24 hours. Monitor blood pressure during the first 24 hours after starting treatment as follows. Every 15 minutes for 2 hours after starting the infusion then, every 30 minutes for the next 6 hours, then, every 60 minutes until 24 hours after starting treatment. Initially treat with labetalol 10 mg IV over 1 to 2 minutes, may repeat every 10 to 20 minutes, maximum dose of 300 mg<sup>1</sup>. If BP is still not controlled, consider sodium nitroprusside (0.5-10 mcg/kg/min). Sodium nitroprusside is only kept in the main pharmacy. Dosing and administration guidelines are kept with the drug.

**F. TPA dosing table (drug has a concentration of 1 mg/ml once reconstituted)**

Weight (lbs)	Weight (kg)	Bolus (over 1 min)	1 hour infusion rate	Total dose
90-94	41	3.7 ml	33 ml/hr	36.7 mg
95-97	43	3.9 ml	35 ml/hr	38.9 mg
98-104	45	4.1 ml	36 ml/hr	40.1 mg
105-109	48	4.3 ml	39 ml/hr	43.2 mg
110-114	50	4.5 ml	41 ml/hr	44.5 mg
115-119	52	4.7 ml	42 ml/hr	46.7 mg
120-124	55	5 ml	44 ml/hr	49 mg
125-129	57	5.1 ml	46 ml/hr	51.1 mg
130-134	59	5.3 ml	48 ml/hr	53.3 mg
135-139	61	5.5 ml	49 ml/hr	54.5 mg
140-144	64	5.8 ml	52 ml/hr	57.8 mg
145-149	66	5.9 ml	54 ml/hr	59.9 mg
150-154	68	6.1 ml	55 ml/hr	61.1 mg
155-159	70	6.3 ml	57 ml/hr	63.3 mg
160-164	73	6.6 ml	59 ml/hr	65.6 mg
165-169	75	6.8 ml	61 ml/hr	67.8 mg
170-174	78	7.0 ml	63 ml/hr	70 mg
175-179	80	7.2 ml	65 ml/hr	72.2 mg
180-184	83	7.5 ml	67 ml/hr	74.5 mg
185-189	85	7.7 ml	69 ml/hr	76.7 mg
190-194	88	7.9 ml	71 ml/hr	78.9 mg
195-199	90	8.1 ml	73 ml/hr	81.1 mg
200-204	92	8.3 ml	74 ml/hr	82.3 mg
205-209	94	8.5 ml	76 ml/hr	84.5 mg
210-214	96	8.6 ml	78 ml/hr	86.6 mg
215-219	98	8.8 ml	79 ml/hr	87.8 mg
220 or more	100 or more	9 ml	81 ml/hr	90 mg

Reference:

1. *Stroke*. 2007;38:1655.

Key Words: CVA, Stroke, TPA, alteplase, ICH, thrombolytic

<b>Standard or Statute:</b>	N/A	<b>Standard or Statute Details:</b>	
<b>Date Created:</b>	1997-12-01		
<b>Last Review:</b>	2008-07-15	<b>Revised:</b>	Yes

Source: Gifford Medical Center, Randolph, VT



<b>Adult</b>			
<b>Medication Administration Guidelines for Anaphylaxis Treatment</b>			
<i>See IV medication book for full recommendations</i>			
<b>Medication</b>	<b>Dose</b>	<b>Route</b>	<b>Administration</b>
<b>Epinephrine</b>	0.3mg-0.5mg of 1:1000 (1mg/ml). Repeat every 3-5 minutes as needed.	IM	Best absorbed if given mid-anterolateral thigh
<b>Benadryl</b>	25-50mg	IV Push	Give undiluted 25mg/minute
<b>Solumedrol</b>	125mg	IV Push	Give over 2 minutes
<b>Pepcid</b>	40mg	IV Infusion	Dilute in 10cc normal saline Give 20mg/minute
<b>Albuterol Nebulizer</b>	2.5mg-5mg in 3ml of saline. Repeat as needed.	Nebulizer	Nebulizer
<b>Epinephrine Infusion</b>	2-10mcg/minute titrated to effect *For patients with inadequate response to IM epinephrine. *Continuous IV infusion is preferred over an IV bolus of epinephrine	IV infusion	Mix 1mg of 1:1000 (1mg/ml) in 500cc of D5W *See IV book for drip chart *Supplies in adult code cart

<b>Pediatric</b>			
<b>Medication Administration Guidelines for Anaphylaxis Treatment</b>			
<i>See IV medication book for full recommendations</i>			
<b>Medication</b>	<b>Dose</b>	<b>Route</b>	<b>Administration</b>
<b>Epinephrine</b>	0.01 mg per kg of 1:1000 (1mg/ml). Repeat every 3-5 minutes as needed. Maximum dose 0.5mg.	IM	Best absorbed if given mid-anterolateral thigh
<b>Benadryl</b>	1-2mg/kg. Maximum dose 50mg. *Can give IM if symptoms not severe	IV Push	Give undiluted 25mg/minute
<b>Solumedrol</b>	2mg/kg. Maximum dose 125mg.	IV Push	Give over 2 minutes
<b>Pepcid</b>	0.25mg/kg *Can give IM if symptoms not severe	IV Infusion	Dilute in 10cc normal saline Give 20mg/minute
<b>Albuterol Nebulizer</b>	0.15mg/kg in 3ml of saline. Minimum dose 2.5mg. Repeat as needed.	Nebulizer	Nebulizer
<b>Epinephrine Infusion</b>	0.1-1mcg/kg/minute titrated to effect *for patients with inadequate response to IM epinephrine. *continuous IV infusion is preferred over an IV bolus of epinephrine	IV infusion	*See Braslow IV medication guideline book for preparation and drip chart *Supplies in pediatric code cart

**Source: Gifford Medical Center, Randolph, VT.**

# Adult and Pediatric Anaphylaxis Kit

## Contents

### Epinephrine 1:1000 (3 vials)

Filter needles (3)  
22G needles (3)  
23G needles (3)  
1ml syringe (3)

### Benadryl 50mg/ml (1)

3cc syringe (1)

### Pepcid 20mg/2ml (2)

5cc syringe (1)  
18g needle (1)

### Solumedrol 125mg vial (1)

3cc syringe (1)

### Albuterol 2.5mg/0.5ml (1)

3cc saline bullet (1)

Alcohol wipes (5)  
Gauze pads

**Source: Gifford Medical Center, Randolph, VT.**



DT9174

**PRESCRIPTION FORM**



**Action Plan for Asthma Attacks  
- EMERGENCY SETTING -**

With the collaboration of the McGill University Health Centre

Name of the institution \_\_\_\_\_  
Telephone \_\_\_\_\_

File \_\_\_\_\_  
Name \_\_\_\_\_  
Address \_\_\_\_\_  
Date of birth \_\_\_\_\_

Allergies \_\_\_\_\_  
Weight \_\_\_\_\_ kg

**My asthma is under control** 

If:

- I answered YES to none (0) of the questions on the Asthma Quiz (See on back) AND
- I feel good

**My asthma is not well controlled** 

If:

- I answered YES to 1 or more questions on the Asthma Quiz (See on back) OR
- I cough, wheeze or have difficulty breathing OR
- I am getting a cold

**Today, my asthma is out of control**

To treat this asthma attack, the doctor recommends that I take:

**CONTROL medication** \_\_\_\_\_ µg/puff \_\_\_\_\_ puff(s) \_\_\_\_\_ times/day #: \_\_\_\_\_ R: \_\_\_\_\_  
(To reduce inflammation) (name) (colour) (duration of treatment)

until I see my doctor again OR  \_\_\_\_\_

**RELIEF medication** \_\_\_\_\_ µg/puff \_\_\_\_\_ puff(s) IF NEEDED  
(To open airways) (name) (colour) #: \_\_\_\_\_ R: \_\_\_\_\_  
when I cough, wheeze or have difficulty breathing.  
**IF I HAVE TO REPEAT WITHIN 4 HOURS, I CALL OR SEE A DOCTOR**

**Oral corticosteroids** \_\_\_\_\_ time(s)/day for \_\_\_\_\_ days #: \_\_\_\_\_ NR  
(To reduce inflammation) (name) (strength) (dose)

**OTHER medication(s)** \_\_\_\_\_ #: \_\_\_\_\_ R: \_\_\_\_\_

**Holding chamber** \_\_\_\_\_ #: \_\_\_\_\_ R: \_\_\_\_\_  
(See tip 3 on back)

Dr \_\_\_\_\_ Signature \_\_\_\_\_ Licence No. \_\_\_\_\_ Print Name \_\_\_\_\_ Date \_\_\_\_\_

After this asthma attack, the doctor recommends that I see within 6 weeks:

My doctor \_\_\_\_\_ to receive a NEW Action Plan to stay under control.  
(name/clinic)

My pharmacist or asthma educator \_\_\_\_\_ to talk about 5 tips to stay under control.  
(See on back)

**After returning home, if:** 

- My cough, wheeze or breathing is getting worse OR
- My RELIEF medication (BLUE or \_\_\_\_\_ pump) helps me for less than 4 hours OR
- I don't feel better within \_\_\_\_\_

**What to do? It's URGENT:**  
**I have to take my relief medication again and call or see a doctor immediately.**



DT9174

File \_\_\_\_\_  
Name \_\_\_\_\_  
Address \_\_\_\_\_  
Date of birth \_\_\_\_\_



**Action Plan for Asthma Attacks**  
**- EMERGENCY SETTING -**

With the collaboration of the McGill University Health Centre

Name of the institution \_\_\_\_\_  
Telephone \_\_\_\_\_

Allergies \_\_\_\_\_  
Weight \_\_\_\_\_ kg

**My asthma is under control** 

If:

- I answered YES to none (0) of the questions on the Asthma Quiz (See on back) AND
- I feel good

**My asthma is not well controlled** 

If:

- I answered YES to 1 or more questions on the Asthma Quiz (See on back) OR
- I cough, wheeze or have difficulty breathing OR
- I am getting a cold

**Today, my asthma is out of control**

To treat this asthma attack, the doctor recommends that I take:

**CONTROL** medication \_\_\_\_\_ µg/puff \_\_\_\_\_ puff(s) times/day #: \_\_\_\_\_ R: \_\_\_\_\_  
(To reduce inflammation) (name) (colour) (duration of treatment)

until I see my doctor again OR  \_\_\_\_\_

**RELIEF** medication \_\_\_\_\_ µg/puff \_\_\_\_\_ puff(s) IF NEEDED  
(To open airways) (name) (colour) #: \_\_\_\_\_ R: \_\_\_\_\_  
when I cough, wheeze or have difficulty breathing.  
**IF I HAVE TO REPEAT WITHIN 4 HOURS, I CALL OR SEE A DOCTOR**

**Oral corticosteroids** \_\_\_\_\_ time(s)/day for \_\_\_\_\_ days #: \_\_\_\_\_ NR  
(To reduce inflammation) (name) (strength) (dose)

**OTHER medication(s)** \_\_\_\_\_ #: \_\_\_\_\_ R: \_\_\_\_\_

**Holding chamber** \_\_\_\_\_ #: \_\_\_\_\_ R: \_\_\_\_\_  
(See tip 3 on back)

Dr. \_\_\_\_\_ Signature \_\_\_\_\_ Licence No. \_\_\_\_\_ Print Name \_\_\_\_\_ Date \_\_\_\_\_

After this asthma attack, the doctor recommends that I see within 6 weeks:

My doctor \_\_\_\_\_ to receive a NEW Action Plan to stay under control.  
(name/clinic)

My pharmacist or asthma educator \_\_\_\_\_ to talk about 5 tips to stay under control.  
(See on back)

**After returning home, if:** 

- My cough, wheeze or breathing is getting worse OR
- My RELIEF medication (BLUE or \_\_\_\_\_ pump) helps me for less than 4 hours OR
- I don't feel better within \_\_\_\_\_

**What to do? It's URGENT:**  
**I have to take my relief medication again and call or see a doctor immediately.**



DT9174

File \_\_\_\_\_  
Name \_\_\_\_\_  
Address \_\_\_\_\_  
Date of birth \_\_\_\_\_



## Action Plan for Asthma Attacks - EMERGENCY SETTING -

With the collaboration of the McGill University Health Centre

Name of the institution \_\_\_\_\_  
Telephone \_\_\_\_\_

Allergies \_\_\_\_\_  
Weight \_\_\_\_\_ kg

**My asthma is under control** 

If:

- I answered YES to none (0) of the questions on the Asthma Quiz (See on back) AND
- I feel good

**My asthma is not well controlled** 

If:

- I answered YES to 1 or more questions on the Asthma Quiz (See on back) OR
- I cough, wheeze or have difficulty breathing OR
- I am getting a cold

### Today, my asthma is out of control

To treat this asthma attack, the doctor recommends that I take:

**CONTROL medication** \_\_\_\_\_ µg/puff \_\_\_\_\_ puff(s) times/day #: \_\_\_\_\_ R: \_\_\_\_\_  
(To reduce inflammation) (name) (colour) (duration of treatment)

until I see my doctor again OR  \_\_\_\_\_

**RELIEF medication** \_\_\_\_\_ µg/puff \_\_\_\_\_ puff(s) IF NEEDED  
(To open airways) (name) (colour)

when I cough, wheeze or have difficulty breathing. #: \_\_\_\_\_ R: \_\_\_\_\_  
**IF I HAVE TO REPEAT WITHIN 4 HOURS, I CALL OR SEE A DOCTOR**

**Oral corticosteroids** \_\_\_\_\_ time(s)/day for \_\_\_\_\_ days #: \_\_\_\_\_ NR  
(To reduce inflammation) (name) (strength) (dose)

**OTHER medication(s)** \_\_\_\_\_ #: \_\_\_\_\_ R: \_\_\_\_\_

**Holding chamber** \_\_\_\_\_ #: \_\_\_\_\_ R: \_\_\_\_\_  
(See tip 3 on back)

Dr \_\_\_\_\_ Signature \_\_\_\_\_ Licence No. \_\_\_\_\_ Print Name \_\_\_\_\_ Date \_\_\_\_\_

After this asthma attack, the doctor recommends that I see within 6 weeks:

My doctor \_\_\_\_\_ to receive a NEW Action Plan to stay under control.  
(name/clinic)

My pharmacist or asthma educator \_\_\_\_\_ to talk about 5 tips to stay under control.  
(See on back)

**After returning home, if:** 

- My cough, wheeze or breathing is getting worse OR
- My RELIEF medication (BLUE or \_\_\_\_\_ pump) helps me for less than 4 hours OR
- I don't feel better within \_\_\_\_\_

**What to do? It's URGENT:**  
I have to take my relief medication again and call or see a doctor immediately.



Everyone with asthma CAN LEAD AN ACTIVE LIFE!

Asthma is a disease that affects my lungs (bronchi) EVERY DAY, even between asthma attacks. I can control my asthma if I take care of it EVERYDAY, even when I feel good.

5 TIPS TO STAY UNDER CONTROL

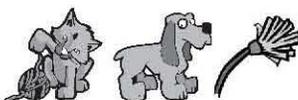
1 Get some help.



My pharmacist or my asthma educator are there to help me understand how to treat my asthma and how to use my Action Plan. I can find an asthma educator by calling the RQAM\* at 1 877 441-5072.

\*Réseau québécois de l'asthme et de la MPOC www.rqam.ca

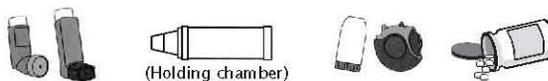
2 Avoid asthma triggers.



1 866 J'arrête 1 866 527-7383 www.jarrete.qc.ca

- I must avoid smoking or being in a house or a car where someone smokes.
I have to pay attention to what makes my asthma act up and try to avoid it.
If I have a cold, I will use my Action Plan, blow my nose and clean it with saline water, if needed.

3 Take my medication, as prescribed.



- I review the way I use my pumps (inhalers) with my pharmacist or my asthma educator.
My tricks to remember to take my medications are:

4 Take the Asthma Quiz regularly.

\*Statements adapted with permission from the authors and the editor: Ducharme FM, Davis GM, Noya F, et al. The Asthma Quiz for Kids: A validated tool to appreciate the level of asthma control in children. Can Respir J 2004; 11(8):541-6.

IN THE LAST 7 DAYS, did I cough, wheeze or have difficulty breathing...

Table with 5 rows of questions and YES/NO columns. Questions include: During daytime, 4 days or more? Enough to wake up at night, 1 or more times? Enough to use my RELIEF medication (BLUE or pump) 4 or more times, not counting 1 time per day before exercise? Enough to limit my physical activity? Enough to miss regular activities, school or work?

How many times did I answer YES? \_\_\_\_\_

5 See my doctor regularly.



If none (0): asthma is under control

If 1 or more: asthma is not well controlled



My doctor is there to help me reach my goal.

- The doctor wants to see how well I am doing and review my score on the Asthma Quiz.
Together, we will discuss a NEW Action Plan with instructions when my asthma is under control and when it is not well controlled.
This NEW Action Plan will help me: - Keep my asthma under control everyday. - Prevent another asthma attack.

This aid tool has been endorsed by the Quebec Professional Orders (CMQ, OPQ, OIQ), the Medical Federations (FMOQ, FMSQ), the Associations of Pharmacists, Pneumologists, Pediatricians, Emergency Physicians as well as the Réseau québécois de l'asthme et de la MPOC.

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Collaboration: Children and parents with asthma

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Le présent document est aussi publié en français.