Certain emergencies elicit an immediate, conditioned response. When someone yells “Fire!” for example, most people look for an emergency exit or a fire extinguisher. However, emergency situations in medical offices do not engender the same type of Pavlovian reaction. Although most medical training, including family medicine training, involves learning how to deal with emergency situations, that education has a tendency to wane after graduation. Once physicians are in private practice, with the demands of seeing patients, maintaining emergency certification becomes a lower priority than dealing with day-to-day issues. Many primary care physicians do not invest time in maintaining active certification in cardiopulmonary resuscitation (CPR), much less advanced life support. However, medical emergencies do occur in physicians’ offices, including asthma exacerbations, chest pain, hypoglycemia, anaphylaxis, and impaired consciousness, among others. Outpatient facilities must be prepared to deal with these situations.

This article describes the emergency preparedness program that our practice, Community Volunteers in Medicine, designed and implemented. Our practice is a busy, mostly volunteer-staff clinic providing medical and dental care as well as ancillary services such as nutrition and diabetes education, and last year we conducted 26,000 visits. Given this patient volume, we felt that everyone on our staff needed to be prepared to deal with medical emergencies. In addition, because we have many volunteer staff who have retired from previous careers, are more than 60 years of age, and have medical issues, we felt it prudent to have measures in place to care for those who help us care for patients.

We recognize that our model may require adaptation for use in other offices depending on the number of staff (including physicians, other providers, and nursing staff), role assignment, proximity to an emergency department (ED), response times of local emergency medical services (EMS), the level of care providers are capable of administering (basic versus advanced life support), and state laws regarding who may provide emergency services. Still, we offer an emergency preparedness model befitting a family medicine office.

Condition C: An emergency preparedness program

We named our emergency preparedness program “Condition C” to avoid the popularized term “code blue,” which could alarm patients in the office and waiting room. The algorithm on page 14 summarizes the steps involved in our program, which has two major components.
Medical emergencies do occur in the physician office, including asthma exacerbations, chest pain, hypoglycemia, anaphylaxis, and impaired consciousness.

Scavenger hunt. The program begins with a review of all available emergency equipment in the office utilizing an engaging scavenger hunt format. Both nursing and medical staff participate in finding and reviewing the medications and equipment that might be needed in an emergency situation (see the checklist of recommended emergency supplies). Because our office is staffed mostly by volunteers and not all items can be stored within a crash cart or emergency box, the scavenger hunt helps ensure that all staff members are able to access these items in an expedient manner and that the practice is fully equipped. Once staff identify the items, they inspect medications to make sure none have expired and review equipment use. It is imperative that staff know how to use oxygen tanks, injectable epinephrine, and other equipment correctly.

Additionally, Condition C cards with common emergency situations and the appropriate interventions are located in each exam room and stored with the emergency equipment. The scavenger hunt confirms the presence of these cards.

Mock codes. The program also involves mock code situations followed by a debriefing to discuss staff members’ roles and potential issues that arose during the exercise. We do not inform staff ahead of time that a Condition C is going to be simulated. To mimic the most likely scenario in an office setting, we plant a volunteer in the waiting room or exam room and ask him or her to simulate shortness of breath or acute chest pain. This tests whether our office staff is alert to patients’ needs. The goal is to have someone call a Condition C in a timely manner, followed by a rapid response by staff with the appropriate emergency equipment. We try to perform these mock emergencies at least two times per year.

Obstacles addressed

One of the main obstacles to effective emergency care that we identified through our mock code situations was a lack of awareness by front office staff of patients in the waiting area. This was because of the layout of our physical space. To combat this issue, we installed surveillance cameras throughout the area.

Our emergency preparedness program involves five key steps, depicted here. Additionally, we orient all new staff members to our emergency procedures upon hire, and we review staff members’ CPR certification regularly. Although this may seem like an overwhelming task to introduce into a busy clinic schedule, we believe it is worth the time and effort. An alternative would be to incorporate all of these steps into a half-day session and to offer CPR certification on-site.
allowing the front office staff to see patients who are not directly visible from their desk.

Additional issues identified through our mock code exercises included slow response times among staff, difficulty finding necessary items, poor documentation of the episode, and slow-downs in patient flow in other parts of the practice. We created the scavenger hunt to improve the ability to find needed items. To improve documentation, we introduced an “Emergency Nursing Record” (see page 16). This flow sheet includes patient information, emergency type, vital signs, review of systems, necessary interventions, and medications. In the event a patient requires transfer to the ED, we send a copy of this sheet with the patient. In general, this sharing of information helps streamline and improve patient care.

Immediately following mock emergencies, staff members meet to debrief and discuss problems in how the team responded. This allows all those involved to voice concerns and suggest improvements. Utilizing a debriefing form (see the “Mock Trial Evaluation Form,” page 18), we analyze each situation individually. These debriefing sessions help us troubleshoot the program. During a recent mock emergency, we discovered that multiple medications in our emergency box were expired. As a result,

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**CHECKLIST: EMERGENCY SUPPLIES FOR FAMILY MEDICINE OFFICES**

The following checklist of recommended emergency supplies includes many expected items, such as oxygen and nitroglycerin, as well as several items not commonly found in family medicine offices, such as an automated external defibrillator (AED).

In deciding whether to include a particular item in your practice, consider your staff members’ ability to use the item appropriately and your office’s access and proximity to emergency services.

<table>
<thead>
<tr>
<th>Equipment</th>
<th>Cost</th>
</tr>
</thead>
<tbody>
<tr>
<td>Automated external defibrillator (AED)</td>
<td>$2,300</td>
</tr>
<tr>
<td>Bag mask ventilator (two bag sizes and three mask sizes for adult, pediatric, and infant)</td>
<td>$19-$22 per mask and bag</td>
</tr>
<tr>
<td>Blood pressure cuff (all sizes)</td>
<td>$55-$236</td>
</tr>
<tr>
<td>Glucometer</td>
<td>$10-$40</td>
</tr>
<tr>
<td>Intravenous catheter/butterfly needles (18 to 24 gauge)</td>
<td>$40</td>
</tr>
<tr>
<td>Intravenous extension tubing and T-connectors</td>
<td>$1-$2</td>
</tr>
<tr>
<td>Nasal airways (one set)</td>
<td>$7-$15</td>
</tr>
<tr>
<td>Nasogastric tubes</td>
<td>$9-$25</td>
</tr>
<tr>
<td>Nasal cannula for oxygen</td>
<td>$28</td>
</tr>
<tr>
<td>Nebulizer or metered dose inhaler with spacer and face mask</td>
<td>$30-$80</td>
</tr>
<tr>
<td>Non-rebreather mask (three sizes)</td>
<td>$2.49 per mask</td>
</tr>
<tr>
<td>Oxygen mask (three sizes)</td>
<td>$1-$2</td>
</tr>
<tr>
<td>Oxygen tank and flow meter</td>
<td>Tank: $65 (empty) Flow meter: $50-$150</td>
</tr>
<tr>
<td>Portable suction device and catheters, or bulb syringe</td>
<td>$3</td>
</tr>
<tr>
<td>Pulse oximeter for child and adult usage</td>
<td>$179</td>
</tr>
<tr>
<td>Resuscitation tape (color-coded)</td>
<td>$120 for a package of five</td>
</tr>
<tr>
<td>Universal precautions (latex-free gloves, masks, and eye protection)</td>
<td>$12 per kit</td>
</tr>
<tr>
<td>CPR barrier device</td>
<td>$9</td>
</tr>
<tr>
<td>Blood spill cleanup kit</td>
<td>$6</td>
</tr>
<tr>
<td>Eye wash</td>
<td>$2</td>
</tr>
<tr>
<td>Cardiac board</td>
<td>$68</td>
</tr>
</tbody>
</table>

**Medications**

- Acetaminophen (rectal suppositories)
- Albuterol
- Aspirin, chewable
- Ceftriaxone (Rocephin)
- Corticosteroids, parenteral
- Dextrose 25% and 50%
- Diazepam, parenteral (Valium)
- Diphenhydramine, oral and parenteral (Benadryl)
- Epinephrine injection (EpiPen and EpiPen Jr.)
- Flumazenil (Romazicon)
- Lorazepam, sublingual (Ativan)
- Morphine (MS Contin)
- Naloxone (Narcan)
- Nitroglycerin spray
- Nasal airways (one set)
- Nasogastric tubes
- Nasal cannula for oxygen
- Nebulizer or metered dose inhaler with spacer and face mask
- Non-rebreather mask (three sizes)
- Oxygen mask (three sizes)
- Oxygen tank and flow meter
- Portable suction device and catheters, or bulb syringe
- Pulse oximeter for child and adult usage
- Resuscitation tape (color-coded)
- Universal precautions (latex-free gloves, masks, and eye protection)
- CPR barrier device
- Blood spill cleanup kit
- Eye wash
- Cardiac board

**Other**

- ECG machine
- Condition C cards
- Fire extinguisher
- Panic button

Note: Prices may vary depending on make, model, quantity ordered, and relationships with medical supply companies or hospitals. Medications are not priced here as quantities will vary based on needs assessment, office size, and proximity to an emergency department.
EMERGENCY NURSING RECORD

Date ___________________ Time _________________ Time EMS called _________________ Time EMS arrived _________________

Name of patient ____________________________________________ DOB _________________ Male ________ Female _________________

Allergies ________________________________________________________________________________________________________

Describe events leading to emergency ________________________________________________________________________________

____________________________________________________________________________________________________________________

Historian/accompanied by ____________________________________________

What type of emergency? (circle or check)

1. Chest pain  How pain started _____________________________ Nausea/vomiting | Shortness of breath
   Pressure | Tightness | Indigestion | Burning
   Pain: Sharp | Dull | Stabbing | Aching | Numbness | Location __________________________
   Pain radiates to: Jaw | Arm | Back

2. Shortness of breath

3. Asthma exacerbation

4. Allergic reaction  Hives | Rash | Facial swelling | Difficulty breathing

5. Diabetic shock

6. Seizures  Time ___________ Length ___________
   Unresponsive | Visual disturbance | Headache | Incontinent
   Tremors | Tonic-clonic seizure involving ___________ extremities
   Eye gaze R | L

7. Other ________________________________________________________________

Vital signs

<table>
<thead>
<tr>
<th>Time</th>
<th>BP</th>
<th>Pulse/RR</th>
<th>Pulse ox</th>
<th>Blood glucose</th>
<th>Pain</th>
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<tbody>
<tr>
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</tbody>
</table>

General appearance

_____ No acute distress  _____ Mild | Moderate | Severe distress
_____ Alert  _____ Anxious | Decreased level of consciousness
_____ No barriers  _____ Learning barriers: Cognitive | Language | Emotion | Other

Respiratory

_____ No respiratory distress  _____ Mild | Moderate | Severe distress
_____ Normal breath sounds  _____ Wheezing | Crackles | Stridor
_____ Decreased breath sounds

CVS

_____ Regular rate  _____ Tachycardia | Bradycardia | Irregular rhythm
_____ Pulses strong  _____ Pulse deficit
_____ Skin warm and dry  _____ Cool | Diaphoretic
_____ Pale | Cyanotic | Flushed
we revised our system of monitoring medications used for emergencies and assigned a staff member to this task.

An additional obstacle to running mock emergencies in a busy practice is pushback from staff who say it interrupts patient flow and disrupts those working in the clinic. This was the case at our practice, and getting buy-in was difficult at first. Attitudes changed, however, after a true medical emergency transpired, and our staff witnessed that things went smoothly. In this instance, a patient presented with chest pain and was having an acute myocardial infarction. Condition C was called. The patient was given aspirin, nitroglycerin, and oxygen. The electrocardiogram and flow sheet were copied and sent with the patient to the ED. The emergency physician subsequently called to compliment our clinic for the pre-hospital care. By the time the patient reached the ED, the ST elevations were already resolving.

Worth the effort

Although implementing an emergency preparedness program is challenging, we believe it is a worthwhile and necessary addition to all family medicine offices. While infrequent, emergency situations do occur in office settings, and this program equips us to provide the best possible care for our patients. Implementing an office emergency preparedness program removes the anxiety of dealing with unusual issues, keeps necessary medications and equipment current and in working condition, and identifies problems prior to an actual emergency so that

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**Neuro**

- Oriented
- Cooperative
- Speech appropriate
- Moves all extremities
- Disoriented to Person | Place | Time
- Agitated | Confused | Memory loss
- Nonverbal | Speech slurred | Facial droop
- Weakness | Sensory loss | Which extremity

**Time/Procedures**

- ECG
- AED used
- O2 at 2L-nasal cannula
- CPR started
- CPR stopped
- Assisted ventilation with bag valve mask
- IV access

**Medications**

<table>
<thead>
<tr>
<th>Time</th>
<th>Medication</th>
<th>Dose</th>
<th>Route</th>
<th>Site</th>
</tr>
</thead>
<tbody>
<tr>
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</table>

**Discharge instructions**

__________________________

Signature of person in charge of record keeping

__________________________

Medical provider

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Family Practice Management

Developed by Community Volunteers in Medicine, West Chester, Pa. Copyright © 2013 AAFP. Physicians may photocopy or adapt for use in their own practices; all other rights reserved. http://www.aafp.org/fpm/2013/0300/p13.html.
A mock emergency evaluation form can help practices identify problems in their response prior to an actual emergency.

Creating an emergency preparedness program takes time but is worth the effort.

Having a program in place can reduce the anxiety associated with emergency situations and ultimately improve patient care. They can be resolved. It also reduces the risk of malpractice suits arising from poor emergency care in an office setting.

The old adage “practice makes perfect” seems applicable. Though perfection is impossible, all clinicians and staff members must practice their response to medical emergencies in the outpatient setting so they are prepared should an actual emergency arise. Your patient’s life may someday depend on it.


Send comments to fpmedit@aafp.org, or add your comments to the article at http://www.aafp.org/fpm/2013/0300/p13.html.

About the Authors

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