HEART ATTACK BASICS FOR EMERGENCY MEDICAL DISPATCHERS

Understanding the physiology of these common medical emergencies can help save lives.

By Carol Crockett
This type of call is common to emergency medical dispatchers (EMDs). They are trained to ask the caller specific questions in order to dispatch the appropriate level of service, or the closest available ambulance. They also keep the caller calm and provide medical instructions over the phone—even CPR—if needed. However, as an emergency medical dispatcher, do you understand the complex physiological processes that occur when someone is having a cardiovascular event such as a heart attack? Simply put, a cardiovascular event can be a heart attack, but there is nothing simple about it.

A heart attack occurs when one or more of the coronary arteries become occluded (blocked). The size of the artery and the portion of the heart that receives blood from the artery define the seriousness of the heart attack and the area that is affected. In reality, all heart attacks are serious. As an emergency medical dispatcher, it is important to remember that a person’s condition can decline very quickly.

As an occlusion (blockage) occurs in one or more of the coronary arteries, blood flow decreases to the myocardial (heart) tissue which decreases the amount of oxygen to the area. The heart is very sensitive to this lack of oxygen and quickly becomes ischemic (oxygen-deprived). Patients can begin to experience chest pain, discomfort, tightness or pressure (often described as squeezing). They may also complain of sweating, tingling or discomfort to the left side of the jaw or left arm.

These are what we call “textbook” signs and symptoms. It is important to remember that not all patients experience textbook signs and/or symptoms. Women, the elderly and individuals with diabetes may have atypical signs and/or symptoms. Unusual signs and/or symptoms may include indigestion, nausea and/or vomiting, or “syncopal” (passing out) episodes. These signs and symptoms typically occur when the patient is resting but can occur during stressful events.

To a person who is not in the medical field, the words “heart attack” are extremely scary. Many people equate it to death. This causes them to become very frightened, which in turns increases the workload on the heart, requiring more oxygen that cannot be delivered due to the occlusion. This in turn causes more damage to the myocardial tissue, moving from a state of ischemia to injury or infarct (death of the tissue).

The gold standard for treating a patient experiencing a heart attack is percutaneous transluminal coronary angioplasty (PTCA). This minimally invasive procedure opens the blocked coronary artery and allows unobstructed blood to flow to the area of the heart affected by the occlusion. The term “time is muscle” refers to the fact that early recognition and treatment can save heart tissue and decrease possible long-term damage.

One of the most important steps a patient can take when experiencing chest pain is to take aspirin unless they have a medical problem that prohibits them from doing so. Most patients at risk for having a heart attack may already be on a daily low-dose aspirin regimen. However, it is recommended for those patients to take an additional aspirin when they are experiencing possible cardiac chest pain.

Aspirin works by slowing down the development of the clot that may be causing the chest pain—and possibly preventing further damage—making it instrumental in early care of a patient who may be having a heart attack.

So, what can you, as an emergency medical dispatcher, do to help this patient while waiting for the ambulance to arrive? First, ensure that you are following your agency’s policies, procedures and protocols. Many agencies throughout the country have emergency medical dispatch (EMD) programs in place to provide approved, scripted medical assistance to callers. But not all do. So be sure that you know and follow your agency policies and procedures.

The initial contact should help to calm the patient at the caller. Speaking to them calmly is often reassuring. Have them loosen restrictive clothing and instruct them not to eat or drink anything. One thing to remember as an emergency medical dispatcher is that your attention and time can help to save heart muscle and possibly lives.

Carol Crockett has over 28 years of paramedic and training experience including as emergency medical dispatcher from the Georgia Public Safety Training Center. She holds paramedic, CPR and EMS-related qualifications and is an active National Registry of Emergency Medical Technicians exam coordinator.
1. Another name for a heart attack is:
   a. Coronary vascular event
   b. Cerebrovascular event
   c. Cardiovascular event
   d. Myocardial ischemia

2. It is important for the emergency medical dispatcher to remember:
   a. Death is imminent for the heart attack patient
   b. A person experiencing a heart attack has pain in the right arm
   c. An occlusion occurs in the major veins
   d. A person experiencing a heart attack may decline rapidly

3. A person experiencing a heart attack may experience various signs and symptoms that include:
   a. Pain to the right jaw
   b. Lower back pain
   c. Indigestion
   d. Sleepiness

4. Lack of blood flow to the heart muscle initially causes chest pain, known as:
   a. Ischemia
   b. Injury
   c. Infarct
   d. Inflamed

5. Emergency medical dispatchers are trained to instruct patients in CPR before they go into cardiac arrest:
   a. True
   b. False

6. Another term for death of the cardiac muscle is:
   a. Ischemia
   b. Infarct
   c. Injury
   d. Inflamed

7. All emergency medical dispatchers are trained in instructing the patient to take aspirin prior to EMS arrival:
   a. True
   b. False

8. The in-hospital procedure that can open the blocked artery and allow blood flow to the heart muscle is:
   a. CABG
   b. ABC
   c. PCTA
   d. PTCA

9. The mantra “time is muscle” pertains to the importance of getting a patient care to preserve:
   a. Cerebral tissue
   b. Myocardial tissue
   c. Cellular tissue
   d. Organ tissue

10. One of the most important steps that an emergency medical dispatcher can do, if policy or protocol allows, is to instruct the patient to:
    a. Take that nitroglycerin if they have it
    b. Turn up their oxygen if they are on home oxygen
    c. Take aspirin if they meet the criteria
    d. Have someone drive them to the emergency room immediately.

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