

# CHEST PAIN



How do you find out what's causing it?

by **Dr. Gregory Curnew**

**C**HEST PAIN CAN HAVE many different causes, from hyperventilation to pneumonia, to esophagitis, to heart attack. Because chest pain can signal a problem that could be fatal if not treated, it's a symptom you don't want to take lightly! Some features of the pain will help narrow down possible causes, and tests can then be performed to find out with certainty what's causing the pain.

## Specific pain symptoms

Chest pain that comes on suddenly or that persists and worsens needs the attention of a doctor. Depending on how severe it is, you need to see your family doctor or go to the emergency department closest to you. If the pain is very severe and accompanied by shortness of breath, it may be a heart attack. This type of pain is often described as squeezing or crushing in the middle of the chest, can involve the left upper arm as well, produces sweating and nausea, and makes you suddenly short of breath. Shortness of breath that builds gradually can signal heart failure, asthma or serious lung problems such as pulmonary edema (when water builds in the lung) or pneumothorax (when the lung collapses).

When the chest pain is accompanied by symptoms like cough and fever, it's likely originating from the lungs. With pneumonia, it's common to be coughing up coloured mucous, while viral bronchitis produces

only a little clear mucous but can inflame the lining of the lung. This is called pleurisy and can cause sharp pain on one side of the chest. Hard coughing from any origin can cause pain in the chest muscles.

A feeling of pressure in the chest which comes along with shortness of breath and numbness, either in the hands and feet or around the lips, can be a symptom of hyperventilation, especially in the context of intense exercise or a very emotional moment. Some suggest that breathing deeply into a paper bag held loosely over the mouth and nose can help. However, if you have asthma, lung or heart problems, get to the hospital quickly.

Chest pain can also come from digestive problems. Irritation of the stomach or esophagus can lead to shortness of breath and burning pain in the chest area. Usually, the pain is worse when you swallow and may get better if you eat something. Eating smaller meals and using antacids may help but if the pain persists or returns frequently, a doctor's visit may be in order. You may notice some burping or bad breath with reflux.

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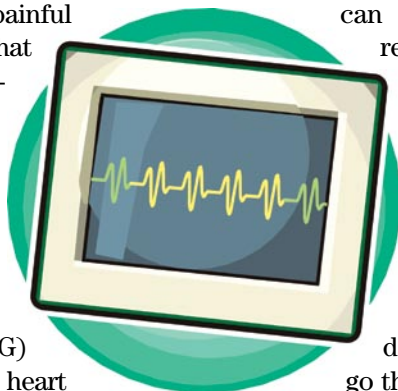
Other possible causes are a compression fracture in the spine that often occurs with osteoporosis. This pain tends to start in the back and radiate out to the front of the chest. The presence of a painful rash on the chest or back can signal that the pain is due to shingles, a viral infection of the nerves and skin.

### Tests

If chest pain seems to be heart-related, doctors will conduct a couple of tests to confirm exactly what's gone wrong.


- An **electrocardiogram** (ECG or EKG) records the electrical voltage in the heart on a graph. It can reveal irregular heartbeats and show if your heart or arteries have been damaged.
- **Stress tests** are generally done while you walk on a treadmill to see whether your heart rhythm changes when you exercise. Two different types of stress testing, with and without a nuclear tracer, are available and your doctor can work with you to decide which one is best.
- **Cardiac catheterization** involves inserting a long thin tube through an artery in the arm or leg and guiding it into the heart. Dye is injected into the arteries around the heart and, on x-ray, doctors will be able to see if any of the arteries that bring blood into the heart are blocked.
- **Blood tests** look for certain proteins in the blood such as troponin that are released by damaged heart muscles.

If chest pain appears to be related to the digestive system and tests on the heart appear normal, an endoscopy may be done. A long flexible tube with a camera and light inside it is swallowed so that doctors can look at the inside of the digestive system: esophagus, stomach or duodenum. The test can reveal ulcers in any of these parts of the digestive tract, as well as detect cancers.



Some doctors may prefer to have you attempt treatment with H2 blockers or proton pump inhibitors. If your symptoms improve with treatment, you can be fairly sure that gastroesophageal reflux disease (GERD) was the cause.

For pain that appears to originate in the lungs, a chest x-ray can confirm whether it's pneumonia or another problem.

An episode of chest pain needs to be followed up carefully even if it resolves. Once a cause has been established, make sure you follow through with your doctor's recommendations. It's not something you want to go through again! 

## HEART ATTACK

It's a heart attack! We've all been taught to fear that a pain in our chest may signal the END. And there's good reason. Twenty percent of all deaths in Canadian men and 17.9% in women in 1999 were due to ischemic heart disease, which includes heart attacks (acute myocardial infarction) as well as angina. A heart attack produces cardiac arrest, when the heart stops beating regularly and can no longer pump blood through the body.

Survival in this case depends on quick response to restore the heart rhythm. Cardiopulmonary resuscitation (CPR)\* and artificial respiration can keep someone alive until the ambulance arrives. Automated external defibrillators are now available to allow non-doctors to restore heart rhythm by delivering an electric shock. Most of the time this will restart the heart.

The bottom line is that the cause of chest pain can range from a pulled rib muscle to a potentially fatal heart attack or a clot in your lungs. The vast majority of heart attacks occur as we age with risk factors such as sugar diabetes, high blood pressure and cholesterol. If you smoke, stop before it's too late. Eat a healthy diet and get regular exercise to prevent a heart attack. If you think you or someone close to you may be having a heart attack, you know the number: 911.

\* Call the Heart and Stroke Foundation or St. John's Ambulance to take a course!



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