

Chest Pain

Chest pain can have many causes. Pain can come from the heart, lungs, gastrointestinal tract, muscles and bones of the chest wall, or abnormalities in nerve pain sensation. It is often difficult to distinguish one type of chest pain from another. There are many tests that can be done to help distinguish the different types of chest pain so that the correct treatment can be given. Because heart disease continues to be a major cause of death and disability, chest pain due to disease of the **coronary arteries** (arteries that supply the heart) is of particular concern. It is helpful to know the signs and symptoms that suggest **cardiac** (associated with the heart) chest pain (see below). Cardiac chest pain is called **angina**, is due to blockages or dysfunction in the coronary blood vessels (arteries and small artery branches called arterioles), and is usually related to physical exertion or stress. Not everyone has the same symptoms, and women often have **atypical** (different) symptoms compared with men. Risk factors for angina include high cholesterol, diabetes, smoking, high blood pressure, and a family history of coronary artery disease. The April 8, 2009, issue of *JAMA* includes an article about cardiac causes of chest pain.

CAUSES OF CHEST PAIN

- Heart disease, including coronary artery disease or **pericarditis** (inflammation of the tissue surrounding the heart)
- Lung disease, including infections like pneumonia, **pleurisy** (inflammation of the lining surrounding the lungs and chest cavity), pulmonary **emboli** (blood clots) to the lungs, and asthma
- Gastrointestinal reflux disease (GERD) due to acidic stomach contents flowing upward into the esophagus that may cause **heartburn** (burning pain in the chest) or difficulty swallowing
- Musculoskeletal pain from the ribs or **sternum** (chest bone) and their attached muscles
- Abnormalities in cardiac nerve pain sensation

TYPICAL SYMPTOMS OF CARDIAC CHEST PAIN

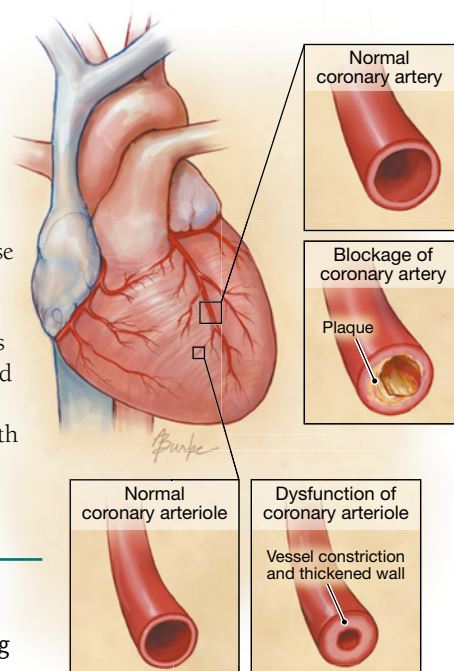
- Chest pain that usually occurs with or is made worse by physical exertion or stress
- Squeezing or pressure in the mid-chest region that may be associated with pain in the left arm or jaw
- Chest pain associated with shortness of breath

ATYPICAL SYMPTOMS OF CARDIAC CHEST PAIN

- Chest pain associated with nausea, lightheadedness, or dizziness
- Fatigue or weakness occurring as a consequence of chest pain

TESTS FOR CHEST PAIN

- Electrocardiogram (ECG)
- Chest x-ray
- Blood tests for evidence of heart muscle damage or emboli to the lungs
- Lung scan to detect any area with compromised airflow
- Cardiac stress test to detect areas where there may be compromised blood flow to the heart muscle
- Ultrasound of the heart (**echocardiogram**) to detect areas of the heart muscle or valves that may be weakened or damaged
- Coronary **angiogram** (visualization of the heart's blood vessels) to detect blockages or dysfunction



FOR MORE INFORMATION

- National Heart, Lung, and Blood Institute
www.nhlbi.nih.gov/health/
- American Heart Association
www.americanheart.org

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To find this and other JAMA Patient Pages, go to the Patient Page link on JAMA's Web site at www.jama.com. Many are available in English and Spanish. A Patient Page on cardiac stress testing was published in the October 15, 2008, issue; one on acute coronary syndromes in the July 8, 2008, issue; one on pulmonary embolism in the January 11, 2006, issue; one on pericarditis in the March 5, 2003, issue; and one on some of the differences in cardiac symptoms between women and men in the January 22, 2003, issue.

Source: National Heart, Lung, and Blood Institute

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