

# Acute Coronary Syndrome

There are several degrees of coronary artery disease. STABLE ANGINA means episodes of chest discomfort during exertion or emotional stress, and usually relieved by rest and then there is acute coronary syndrome otherwise called ACS which encompasses three distinct diagnoses: unstable angina or UA, non-ST segment myocardial infarction or NSTEMI and ST- elevation myocardial infarction or STEMI.

ST segment elevation is a specific finding on an electrocardiogram

Many years of high levels of cholesterol and glucose in the bloodstream and also high blood pressure can take a toll on the lining of the arteries throughout the body. Because the arteries feeding the heart are so small, they are especially vulnerable to become narrowed by plaque

According to a study done in 2022 every year more than 1 million people in United States are hospitalized for ACS. ACS includes two distinct types of heart attacks mentioned above and unstable Angina, which is a serious condition that's often prelude to a heart attack All of these warrants immediate medical attention. For all the three, the most common symptom is chest discomfort.

Other symptoms include shortness of breath, indigestion, nausea or vomiting, palpitation, dizziness, or fainting and sweating. To distinguish between different types of ACS, doctors rely on electrocardiogram. The guideline suggest that people receive an electrocardiogram within 10 minutes of arriving at the emergency department.

Another important test is a blood test that measures TROPONIN, a protein substance released by the damaged heart muscle.

A distinctive hump on the electrocardiogram -rise in the ST segment, which is normally flat, usually means one of the main coronary artery is completely blocked. Most of the time this happens when the fatty plaque ruptures producing a blood clot that completely blocks up the artery.

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This interruption in the blood flow damages portion of the heart muscle cells causing the TROPONIN level in the blood to rise. Known as an ST segment elevation myocardial infarction or STEMI, this is the most serious type of heart attack.

However, about 70% of the people with ACS have an artery that is not completely blocked, so a trickle of blood still gets through. Their electro cardiogram shows a variety of different pattern, often involving dips instead of elevation in the ST segment.

Those whose troponin levels indicate heart damage are diagnosed with less severe, but still worrisome type of heart attack known as non-ST elevation myocardial infarction or NSTEMI. People with these type types of ECG changes, but no evidence of heart damage, that means no elevation in the TROPONIN level in the blood are said to have unstable Angina.

**TREATMENT:** If you suspect you are experiencing ACS, call 911 and then you chew and swallow a regular strength aspirin, which is 325 mg and this helps to initiate dissolving of blood clots. One thing you should not do is to have your spouse or friend Drive you to the emergency room.

Only thing to do is to call 911 At the emergency room, people with ACS may receive clot busting drugs, and may undergo cardiac catheterization and many of them need stenting or coronary artery bypass surgery.

Acute coronary syndrome is a serious condition. Diagnosis and treatment should be initiated promptly. Time is money and don't waste time and if you suspect this, call 911 right away.

It is always best to avoid this situation. That means follow all the preventive measures to keep your heart and arteries healthy. Eat a healthy diet, get regular exercise, don't smoke or vape, manage your stress level and take necessary medications to keep your blood pressure, blood sugar, and cholesterol level in a healthy range.

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