The understanding of heart attacks has evolved substantially over the past few decades. With each phase of evolution the names of diseases change. What has emerged is a true “alphabet soup” of names and abbreviations. The goal of this article is to relate the names and abbreviations you may hear from medical professionals to the actual diseases they represent in simple terms.

**Acute Coronary Syndrome (ACS)**

When a heart attack or myocardial infarction (MI) is suspected doctors use the term acute coronary syndrome (ACS). This diagnosis includes all the possible syndromes associated with an unstable plaque. A completely blocked artery is initially hard to distinguish from a partially blocked one, as both can cause similar symptoms.

**The Most Severe Heart Attack: ST Elevation Myocardial Infarction (STEMI)**

The most severe type of heart attack is caused by complete blockage of a coronary artery. Within several minutes irreversible damage occurs to heart muscle. It is because of this type of heart attack that an electrocardiogram (ECG) is so critical in diagnosing chest discomfort. Doctors use the term STEMI, or ST elevation MI to describe this type of heart attack. The “ST elevation” in STEMI refers to a specific pattern on the ECG that is sometimes seen in patients with completely blocked arteries. Once ST elevation is found no time can be spared in treating the patient with the blocked coronary artery.

**A Less Severe Heart Attack: Non-ST Elevation Myocardial Infarction (Non-STEMI)**

Within several minutes of arrival in the emergency department, and sometimes even in the ambulance, blood tests will be drawn from you if a heart attack is suspected. These include cardiac enzymes or proteins that leak into the blood from damaged heart muscle. The most commonly tested cardiac enzymes are troponin I, CPK, and CK-MB. Unfortunately, cardiac enzymes are only detectable several hours after a heart attack. They are thus repeated within 6 to 8 hours and often a third time in another 6 to 8 hours. In this way your heart attack will not be missed. This is often called a “rule-out MI protocol” using “serial cardiac enzymes”.

If your symptoms are concerning but the initial ECG does not show an STEMI, cardiac enzymes are used to diagnose heart damage from a partially or transiently blocked coronary artery.

**Unstable Angina**

If the ECG shows no STEMI and the cardiac enzymes are normal, but angina is still suspected, the diagnosis may be unstable angina. It’s “unstable” because the blood flow through a coronary is no longer sufficient to supply the heart muscle, which is now starving.

**Other Terms: Q-Wave MI and non Q-Wave MI**

Q wave and non-Q wave myocardial infarction are terms doctors may still use. These are older terms which, still persist. They have fallen out of favor because the treatment of a heart attack does not depend on the “Q-wave” portion of the ECG. It does however, depend on the ST segment.

**Is the ECG Always Reliable in Diagnosing a Heart Attack?**

No. The ECG is an important tool in diagnosing heart attacks but it is not perfect. There are many people in whom the ECG is “non-diagnostic”. This may be due to a baseline abnormality on the ECG such as a left bundle branch block (LBBB) which obscures the ST segment. An STEMI can thus not be diagnosed. If you have an ECG abnormality that prevents diagnosis of a heart attack, you should carry a copy of your ECG with you at all times. Doctors will assume you are having the equivalent of an STEMI every time you have an ECG done (even with minor symptoms) unless they know that the LBBB is your baseline.

Other ECG abnormalities that may prevent accurate diagnosis of a heart attack include paced rhythms, in those who have a pacemaker and abnormal baseline ST segments. Ask your doctor if it’s a good idea to carry an ECG with you the next time you have one done.