

POST MI:

What is an MI?

Myocardial infarction is the medical term for a heart attack. It has also been known as coronary thrombosis or simply as a "coronary". The pain of myocardial infarction lasts longer than that of angina pectoris. Generally there is a prolonged, sudden-crushing chest pain accompanied by shortness of breath, sweating, nausea, vomiting and perhaps lightheadedness. This pain may spread to the arms, neck, jaw, shoulders and back.

For some people symptoms of angina and heart attack may be felt only as shortness of breath. For others, heart attacks may occur silently without any symptoms of chest pain or they may be passed off as mild indigestion.

The heart attack process:

All tissue in the body requires a constant blood supply bringing oxygen and nutrients. The heart is no exception. The coronary arteries are the blood vessels that bring blood to the heart. When one of these arteries becomes severely narrowed or blocked, the blood supply to a part of the heart's muscle is reduced. When this lack of blood supply lasts longer than 20 to 30 minutes, heart muscle damage may occur. This process is known as a heart attack. Other names used to refer to a heart attack are Myocardial Infarction, or simply a MI.

Myocardial infarction is not a sudden event; it is a process, which evolves over time. This process begins with the initial damage and ends with a healed, well-formed scar that replaces the area of damage. In the first hours of a heart attack the patient may experience chest pain and all the other symptoms of Angina or other symptoms described earlier. There may also be dangerous arrhythmias and sudden death. This is why it is necessary to go to the hospital as quickly as possible.

Treatment:

The pain of a heart attack may last from six to 12 hours and sometimes longer. During this period you are usually treated with pain relievers such as morphine. Patients who arrive early enough may receive blood clot dissolving medications to try and reopen the blocked artery. That is why it is important to present to hospital promptly when possible heart attack symptoms occur. The sooner these blood clot dissolving medications are administered the better and the more heart muscle can be saved. These blood clot dissolving medications include Streptokinase, t-PA (which stands for tissue plasminogen activator) and r-PA. These agents are intended to be given as soon as possible after the start of a MI and act to dissolve blood clot at the site of cholesterol plaque rupture. By opening the coronary arteries, these agents limit the size of the heart attack and save heart muscle. When it comes to a heart attack, remember that time is muscle. The sooner you get to hospital, the better.

Other medications such as aspirin and heparin to thin the blood and beta blockers and angiotensin converting enzymes (ACE) inhibitors may be given to reduce the size of the heart attack and preserve pump function. (See section on cardiac medications for more information).

Returning home:

A person with a small, uncomplicated heart attack may expect to go home after four to seven days. People with larger heart attacks or with complications may stay in hospital longer. In general, a stress test is done prior to discharge to assess your risk for another heart attack. If you develop a recurrence of your presenting symptom, usually chest pain, then an angiogram may be indicated (see the section on cardiac testing). At home you will gradually increase your activity level to normal over the next two to four weeks. Someone with a sedentary or office job may return to work after approximately two months. Someone doing physical labor is often advised to remain off work for three months.

Remember that recovering from a heart attack takes time. The healing process begins immediately and may take six to eight weeks to complete. The area of heart muscle damage is permanent but unless that area is large, the remainder of the muscle is usually adequate to permit you to lead a normal life. A firm scar replaces the heart muscle that is damaged and the remaining heart muscle takes over the work of the damaged area.

Usually after a heart attack you will be given a variety of medications intended to reduce your risk of another heart attack and to help the heart heal. It may seem that you are being given a lot of pills, but most of these prescriptions are based on strong medical evidence. Other medications are given to control symptoms such as congestion or angina. See the section on cardiac medications for a more detailed description of the pills you have been prescribed. These may include:

1. Aspirin
2. Beta (b)-blockers
3. ACE inhibitors
4. Cholesterol lowering agents- usually a "statin"
5. Nitroglycerin and long acting nitrates
6. Calcium channel blockers
7. Diuretics
8. Digoxin

COMPLICATIONS OF MYOCARDIAL INFARCTION

One of the most important reasons to be in hospital during a heart attack is to watch for complications. The key complication to watch for is recurrence of chest pain or angina. Angina recurring after a heart attack is considered UNSTABLE ANGINA. This may indicate that there is some heart muscle that is still at risk of damage from narrowed or blocked coronary arteries and may require further investigations such as an angiogram or cardiac catheterization (see section on cardiac investigations and procedures). Often after a heart attack the outer lining of the heart or pericardium becomes inflamed, a condition known as PERICARDITIS. This may produce sharp chest pains that may also be felt in the shoulders, neck and arms. Such pains may worry you but they are part of the healing process and are not dangerous. Other complications such as arrhythmias and congestive heart failure have already been described.