

## MYOCARDIAL INFARCTION (HEART ATTACK)

### ■ WHAT IS A HEART ATTACK OR MYOCARDIAL INFARCTION?

Myocardial infarction (MI) is the medical term for a heart attack. It occurs when there is a sudden, complete blockage of blood flow to a portion of heart muscle. This causes the heart tissue in that portion of the heart to die. MI is one of the most common diseases in the United States and causes a large number of deaths every year.

### ■ RISK FACTORS FOR HEART DISEASE INCLUDE:

- Age
- Cigarette smoking
- A family history of heart attack
- Diabetes
- Overweight
- High blood pressure
- High blood cholesterol
- Low HDL cholesterol (the “good” cholesterol) or high LDL (the “bad” cholesterol)
- Stress
- Inactive lifestyle



In addition, MI's are more likely to occur at a younger age in men than in women. Female hormones may help protect women against heart disease until menopause. A woman's risk for heart disease increases once her body is producing fewer hormones.

### ■ HOW DOES AN MI OCCUR?

MI may occur at any time and often occurs without warning. A disease called atherosclerosis causes plaque to build up inside the walls of the coronary arteries. This narrows the artery opening and reduces the flow of blood through the artery. The narrower the artery becomes, the more likely it is that a blood clot may form and block the artery completely. This can cause a heart attack. Sometimes sudden blockages can occur even in places where the artery was not narrow before.

Less commonly, an MI can occur due to coronary spasm. Coronary spasm is a sudden and temporary narrowing of a small part of an artery that supplies blood to the heart. It may be caused by smoking or drugs such as cocaine.

Not all heart attacks are the same. The more heart muscle that dies, the more likely it is that disability or death will result. If only a small amount of heart muscle dies, the odds of surviving and living normally afterward are good. Early treatment of an MI is critical to try to unblock the arteries and limit the amount of muscle death. In some cases, death may occur during an MI, regardless of the size of the area affected by the blockage.

Heart attacks can cause death in several ways:

- If too much muscle dies, the heart is not able to pump enough blood to the rest of the body

- Damage to the heart cells that regulate the heartbeat may cause fatal heart rhythm problems
- Sometimes, the heart muscle weakens and can tear as a result of the damage. This causes a fatal hemorrhage (bleeding).

### ■ WHAT ARE THE SYMPTOMS OF AN MI?

Pain or pressure in the middle of the chest is the most common symptom. The discomfort may be severe. If you think someone is having a heart attack, call 911 and get emergency care immediately.

Other typical symptoms that often occur with the chest pain include:

- Pain or discomfort in other areas including the arms, shoulder, neck, jaw, back and abdominal area
- Shortness of breath or difficulty breathing
- Sweating
- Nausea or vomiting
- Weakness or lightheadedness
- Paleness

### ■ HOW IS AN MI DIAGNOSED?

Your doctor examines you and asks about your immediate symptoms and your medical history. Your doctor may order any of the following tests:

- EKG – to show the electrical activity of your heart
- Blood tests – to find out if the heart muscle has been damaged
- Chest x-ray – can show abnormal heart size and signs of heart failure
- Echocardiogram – to examine your heart valves, muscles, and blood flow and to look at how efficiently your heart is pumping
- Coronary angiogram – an x-ray procedure in which dye is used to find out which blood vessel is blocked and how severely

### ■ HOW IS AN MI TREATED?

Heart attacks require immediate hospital treatment. Medicines that dissolve the coronary artery blood clot are quickly given through a vein and by mouth. Your heart rhythm is monitored and possible dangerous rhythms are treated promptly. Some people need a temporary heart pacemaker to regulate the heart rhythm. You may stay in the hospital 2-6 days with a few days in an intensive care unit.

Your doctor may use medicine to:

- Reduce your pain
- Stabilize your heart rhythm
- Make it easier for you to breathe
- Lower your blood pressure
- Prevent further damage to your heart
- Dissolve blood clots

The exact treatment given for an MI depends on how you feel and how much heart muscle is damaged. Doctors also evaluate how much the arteries in your heart are blocked or narrowed. You will be started on beta-blocker drugs and aspirin, and possibly other medications to lessen the risk of another heart attack. In some cases, your doctor may recommend a procedure to open the blocked arteries. This is called balloon angioplasty. For more extensive blockage, coronary artery bypass surgery may be needed to improve blood flow to the heart. This may mean a longer stay in the hospital.

## **FOLLOW-UP CARE**

After an MI, it is important to begin a rehab program. This involves a closely watched and gradually increasing exercise program. It also includes education about healthy eating and other ways to improve your health and prevent more heart attacks in the future. If you have had an MI you continue to be at risk for another MI in the future. Your doctor will likely recommend follow up appointments and testing. These tests might include a stress echo or a stress nuclear test at one year and 3-5 year intervals after your heart attack.



## **HOW CAN I TAKE CARE OF MYSELF?**

Follow the treatment plan your doctor prescribes. In addition:

- Eat healthy food that is low in fat and sodium
- Lose weight if you need to and maintain the lower weight
- Exercise regularly according to your doctor's instructions
- If you smoke, quit
- Keep your cholesterol at a normal level
- Keep your blood pressure under control
- Follow your doctor's instructions for medicine and follow-up appointments
- Talk with your doctor about any questions or fears you may have
- Carry your medications with you and know how to take them properly. A list of the names and doses and instructions for taking each medicine can be helpful to have.

If you get chest pain, call 911. Immediate emergency care improves your chances of survival and lessens the possibility of further damage to your heart.