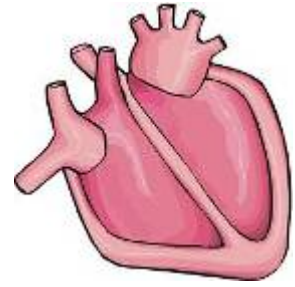


# Heart Attack Rehabilitation



## *What is a heart attack?*

A heart attack occurs when the blood supply to part of the heart muscle is severely reduced or stopped. This is usually due to atherosclerosis—blockage caused by the buildup of plaque. Although not as common, coronary artery spasms can also cause a heart attack. If the blood supply is cut off for more than a few minutes, muscle cells suffer permanent injury and die. Depending on the extent of the damage to the heart muscle, this injury can disable or kill an individual. If the heart stops beating, then cardiac arrest has occurred.

## *What do I need to do to recover?*

You and your doctor should talk about a rehabilitation plan that is specific for you and your condition. The majority of the time, your doctor will prescribe medications. Your doctor may recommend that you exercise or attend a cardiac rehabilitation program. He/she may also suggest you adjust your diet.

## *What are the more common medications for heart failure?*

ACE inhibitors (angiotensin-converting-enzyme inhibitors) are now considered first-choice treatment and are the cornerstone of heart failure drug therapy. ACE inhibitors have been proven to slow the progression of heart failure. They are a type of vasodilator, which are medications that cause the blood vessels to expand, lowering blood pressure and reducing the heart's workload. ACE inhibitors prevent the body from creating angiotensin, a substance in the blood that causes vessels to tighten and raises blood pressure.

Diuretics (Water Pills) are prescribed for almost all patients who have fluid buildup in the body and swelling in the tissues. A diuretic causes the kidneys to remove more sodium and water from the bloodstream than usual and convert it into urine. This helps to relieve the heart's workload, since there's less fluid to pump throughout the body. It also decreases the buildup of fluid in the lungs and other parts of the body, such as the ankles and legs. Different diuretics remove fluid at varied rates and through different methods.

Vasodilators cause the blood vessel walls to widen or relax, allowing blood to flow more easily. Nitroglycerin tablets are a type of vasodilator prescribed to ease chest pain. Patients are usually instructed to take one, wait five minutes, and take another, if the chest pain is still there. If the pain persists after another five minutes, they should take a third tablet. If the chest pain doesn't go away after this, they should call an ambulance right away.

Digitalis Preparations or Digoxin increases the force of the heart's contractions, which can be beneficial in heart failure. This relieves heart failure symptoms, especially when the patient isn't responding to ACE inhibitors and diuretics. Most people continue taking the drug even after they feel well, to keep the heart working effectively.

Beta Blockers reduce the heart's tendency to beat faster. The heart tries to compensate for its weakened pumping action by beating faster, which puts more strain on it. Beta blockers block specific receptors ("beta receptors") on the cells that make up the heart, reducing the effects of chemical messengers that increase heart rate. This allows the heart to maintain a slower rate and lowers blood pressure. Beta blockers are used for mild to moderate heart failure and often with other drugs such as diuretics, ACE inhibitors and digoxin.

Blood Thinners are also taken for people with heart failure that are at risk of developing blood clots, usually in the blood vessels of the legs, lungs and heart. Your doctor will probably want to order regularly scheduled blood work to check on how well the blood is clotting.

Angiotensin II Receptor Blockers prevent this chemical from having any effects on the heart and blood vessels rather than lowering levels of angiotensin II (as ACE inhibitors do). This keeps blood pressure from rising.

Calcium Channel Blockers are used to treat the high blood pressure often associated with heart failure, because these drugs interfere with calcium's role in the contraction of these muscles. This causes the muscles to relax which lowers blood pressure and can improve the blood circulation in the heart. These medications aren't used often to treat heart failure.

Potassium helps control heart rhythm and is essential for the normal work of the nervous system and muscles. It's important to have just the right amount of potassium in the body, especially for the heart. The kidneys control the amount of potassium in the bloodstream and eliminate any excess through the urine. Since most diuretics remove potassium from the body, heart failure patients who use them are at risk of losing too much potassium. Some patients need to take potassium supplements or pills to compensate for the amount they're losing.

### *Why should I exercise?*

Heart attack survivors should exercise because it strengthens the heart muscle. It can also help you feel more energetic, help you feel more in control of your health and help you lose weight and keep it off. Exercise may also lower your blood pressure and reduce your cholesterol level. The best types of exercise are those that involve your whole body, such as walking, cycling, jogging, cross-country skiing or swimming. Your doctor or rehabilitation therapists may also prescribe activities to increase your strength and flexibility.



How often you should exercise depends on your exercise plan. You'll probably start slowly and gradually add to your routine. Talk to your doctor about what is right for you. The American College of Sports Medicine (ACSM) and the American Heart Association (AHA) recommend similar exercise guidelines for promoting health and maintaining cardiovascular fitness; both organizations recommend 20 to 60 minutes of continuous aerobic physical activity (duration) using large muscle groups (mode of activity), at 65 – 90% of maximum heart rate or 50 – 85% of maximum oxygen uptake or VO<sub>2</sub>max (intensity), five days a week (frequency). Be sure to warm up before exercising for 5 minutes or more.

### *What is Cardiac Rehabilitation?*

Cardiac rehabilitation is an established form of treatment for individuals surviving a heart attack. Cardiac rehabilitation programs are an important part of helping strengthen the heart muscle. Studies have shown cardiac rehabilitation significantly reduced the incidence of premature death from any cause and from cardiovascular disease in particular, with a 20 – 25% reduction in mortality among cardiac rehabilitation participants compared to those who did not attend during the first three-and-a-half years after a heart attack. Exercise is a substantial part of a cardiac rehabilitation program, accompanied by psychological, occupational, behavioral and dietary components. Some individuals are referred to a cardiac rehabilitation program by their physician after a heart attack to encourage exercise for recovery and to prevent further attacks. Cardiac rehabilitation programs are designed to be comprehensive, long-term programs that limit the physiological and psychological effects of cardiovascular disease, control cardiac symptoms and reduce the risk of subsequent negative cardiac events. The aim of cardiac rehab programs is to restore the heart's effectiveness of post-infarct patients by ensuring they are well-adjusted, well-educated and fit—in other words, best able to cope with the long term consequences of heart attack.

### *How should I change my diet?*

A healthy diet and lifestyle are the best weapons you have to fight cardiovascular disease. Talk to your doctor about how you should adjust your diet. In general, you can start by knowing how many calories you should be eating and drinking to maintain your weight. Don't eat more calories than you know you can burn up every day and if needed, increase the amount and intensity of your physical activity to match the number of calories you take in. Strive to eat a variety of nutritious foods from all the food groups.

Many individuals eat plenty of food, but their bodies may not be getting the nutrients needed to be healthy. Nutrient-rich foods have vitamins, minerals, fiber and other nutrients but are lower in calories. To get the nutrients you need, choose foods like vegetables, fruits, whole-grain products and fat-free or low-fat dairy products most often.

Some general tips are to eat more vegetables and fruits. These foods are high in vitamins, minerals and fiber — and they're low in calories. Eating a variety of fruits and vegetables may help you control your weight and your blood pressure. Try to use unrefined whole-grain foods as they contain fiber that can help lower your blood cholesterol and help you feel full, which may help you manage your weight. Another tip is to eat fish weekly. Eating oily fish containing omega-3 fatty acids (such as salmon, trout, and herring) may help lower your risk of death from coronary artery disease.

## *When can I go back to work?*

Most people go back to work within 1 to 3 months after having a heart attack. The amount of time you are off from work depends on the condition of your heart and how strenuous or stressful your work is. You may have to make some changes in how you do your job or you may have to change jobs, at least for a short time, if your job is too hard on your heart.

## *What about sex?*

You can probably start having sex again in 3 to 4 weeks after your heart attack. As with other types of activity, you may need to start out slowly and work your way back into your normal patterns. Don't be afraid of sex because of your heart attack. Try different positions if one position seems to make you uncomfortable. Let your partner be on top to reduce the amount of energy you use during sex. Talk with your doctor, if you or your partner has any concerns.

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