



# MDwise

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## Coronary Artery Disease: Exercising for a Healthy Heart

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### Overview

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When you have coronary artery disease, it is very important to exercise regularly. If you aren't already active, your doctor may want you to begin an exercise program. Ask your doctor about taking part in a cardiac rehab program. Rehab can help you be more active and make lifestyle changes that can lead to a stronger heart and better health.

Even if you can only do a small amount of exercise, it is better than not doing any exercise at all.

- Talk to your doctor before beginning an exercise program. Your doctor may do an electrocardiogram (ECG or EKG) and possibly an exercise stress test to assess how much activity your heart can safely handle.
- After you start exercising, stop your activity immediately if you experience angina symptoms (such as chest pain or pressure), feel faint or lightheaded, or become extremely out of breath.
- Start an exercise program, such as walking, cycling, or jogging. Try to do moderate activity on most, preferably all, days of the week. Aim for a goal to exercise for at least 2½ hours a week.
- Exercise can help lower the chance of a heart attack.
- A complete exercise program consists of aerobic exercise, strength training, and stretching.
- Set goals you can reach. If you expect too much, you are likely to become discouraged and stop exercising.

### How can I get started on an exercise program?

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#### Getting started

- Have a thorough physical exam before you begin any exercise program. Your doctor may do an electrocardiogram (ECG or EKG) to measure the electrical signals that control the rhythm of your heartbeat, and he or she may do an exercise stress test to assess what level of activity your heart can handle.
- Before your appointment, make a list of questions to discuss with your doctor. For some general questions, see the exercise planning sheet .

- Make an exercise plan together with your doctor. An exercise program usually consists of stretching, activities that increase your heart rate (aerobic exercise), and strength training (lifting light weights). Visit a library or bookstore for information on exercise programs. Join a health club, walking group, or YMCA. Many cities have senior centers that offer inexpensive exercise programs.
- Learn how to find the right intensity of exercise. To improve your aerobic power, you don't need to submit yourself to strenuous and uncomfortable exercise. In fact, an intensity of exercise called "conversational exercise" (where you can comfortably have a conversation while you are exercising) can be very beneficial.
- Start out slowly. Try parking farther away from the store or walk the mall before shopping. Over time, you will increase your ability to do more.
- Keep a record of your daily exercise. It is okay to skip a day occasionally or to cut back on your exercise if you are too tired or not feeling well.

## How do I measure the intensity of my exercise?

Exercise intensity can be measured in many ways, for example as your:

- Rate of perceived exertion (RPE).
- Heart rate (HR).

Your doctor can tell you the correct rate of perceived exertion or how fast your pulse (target heart rate) should be when you exercise.

An easy way to check whether you are exercising enough, but not too much, is to note how hard you are breathing:

- If you can't talk and exercise at the same time, you are exercising too hard.
- If you can talk while you exercise, you are doing fine.
- If you can sing while you exercise, you may not be exercising hard enough.

## What is my target heart rate?

A target heart rate can guide you to how hard you should exercise so you can get the most aerobic benefit from your workout.

Your doctor can help you find out what your target heart rate is. Your target rate may be different from a person who does not have heart disease. This is especially true if you are taking medicine that affects your heart rate, such as beta-blockers, calcium channel blockers, or digoxin.

You can use your target heart rate to know how hard to exercise to gain the most aerobic benefit from your workout. You can exercise within your target heart rate to either stay at or raise your aerobic fitness level. To raise your fitness level, you can work harder while exercising, to raise your heart rate toward the upper end of your target heart rate range. If you have not been exercising regularly, you may want to start at the lower end of your target heart rate range and gradually exercise harder.

Target heart rate is only a guide. Each person is different, so pay attention to how you feel, how hard you are breathing, how fast your heart is beating, and how much you feel the exertion in your muscles.

## How often should I exercise?

How often you should exercise depends on several factors. Some exercise programs recommend exercising a minimum number of days a week. The American Heart Association and other groups suggest moderate activity for at least 2½ hours a week. One way to do this is to be active 30 minutes a day, at least 5 days a week. It's fine to be active in blocks of 10 minutes or more throughout your day and week. The best number of

days for you may depend upon your time availability, your exercise intensity, the duration of each session, and of course, your overall goals. If you exercise at a lower intensity level, you may want to exercise more frequently. Studies have shown that no significant differences in aerobic capacity are found whether these are consecutive or alternate days. If you are trying to lose weight, talk to your doctor about how much exercise you need.

### **What about duration of exercise?**

How long each exercise session lasts depends on the intensity of the exercise as well as your objectives. Of course, the higher your exercise intensity, the lower your exercise duration may be because of fatigue. You should gradually increase the duration of your exercise as your aerobic power increases. Try to exercise for at least 10 minutes at a time.

Drink plenty of water before, during, and after you are active. This is very important when it's hot out and when you do intense exercise.

### **How important is the mode of activity?**

If you hold constant your exercise intensity, frequency, and duration, the mode (type) of activity you do can improve your aerobic power. You will get the most improvement from exercises that use the large muscle groups, such as walking, running, cycling, swimming, or rowing.

### **Which kind of exercise is best?**

As long as you are exercising large muscle groups, choose an activity that you enjoy. For example, gardening and dancing can be excellent forms of aerobic exercise. Enjoying your mode of aerobic exercise will help you stick to your program, which will help you succeed. Achieving your aerobic goals, losing weight, increasing your energy, or developing a positive outlook will increase your enjoyment of the exercise.

Strength training is an important addition to your aerobic exercise program, because it strengthens and tones your muscles and increases the blood flow to your working muscles. Many daily activities and activities on the job require moving, lifting, or controlling a weight. Maintaining and improving your muscular strength and endurance will help you do these activities with less stress on your muscles. Increasing your strength will also increase your metabolism and energy level.

### **What type of strength-training exercises should I do?**

The keys to a safe and effective strength-training program are function and balance. Function means that a muscle exercise should be directly related to its function. For example, the function of your bicep (muscle on the top front of your arm) is to bend your elbow by moving your lower arm towards your shoulder. An exercise to strengthen your bicep should therefore reflect the full range of this motion. Balance is achieved by strengthening complementary muscle groups (muscles that work opposite each other). For example, your bicep flexes your arm while your tricep (muscle on the top back of your arm) extends your arm; while your bicep contracts, your tricep lengthens.

A good program should also focus on the major muscle groups of your body, especially the muscle groups used in your daily life. Strength-training exercises are described in hundreds of magazines and fitness books and on television shows and web sites.

If you are a beginner, choose exercises that contain simple motions, emphasize spinal stability, and focus on specific groups of muscles. Most advertised exercises are beneficial and safe if you keep control of the weight and use the proper technique throughout the exercise. Holding your breath while lifting puts extra strain on

your heart, so always exhale when you are lifting any weight.

Working out with a partner is recommended to keep you safe during your strength training. A partner can make sure that you are lifting the appropriate amount of weight for each exercise and can check your form and technique.

## **What is resistance?**

In strength training, resistance is the force that you are pulling against to work your muscles. A common type of resistance is weight. At your gym or fitness center, there are probably many different types of dumbbells and weight machines for you to use. But resistance for increasing muscle strength and endurance can come from other things besides weights and weight machines.

Your own body weight, elastic bands, and wall pulleys can provide effective and progressive strength training. Begin with a weight that you can easily carry through the required range of motion. You should only increase the resistance [gradually, or by 5 lb (2.5 kg) to 10 lb (4.5 kg)] when you can comfortably do the exercises and weights that you've been using for a few weeks.

If you have angina, heart failure, or other heart conditions, you may increase the number of times you do each exercise, but keep the resistance the same. Your movement should be slow and controlled at all times. If you feel that you cannot control the resistance, decrease the resistance or lower the weight. Avoid straining, and stop exercising if you feel symptoms such as dizziness, unusual shortness of breath, or any form of pain.

## **What are repetitions and sets?**

Repetitions are the number of times you perform each exercise. For example, if you lift a dumbbell up and down once, that's 1 repetition (or rep). If you lift it 5 times, that's 5 reps. Sets are the number of times you do a certain number of repetitions. For example, if you lift the dumbbell 15 times, take a rest, and then lift it another 15 times, you have done two sets of 15 reps each.

The number of repetitions and sets you do depends on your strength-training goals. If you wanted big bulky muscles, you would do a few sets of a few reps with very heavy weights. But you may want muscular tone and endurance, which means a few sets of many repetitions with light or medium weights. A good place to start is with one set of 12 repetitions. You can gradually work up to 2 or 3 sets of 12 to 15 repetitions.

## **How can I stretch for flexibility?**

Everyone can benefit from stretching exercises, regardless of age or flexibility. It is important for you to make stretching a part of your daily exercise routine. Stretching to increase flexibility should focus on the large muscle groups, and especially on the muscle groups that affect your posture and mobility.

Before beginning to stretch, warm up your muscles by walking or doing other gentle movement for a few minutes. You may injure your muscle or tendon if the muscle is cold and has not been used in a while. You should always stretch in a slow and controlled manner. Each stretching exercise should be repeated 3 to 5 times and held for 10 to 30 seconds each time. You should try to gradually increase your range of motion during each repeated exercise. A feeling of tension is normal, but do not hold a stretch that is painful.

General guidelines for stretching exercises

- Stretch before and after exercising.
- Stretch to a position of mild discomfort for 10 to 30 seconds for each stretch. Try each stretch 3 to 5 times.
- Control and hold without resistance.
- Be sure to stretch your lower back and your legs.

## How can I include exercise in my daily routine?

Remember that even a little exercise is better than none at all. Here are some tips on building exercise into your daily routine:

- Get up 15 minutes early and stretch.
- Jog in place.
- Take a walk at lunchtime or after dinner. Use the stairs instead of the elevator.
- Walk to a coworker's office instead of calling or emailing.
- Get off the bus one or two stops early, and walk the rest of the way.
- Wash and wax your car by hand instead of driving through the car wash.
- When you go shopping, park farther away from the store.
- Take a brisk walk around the mall before you start shopping.
- Lift light arm weights while talking on the phone.
- Ride a bike.
- Wash the windows. Work in your garden or yard. Use a push mower instead of a riding mower.
- Walk the dog.
- Work out to an exercise video.
- Go dancing.
- Try to be active as a family, like playing tag or catch and taking active vacations.

## How can I stay on my exercise program?

Staying on a regular exercise schedule requires discipline and motivation. At times, it may seem difficult to keep up with regular exercise and physical activity. But persistence pays off. There are specific steps you can take to make your exercise program more effective and also to help you stay with it:

- Try to make your exercise fun. Do activities you enjoy.
- Set realistic goals. If you expect too much, you are likely to become discouraged and stop exercising.
- Give yourself time. It can take months to get into the habit of exercising. After a few months, you may find that you are looking forward to it.
- Stay with it. It can be hard to stay with an exercise plan. Try exercising with a friend—it is much easier to continue an exercise program if you are exercising with someone else.
- Reward yourself. Build in rewards along the way that help you continue your program.

## What measures should I take to stay healthy while exercising?

When starting an exercise program, keep the following precautions in mind:

- Pace yourself by alternating exercises. Rotate light workouts, such as short walks, with more strenuous exercises, such as low-impact aerobics or swimming.
- Avoid exercising outdoors in extreme temperatures or high humidity or poor air quality. When the weather is bad, try exercising indoors at a gym or walking at a mall.
- Avoid exercises that require or encourage holding your breath, such as push-ups, sit-ups, and isometric exercises. Also avoid heavy lifting.
- If you develop palpitations, angina symptoms, difficulty breathing, or dizziness or lightheadedness, stop exercising and rest. Call your doctor if these symptoms don't go away.
- Do not take hot or cold showers or sauna baths after exercising. Moderate temperatures are best—very hot or very cold temperatures can be dangerous.

- Ask your doctor about continuing your exercise program if your medicines change. New medicines can affect how you feel when you exercise.
- Take your pulse frequently or wear a heart rate monitor and keep your pulse within the parameters your doctor sets. Watch your pulse when walking up hills or stairs.
- Make sure you adjust your exercise program if it is interrupted for more than just a couple of days. Gradually increase to your regular activity level as tolerated.

## Related Information

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- Coronary Artery Disease
- Fitness: Getting and Staying Active
- Heart Attack and Stroke in Women: Reducing Your Risk
- Heart Attack and Unstable Angina

## Credits

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