

HANDS-ON Health

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Physical Activity and Your Heart

According to the Centers for Disease Control and Prevention (CDC), 60 percent of Americans are not meeting the recommended levels of physical activity. Fully 16 percent of Americans are not active at all. Overall, women tend to be less active than men, and older people are less likely to get regular physical activity than younger people.

To reduce the risk of heart disease, adults need to do about 30 minutes of moderate activity on most, and preferably all, days of the week. This level of activity can also lower your chances of having a stroke, colon cancer, high blood pressure, diabetes, and other medical problems.

If you're not as active as you might be, take a moment to consider why. Maybe you're just in the habit of traveling by car or bus, even when you're not going far. In your free time, per-



haps it's tempting to sit down in front of the TV or computer rather than do something more vigorous. It's easy to get busy or tired and decide that it's just simpler to put off that brisk walk or bike ride. But when you think about the serious problems that physical inactivity can create for your health—and the enormous rewards of getting regular activity—you may want to reconsider.

PHYSICAL ACTIVITY: THE HEART CONNECTION

It's worth repeating: **Physical inactivity greatly increases your risk of developing heart disease.** Heart disease occurs when the arteries that supply blood to the heart muscle become hardened and narrowed, due to a buildup of plaque on the inner walls of the arteries. Plaque is the accumulation of fat, cholesterol, and other substances. As plaque continues to build up in the arteries, blood flow to the heart is reduced.

Heart disease can lead to a heart attack. A heart attack happens when a cholesterol-rich plaque bursts and releases its contents into the bloodstream. This causes a blood clot to form over the plaque, totally blocking blood flow through the artery and preventing vital oxygen and nutrients from getting

to the heart. A heart attack can cause permanent damage to the heart muscle.

Some people aren't too concerned about heart disease because they think it can be cured with surgery. This is a myth. Heart disease is a life-long condition. It's true that certain procedures can help blood and oxygen flow more easily to the heart. But the arteries remain damaged, which means you are still more likely to have a heart attack. What's more, the condition of your blood vessels will steadily worsen unless you make changes in your daily habits and control other factors that increase risk.

Heart disease is a serious disease—and too often, a fatal one. It is the number one killer of Americans, with 500,000 people in the United States dying of heart disease each year. Many others with heart problems become permanently disabled. That's why it's so vital to take action to prevent this disease. Getting regular physical

activity should be part of everyone's heart disease prevention program.

Risk Factors

Risk factors are conditions or habits that make a person more likely to develop a disease. They can also increase the chances that an existing disease will get worse. Certain risk factors for heart disease—such as getting older or having a family history of early heart disease—can't be changed. But physical inactivity is a major risk factor for heart disease that you have control over. You can make a decision to get regular physical activity, and this booklet can help you create a workable, enjoyable program that will help you protect your heart.

Other major risk factors for heart disease that you can change are smoking, high blood pressure, high blood cholesterol, overweight, and diabetes. Every

risk factor counts. Research shows that each individual risk factor greatly increases the chances of developing heart disease and having a heart attack. A damaged heart can damage your life, by interfering with enjoyable activities and even keeping you from doing simple things, such as taking a walk or climbing steps.

But it's important to know that you have a lot of power to protect your heart health. Getting regular physical activity is an especially important part of your healthy heart program, because physical activity both directly reduces your heart disease risk and reduces your chances of developing other risk factors for heart disease. For example, regular physical activity may reduce LDL (bad) cholesterol, increase HDL (good) cholesterol, and lower high blood pressure. It can also protect your heart by helping to prevent and control diabetes. Finally, physical activity can help you to lose excess weight or stay at your desirable weight, which will also help to lower your risk of heart disease.

CONTROLLABLE RISK FACTORS FOR HEART DISEASE

PHYSICAL INACTIVITY is a major risk factor for heart disease. Make the decision to get regular physical activity and reduce your risk of developing some of the other risk factors listed below.

SMOKING. People who smoke are up to six times more likely to suffer a heart attack than nonsmokers, and the risk increases with the number of cigarettes smoked each day. Quitting will greatly reduce your risk. Check with local community groups for free or low-cost programs designed to help people stop smoking.

HIGH BLOOD PRESSURE. Also known as hypertension, high blood pressure increases your risk of heart disease, stroke, kidney disease, and congestive heart failure. Your health care provider can check your blood pressure by means of a simple test using an inflatable arm cuff. Blood pressure often can be entirely controlled by getting regular physical activity, losing excess weight, cutting down on alcohol, and changing eating habits, such as using less salt and other forms of sodium. For some people, medication is also needed.

HIGH BLOOD CHOLESTEROL. High blood cholesterol can lead to the buildup of plaque in your arteries, which raises the risk of a heart attack. Starting at age 20, everyone should have their cholesterol levels checked by means of a blood test called a "lipoprotein profile." You can lower high blood cholesterol by getting regular physical activity, eating less saturated fat and trans fat, and managing your weight. In some cases, medication is also needed.

OVERWEIGHT. If you are overweight or obese, you are more likely to develop heart disease even if you have no other risk factors. Ask your doctor to help you determine whether you need to lose weight for your health. The good news: Losing just 5–10 per cent of your current weight will help to lower your risk of heart disease and many other medical disorders.

DIABETES greatly increases your risk for heart disease, stroke, and other serious diseases. Ask your doctor whether you should be tested for it. Many people at high risk for diabetes can prevent or delay the disease by reducing calories as part of a healthy eating plan, and by becoming more physically active. If you already have diabetes, work closely with your doctor to manage it.

PHYSICAL ACTIVITY: THE CALORIE CONNECTION

One way that regular physical activity protects against heart disease is by burning extra calories, which helps you to lose excess weight or stay at your desirable weight. To understand how physical activity affects calories, it is helpful to consider the concept of "energy balance." Energy balance is the amount of calories you take in relative to the amount of calories you burn. Per week, you need to burn off about 3,500 more calories than you take in to lose 1 pound. If you need to lose weight for your health, regular physical activity can help you through one of two approaches.

First, you can choose to eat your usual amount of calories, but be more active. For example, a 200-pound person who keeps on eating the same amount of calories, but begins to walk briskly each day for 1 1/2 miles, will lose about 14 pounds in 1 year. Staying active also helps to keep the weight off.

Second, you can eat fewer calories and be more active. This is the best way to lose weight, since you're more likely to be successful by combining a healthful, lower-calorie diet with physical activity. For example, a 200-pound person who consumes 250 fewer calories per day, and begins to walk briskly each day for 1 1/2 miles, will lose about 40 pounds in 1 year.

Most of the energy you burn each day—about three quarters of it—goes to activities that your body automatically engages in for survival, such as breathing, sleeping, and digesting food. The part of your energy output that you control is daily physical activity. Any activity you take part in beyond your body's automatic activities will burn extra calories. Even seated activities, such as using the computer or watching TV, will burn calories—but only a very small number. That's why it's important to make time each day for moderate-to-vigorous physical activity.

Some physical activities burn more calories than others. Below are the average number of calories a 154-pound person will burn, per hour, for a variety

of activities. (A lighter person will burn fewer calories; a heavier person will burn more.) As you can see, vigorous-intensity activities burn more calories than moderate-intensity activities.

MODERATE PHYSICAL ACTIVITY	CALORIES BURNED PER HOUR
Hiking	370
Light gardening/yard work	330
Dancing	330
Golfing (walking/carry clubs)	330
Bicycling (less than 10 mph)	290
Walking (3.5 mph)	280
Weight lifting (light workout)	220
Stretching	180
VIGOROUS PHYSICAL ACTIVITY	CALORIES BURNED PER HOUR
Running/Jogging	590
Bicycling (more than 10 mph)	590
Swimming (slow freestyle laps)	510
Aerobics	480
Walking (4.5 mph)	460
Heavy yard work (chopping wood, for example)	440
Weight lifting (vigorous workout)	440
Basketball (vigorous)	440

Other Benefits of Being Active

It is hard to imagine a single practice with more health benefits than regular physical activity. In addition to protecting your heart in numerous ways, staying active:

- May help to prevent cancers of the breast, uterus, and colon.
- Strengthens your lungs and helps them to work more efficiently.
- Tones and strengthens your muscles.
- Builds stamina.
- Keeps your joints in good condition.
- Improves balance.
- May slow bone loss.

Regular physical activity can also boost the way you feel. It may:

- Give you more energy.
- Help you to relax and cope better with stress.
- Build confidence.
- Allow you to fall asleep more quickly and sleep more soundly.
- Help you to beat the blues.
- Provide an enjoyable way to share time with friends or family.

EXPLODING THE MYTHS

Even when you know physical activity is good for you, it's easy to keep dragging your feet—literally. We all have reasons to stay inactive, but sometimes those reasons are based more on myth than reality. Here are some of the most common myths about physical activity and ways to replace them with a more realistic, can-do spirit.

Myth 1: “Physical activity takes too much time.”

Physical activity does take some time, but there are ways to make it manageable. If you don't have 30 minutes in your daily schedule for an activity block, try to find three 10-minute periods. If you're aiming for 60 minutes daily—a good goal if you're trying to avoid weight gain—perhaps you can carve out some “fitness time” early in the day, before your schedule gets too busy. Another idea is to combine physical activity with a task that's already part of your daily routine, such as walking the dog or doing yard chores.

Myth 2: “Getting in shape makes you tired.”

Once you begin regular physical activity, you're likely to have even more energy than before. As you progress, daily tasks will seem easier. Regular, moderate-to-brisk physical activity can also help you to reduce fatigue and manage stress.

Myth 3: “The older you are, the less physical activity you need.”

Most people become less physically active as they age, but keeping fit is important throughout life. Regular physical activity increases older people's ability to perform routine daily tasks and to stay independent longer. No matter what your age, you can find a physical activity program that is tailored to your particular fitness level and needs.

Myth 4: “Taking medication interferes with physical activity.”

In most cases, this is not true. In fact, becoming more active may lessen your need for certain medicines, such as high blood pressure drugs. However, before beginning a physical activity program, be sure to inform your doctor about both prescription and over-the-counter medications you are taking, so that your health can be properly monitored.

Myth 5: “You have to be athletic to exercise.”

Most physical activities don't require any special athletic skills. In fact, many people who have bad memories of difficult school sports have discovered a whole world of enjoyable, healthful activities that involve no special talent or training. A perfect example is brisk walking—a superb, heart healthy activity. Others include bicycling, gardening, or yard work, as long as they're done at a brisk pace. Just do more of the activities you already like and already know how to do. It's that simple.

CHOOSING THE RIGHT ACTIVITY

The key to a successful fitness program is choosing an activity or activities that will work well for you. Here are some questions to ask yourself to help you find a good “movement match.”

1. HOW PHYSICALLY FIT ARE YOU?

If you've been inactive for a while, you may want to start with walking, biking, or swimming at a comfortable pace. Beginning with less strenuous

activities will allow you to become gradually more fit without straining your body. If you're not sure how physically fit you are, you may want to visit a qualified exercise professional at a local health club or recreation center to receive a fitness assessment. A brief series of physical tests can estimate your current aerobic capacity, strength, and flexibility, as well as measuring your height, weight, and blood pressure. This information can give you a good picture of the shape you're in and allow you to

choose activities and goals that are right for you.

2. WHAT KINDS OF BENEFITS DO YOU WANT FROM PHYSICAL ACTIVITY?

Aerobic activity benefits the heart and lungs most. Resistance exercises can provide some aerobic conditioning, while also strengthening and toning muscles. Stretching exercises help to keep muscles limber, thereby preventing injury during your physical activity. The most healthful physical activity program includes all three types of movement.

3. DO YOU PREFER TO BE ACTIVE ON YOUR OWN, OR WITH OTHERS?

Do you lean toward individual activities, such as swimming or weight lifting; two-person activities, such as dancing; or group sports, such as softball or doubles tennis? If you like to be active with others, consider whether you can find a partner or group easily and quickly. If not, choose another activity until you can find a partner. If you prefer do-it-yourself activities, it may be simpler to get started—but a bit more challenging to maintain your momentum. Choosing an activity you truly enjoy will help you to stay with your activity program.

4. DO YOU PREFER TO BE ACTIVE OUTDOORS OR IN YOUR HOME?

Both have advantages. Outdoor activities offer variety in scenery and weather. Indoor activities offer shelter from bad weather and the convenience of not having to step beyond your front door. Some activities, such as bench stepping or running in place, can be done indoors or outdoors. If your activity can be seriously affected by weather, consider choosing a second, alternate activity that you can do at home or in a gym.

5. ARE YOU LOOKING FOR AN INEXPENSIVE WAY TO GET IN SHAPE?

Many activities are free or nearly so, requiring no equipment or special clothing. For example, brisk walking requires only a comfortable pair of rubber-soled shoes. Many communities offer free or very affordable physical activity options. Check with your local park and recreation department,



which may offer a number of low-cost physical activity classes that are enjoyable for the entire family.

6. WOULD YOU LIKE TO JOIN A GYM OR WORK WITH A FITNESS PROFESSIONAL?

Some people find that regularly going to a health club, and/or working with a fitness trainer, helps them to stay more motivated. Before you purchase a gym membership or sessions with a professional, be sure to shop around and ask questions.

- Check out the certifications and education of the staff to ensure that they are properly qualified. Professional qualifications include a college degree in a health-related field, such as exercise science or physical education. Ideally, staff should hold an exercise certification from a nationally recognized, nonprofit organization, such as the American College of Sports Medicine.
- Ask to speak to a few current clients to find out about the quality, size, and availability of sessions.
- Pay a visit to the facilities to check out the availability and quality of the equipment, the accessibility of parking, and the travel time from your home or office.
- Find out about all costs in advance. Fees for fitness services can vary greatly, so be sure to do a cost comparison of gyms and fitness professionals in your area.

7. WHAT IS THE BEST TIME OF DAY FOR YOU TO BE ACTIVE?

Do you feel more like being active in the morning, afternoon, or evening? If you can, schedule your workouts for times when you feel reasonably energetic. Remember that physical activity sessions can be spread out over the day and needn't take more than 10 minutes at a time.

EXERCISE SAFELY

Once you find a physical activity that's a good match for you, you're ready for action! But be sure to pace yourself. Each session to condition your heart and lungs should include the following:

WARM UP

(5 minutes). Start your physical activity session at a slow-to-medium pace to give your body a chance to warm up and get ready for more vigorous movement. Gradually increase your pace by the end of the warm-up period. For especially strenuous activities, such as jumping rope or jogging, warm up for up to 10 minutes.

BE ACTIVE

Slowly increase your physical activity time until you reach your goal of 30 to 60 minutes daily. To condition your heart and lungs, you should engage in your activity in your "target heart rate zone." But don't focus on big goals in the beginning. If you haven't been active in a while, you might start with just 5–10 minutes of activity per day—or whatever amount of time you're comfortable with. Build up gradually. Enjoy yourself.

COOL DOWN

(5 minutes). After being active, slow down gradually. For example, if you've been swimming, begin to do your stroke more slowly, or switch to a more leisurely type of stroke. You can also cool down by changing to a less vigorous activity, such as moving from jogging to walking. This process allows your body to relax gradually. Stopping abruptly can cause dizziness.

STRETCH

It's best to do stretching exercises after your activity period, to increase muscle and joint flexibility. Below are several stretches you can use after your

cool-down period. Each of these moves helps to stretch different parts of your body. Do each stretch slowly and steadily, without bouncing.

- **CALF WALL PUSH.** Stand facing a wall, about 17 feet away from it. Then lean forward and push your hands against the wall, keeping your heels flat. Count to 10 (or to 20 for a longer stretch). Rest. Repeat.
- **HAMSTRING PALM TOUCH.** Stand with your knees slightly bent. Then, bend from the waist and try to touch your palms to the floor. If you can't reach all the way to the floor, just go as far as you can. Count to 10 or 20, then rest. Repeat. If you have lower back problems, do this stretch with your legs crossed.
- **HAMSTRING TOE TOUCH.** Place your right leg level with your hip on a stair, chair, or other steady object. With your other leg slightly bent, lean forward and slowly try to touch your right toe with your right hand. Hold and count to 10 or 20. Repeat with your left hand. Then switch legs and repeat with each hand. Rest. Repeat the entire stretch.
- **OVERHEAD TRICEPS STRETCH.** Bend your right elbow and use your left arm to bring it up behind your head. You should feel a gentle stretch on the outside of your upper right arm. Hold for 10 to 20 seconds. Repeat with the left elbow behind your head. Rest. Repeat.
- **STANDING QUADRICEPS STRETCH.** Place your left hand on a chair or wall for support, bend your right knee, and reach back with your right hand to grab the top of your right foot. Hold for 10 to 20 seconds. Repeat on the left side. Rest. Repeat.

Sources: National Heart, Lung and Blood Institute; CDC

8 Tips for Heart Health

1. Become—and stay—physically active.
2. Balance your calorie intake with the calories you burn in physical activity.
3. Lose weight if you're overweight.
4. If you smoke, stop. Avoid other people's smoke if you can.
5. Control high blood pressure.
6. Control high blood cholesterol.
7. Control diabetes.
8. Choose foods low in saturated fat, trans fat, cholesterol, sugar, and salt. Enjoy more fruits, vegetables, and whole grains.

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