

CARDIOLOGY PATIENT PAGE



Heart-Healthy Exercise

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Approximately 600 000 people die of heart disease in the United States every year, and it is the leading cause of death for both men and women.¹ Coronary artery disease occurs when cholesterol-filled plaque builds up in the coronary arteries that supply blood to the heart muscle. Over time, this plaque buildup can cause significant narrowing of the arteries (called atherosclerosis), which may lead to chest pain (angina) or heart attack. Regular exercise is one of the best treatments to prevent coronary artery disease and to decrease your risk of future events if you already have heart disease.

How Can Exercise Help?

There are many modifiable risk factors for coronary artery disease, including smoking, high blood pressure, high cholesterol, being overweight or obese, poor dietary habits, diabetes mellitus, and inactivity. A major step to reducing the risk of coronary artery disease is to increase daily activity and exercise. Not only can exercise reduce the potential for atherosclerotic plaque formation and progression, but it can

also help reduce other risk factors such as obesity, high cholesterol, and high blood pressure.

What Are Physical Activity and Exercise?

Physical activity is anything that makes the body move and burn calories such as climbing stairs or doing housework. Any increase in physical activity can benefit your health because it decreases the amount of time that you are sedentary.

The most effective exercise for improving heart health is aerobic exercise, which uses large muscle groups in a rhythmic nature such as walking or bicycling. Aerobic exercise improves the ability of the heart to deliver oxygen to working muscles by making the heart and lungs work harder than at rest. As a result, the heart becomes stronger and works more efficiently, leading to increased endurance. For general fitness, it is also important to perform stretches, resistance training, and balance exercises on a regular basis; these will help to improve flexibility, increase strength, and reduce fall risk (Table).

How Much Exercise Should I Do?

The American Heart Association recommends at least 150 minutes per week of moderate exercise or 75 minutes per week of vigorous exercise. The more minutes you exercise, the more health benefits you will gain. Moderate exercise includes activities that cause slight to moderate increases in breathing and heart rate such as walking. Vigorous exercise includes activities that cause larger increases in heart rate and breathing like running.

Moderate exercise should be done on most days of the week for optimal health benefits. You can achieve the benefits of moderate exercise with only 30 minutes a day, 5 days per week. If you cannot exercise for all 30 minutes at once, don't worry. You will still gain some benefit from performing 2 or 3 sessions of 10 to 15 minutes. Just do what you can to get started, and increase the minutes gradually over several weeks. Vigorous exercise may be performed with less frequency (3 days per week) because more frequent sessions can increase the risk of injury.

The information contained in this *Circulation* Cardiology Patient Page is not a substitute for medical advice, and the American Heart Association recommends consultation with your doctor or healthcare professional.

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Table. Benefits of Exercise

Decreases risk factors for coronary artery disease
Improves endurance and strength
Improves circulation
Decreases risk of blood clots
Decreases risk of stroke
Lowers blood pressure
Lowers total cholesterol, raises good cholesterol (high-density lipoprotein)
Promotes weight loss
Reduces risk of type 2 diabetes mellitus
Prevents bone loss
Boosts energy level
Improves mental wellness by relieving stress, tension, anxiety, and depression
Improves sleep quality
Improves self-image and confidence
Helps maintain independence

How Hard Should I Exercise?

First, warm up by starting slowly for the first 5 minutes of an exercise session to allow your heart rate to increase gradually and to loosen and increase blood flow to your muscles. At the end of each session, cool down for 5 minutes to gradually reduce heart rate and

blood pressure and to help bring body temperature back to normal.

Exercise intensity can be measured in several ways. One method is to use a target heart rate range. A general recommendation is a target heart rate range of 60% to 85% of your age-predicted maximum or the maximum heart rate achieved on an exercise stress test. However, you should consult your doctor for an appropriate target range.

Another method is to use the Borg Scale (Figure), which is a subjective way to rate your perceived exertion, or how hard you are working. During moderate exercise, you should have a rating of perceived exertion of 11 to 13 (fairly light to somewhat hard); and during vigorous exercise, 13 to 15 (somewhat hard to hard).

The Talk Test can also be used to monitor how hard you are working. You should be able to speak a full sentence while you are exercising. If you can only gasp a few words, then you are exercising too hard, and if you are able to sing easily, then you are exercising too lightly.

Finally, you should not feel any chest discomfort, lightheadedness, dizziness, or nausea during exercise.

Always report any unusual or distressing symptoms to your doctor.

Tips For Getting More Active

- Before starting an exercise program, check with your doctor to be sure it is safe.
- Choose an activity that you enjoy. You will be much more likely to stick with the program.
- Wear supportive shoes or sneakers and comfortable, loose-fitting clothing.
- Consider walking. Walking is great exercise and can be done without any additional equipment.
- Try home exercise DVDs or active video games.
- Use the buddy system. Ask a family member or friend to join you.
- Schedule exercise into your day like any other appointment.
- Keep an exercise log to track your progress.
- Walk during your lunch break at work.
- Take the stairs instead of the elevator.
- Park farther away from store entrances.
- Stay hydrated and drink extra water when exercising, especially if you tend to sweat.
- Take a break from exercising when you are sick to help your body recover.

Disclosures

None.

References

1. Kochanek KD, Xu JQ, Murphy SL, Miniño AM, Kung HC. Deaths: final data for 2009. *Natl Vital Stat Rep*. 2011;60:37.
2. Borg, G. Perceived exertion as an indicator of somatic stress. *Scand J Rehabil Med*. 1970;2: 92–98.

Additional Resources

American Heart Association Web site. www.heart.org/GettingHealthy.

Thompson WR, Gordon NF, Pescatello LS. *ACSM's Guidelines for Exercise Testing and Prescription*. 8th ed. Philadelphia, PA: American College of Sports Medicine; 2010:152–173.

BORG SCALE	
Rating of Perceived Exertion	
6	
7	Very very light
8	
9	Very light
10	
11	Fairly light
12	
13	Somewhat hard
14	
15	Hard
16	
17	Vary hard
18	
19	Very very hard
20	

Moderate effort



Figure. Borg Scale for rating of perceived exertion.²