

# Got CAD? Get Checked, Go Exercise

## Individual Programs for Daily Fitness

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Most patients with coronary artery disease should engage in individually designed exercise programs to achieve optimal physical and emotional health.

**Exercise is good for just about everyone**, including those with coronary artery disease (CAD). Generally, exercise training improves functional capacity and reduces clinical symptoms. However, patients with CAD are at increased risk for cardiovascular complications during exercise; therefore, the American College of Sports Medicine recommends an individually designed and supervised exercise program.

The determinants for exercise require careful consideration as patients with CAD vary greatly in their clinical status, including the extent of their disease. Diseases include left ventricular dysfunction, potential for myocardial ischemia, and presence of cardiac arrhythmias. Prior cardiac events (myocardial infarction, cardiac arrest), or interventions (coronary artery bypass graft, angioplasty, or other interventions) can be complicated by other medical issues which may often include hypertension, peripheral vascular disease, valvular heart disease, chronic obstructive pulmonary disease (COPD), and diabetes. There is no one size-fits-all exercise program for patients with CAD.

Patients with CAD who wish to exercise should begin by having a comprehensive medical evaluation, physical examination, and a graded exercise test. Often, further evaluation may be indicated for defining any abnormalities that can be managed medically or surgically before getting started. Patients who are identified as high risk for cardiovascular complications during exercise should defer exercise training until these problems are controlled.

Once the CAD patient has been cleared for exercise, the intensity and degree of monitoring and supervision is set, based on the initial clinical and exercise evaluation. Every program should be modified to the individual's cardiovascular and general medical status, and should involve the following exercise considerations:

**Mode:** Varying the mode of exercise keeps exercise interesting for the CAD patient. Working the large muscle groups or continuous exercise such as walking, bicycling, swimming and rowing is appropriate for cardiovascular conditioning. Upper body exercise machines can be useful for those who do not tolerate lower extremity activity for orthopedic or other medical reasons, or when arm activity training is useful for recreation or occupations. Resistance (strength) training is often used in a circuit training format, or cross training, to prevent musculoskeletal overstrain and increase interest level.

**Frequency:** CAD patients usually build towards at least three non-consecutive days per week, though most will integrate forms of activity five to seven days per week after becoming accustomed to exercising routinely.

**Duration:** Generally, 10-minute warm-up and cool-down periods (consisting of stretching and flexibility exercises) serve to book-end the 20- to 40-minute cardiovascular training performed continuously or as interval training. Patients with peripheral vascular disease and intermittent claudication (pain caused by too little blood flow during exercise) may particularly benefit from the interval training which is often paired with resistance training to provide variability and keep workouts fresh.

**Intensity:** Exercise is generally performed at a moderate, comfortable intensity. This can be assessed by a variety of common clinical methods including:

1. 40 to 85 percent of maximal functional capacity
2. 55 to 90 percent of maximal heart rate
3. RPE Rating (Rating of Perceived Exertion)

Lower intensities are indicated for higher risk patients or when exercising outside of supervised conditions, and progression of the CAD patient exercise program should involve a gradual increase in exercise duration and intensity. Patient supervision may involve both direct observation as well as monitoring heart rate and rhythm, and blood pressure.

The risks of major cardiovascular complications of myocardial infarction (MI) and cardiac arrest during exercise underscore the importance of medical evaluation, individualized exercise/activity prescription, and close supervision in a cardiac rehabilitation program.

Most patients with coronary artery disease should engage in individually designed exercise programs to achieve optimal physical and emotional health. The many benefits of these programs include enhanced functional capacity, reductions in symptoms of myocardial ischemia, improvements in blood lipid profiles, weight and hypertension control, and glucose tolerance in diabetic patients. The most successful CAD patient exercise programs involve comprehensive medical evaluation and assessment, appropriate supervision, and a selection of appropriate exercises and recommended progressions.

The Tamkin Cardiac Wellness Program at Eisenhower Medical Center's Renker Wellness Center has been a nationally accredited program since 2009 by the American Association of Cardiovascular and Pulmonary Rehabilitation and offers a comprehensive, individualized exercise and education program. Patients receive eight to 12 weeks of medically supervised exercise, which includes educational sessions addressing heart disease risk factors, medication, stress management and nutrition. Additionally, free education and support sessions are given specifically for people with cardiac and lung disease, diabetes and heart failure, and those who are on anticoagulant medications. For more information, call 760-773-2030.