Cardiovascular disease

Cardiovascular disease is the term used to describe diseases affecting the heart and circulatory system, and includes heart disease, stroke and raised blood pressure (hypertension).

Exercise, particularly aerobic conditioning and strength training, is one of the key interventions that can prevent death and disability from cardiovascular disease. Physical therapists are experts in prescribing these as part of a structured, safe and effective programme.

For those already affected by cardiovascular disease, the expert advice provided by physical therapists can help bring a return to usual roles. Physical therapists help people achieve a return to work, education, community participation and fulfilled lives.

Cardiovascular general

Cardiovascular disease is now the leading cause of deaths worldwide. Globally, 17.5 million people died from cardiovascular disease in 2005, 30% of all deaths. 7.6 million were due to coronary heart disease and 5.7 million due to stroke. It is estimated that by 2015 almost 20 million people will die from cardiovascular diseases (mainly heart disease and stroke).


The death and disability rates caused by heart disease and stroke for every country are available at:

It has been estimated that if everyone walked briskly at 4.8-6.4 kph (3-4 mph) on most days of the week, about 30% of deaths from cardiovascular disease would be prevented each year.

http://content.nejm.org/cgi/content/abstract/347/10/716
Research involving people at risk of cardiovascular disease has indicated that exercise supervised by physical therapists, along with counselling from a dietician, brings significant improvements in blood pressure, weight, quality of life and other health indicators after one year.


Raised blood pressure

Raised blood pressure, which is a risk factor for heart attack and stroke, can be controlled by exercise. One study has indicated that endurance exercise brings an average reduction of 10mm Hg for both systolic and diastolic blood pressure readings.


The type of strength training prescribed by physical therapists can effectively reduce blood pressure in older men and women.


Major analyses of available research have indicated that exercise can reduce resting blood pressure by 3 mm Hg for resting systolic blood pressure.


This type of blood pressure reduction has been associated with a 5-9% reduction in heart morbidity, and a 8% to 14% reduction in the risk of stroke.


Stroke

Exercise reduces the risk of stroke. Walking at 4.8 kph (3 mph) for 5 hrs/wk brings a 46% lower risk of stroke, compared with non-exercisers.

Structured exercise also brings improvement in all measures of impairment and disability in people who have had a stroke. 


In one study, patients who had had a stroke performed strengthening and functional tasks three times a week for four weeks, and gained significant improvements in strength, walking speed, standing/sitting and endurance. 


**Heart disease**

Systematic reviews of evidence have shown that therapeutic exercise provided by physical therapists is beneficial to people with coronary heart disease, heart failure and chronic obstructive pulmonary disease. 


Reviews of evidence have shown that exercise-based cardiac rehabilitation for patients with coronary heart disease significantly improves health outcomes and mortality rates. 


This information may be freely reproduced with acknowledgement to WCPT. It is designed as a resource, and does not necessarily represent an official WCPT view or policy. It was produced with the kind assistance of Julie Redfern

© World Confederation for Physical Therapy 2009.