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How does exercise help my heart and arteries?

What evidence is there to show that exercise reduces the risk factors of mortality ?

- "Thirty minutes of moderate intensity activity produces a cardio respiratory fitness level that is associated with a 50% lower mortality rate than that observed in an unfit individual."

- "Habitually, physically active survivors of myocardial infarction are up to 25% less likely to die than sedentary (inactive) counterparts."

- Endurance type physical activity for people with hypertension has been found to result in a decline in blood pressure of 5 to 7 mmHg in systole (heart contraction) and diastole (heart relaxation) respectively.

What conditions or risk factors related to the cardiovascular system has exercise been shown to be beneficial for?

- Hypertension
- Diabetes ("adults with diabetes 2 to 4 times more likely to suffer a cardiac event, such as a heart attack or stroke)
- Obesity ("risk of premature death almost doubles at body mass indexes between 25 and 32, and at severe obesity levels, as measured by a body mass index of 40 or greater, there is a 12 fold risk of mortality compared to lean individuals.")
- Stroke or Peripheral Vascular Disease
- Heart Failure or Acute Myocardial Infarction (heart attack)
- Individuals who have had angioplasty or Coronary Artery Bypass Grafts
- Individuals with implantable cardiac devices, pacemakers or congenital or valvular heart disease

What exercise can help me?

- Cardiovascular exercise which gets the heart and lungs going such as:
    - Walking
    - Dancing
    - Cycling
    - Swimming
    - Rowing

- Resistance exercise such as lifting weights or your own body weight.

- Stretching exercises for flexibility and mobility.

How does exercise improve the health of the heart, arteries and mind?

Effect on the body	Outcome
1. Reduced hardening and inflammation of the walls of the arteries.	1. Clots less likely to form in the arteries
2. Reduced lipids (fats) leading to less chance of plaque formation in the artery.	2. More room for blood to flow so reduced blood pressure.
3. Reduced body weight & improved insulin sensitivity.	3. Improved management of co-morbidities obesity & diabetes.
4. Increased substances which improve artery health such as Nitric Oxide and reduced substances which inflame arteries such as Endothelin and blood glucose.	4. Healthier arteries therefore reducing the risk of stroke, peripheral vascular disease and all forms of heart disease
5. Increased efficiency of the heart to get blood and oxygen to the muscles and improved efficiency of the muscles to get oxygen from the blood.	5. You can do more exercise without getting breathless or fatigued.
6. Increase muscle strength, endurance and tone	6. You can do more exercise with less fatigue so you daily life is easier. Your joints are more stable and supported therefore you will have less risk and better control of arthritis, lower back and knee pain.
7. Improved psychological Wellbeing and confidence in yourself	7. Improved control of stress and confidence to enjoy the physical activities such as playing with the grandchildren, gardening or golf.

Green Lights – Criteria for safe exercise:

- **<u>Approval from General Practitioner to undertake exercise.</u>**
- Able to recite a line of the national anthem before taking a breath.
- An increase in breathing rate without puffing and panting.
- My Rating of Perceived Exertion should be between 10 and 13. (somewhat hard) using the Borg rating of Perceived Exertion. (available at PACE Exercise Physiology)
- Heart Rate in target heart rate zone identified for me when exercising. (PACE Exercise Physiologist will show you how to find your heart rate and identify a safe heart rate for you)

Red Lights – Unsafe exercise and the bodies signals that tell us that.

If you experience any of the following symptoms you should stop immediately and call for medical assistance:

- Squeezing, discomfort or pain in the centre of the chest and or spreading to the neck jaw or arms
- Symptoms similar to previous cardiovascular event. (AMI)
- Dizziness, light headed or faint or difficulty breathing
- Excessive fatigue, sweating or nausea
- Leg ache reducing the function of the leg
- **DIABETICS: shakiness, tingling lips, hunger, weakness, palpations, feeling irritable**

The following activites will increase your blood pressure and therefore risk of cardiac events:

1) Holding your breath
2) Heavy lifting
3) Holding you body in the one position for a long period of time.
4) Avoid prolonged periods where your head is lower than your heart.

What can I do in my daily life to increase my exercise? As exercise and nutrition are your best tools to maintaining your health increasing incidential exercise and making exercise a priority each day is simple once you become aware of all the opportunities around you.

Here are some ideas:

1) Cancel the paper delivery and walk down to get your paper.
2) Do not use the remote control, get up to change channels.
3) When getting a lift with someone ask them to drop you off 1 kilometre away from your house and walk the rest of the way
4) Organise social activities around exercise, meet friends for a walk instead of lunch.
5) Take the stairs instead of the elevator.
6) Establish habits for yourself by scheduling your exercise like an appointment with yourself – always walk after breakfast or after the morning news for example
7) Set goals for your exercise, aim to slowly improve your walk times or repetitions of an exercise.
8) Write down and record an exercise routine – include the type of exercise, the number of repetitions, distance or time so you can see your improvement
9) Try to repeat some of the exercises you learnt at our sessions at home.
10) Make exercise a priority, commit yourself to the goal of reaching 30 minutes exercise per day.

A Pace Exercise Physiologist can provide you with an exercise program suited to your needs. Please contact PACE on (03) 9770 6770 or visit www.pacehm.com.au for more information.

References:

Adjournment Speech, Senator Kate Lundy, Shadow Minister for Sport and Recreation, September 2, 2003 " Trends and Challenges Related to the Rising Incidence of Obesity." www.katelundy.com.au

Shepard. P. R. & Kahn, B. B (1999) Glucose transporters and insulin action. *New England Journal of Medicine, **341** (4), 248 – 257*

Franklin. B, Bonzheim.K., Gordon.S. et al. *Safety of medically supervised outpatient cardiac rehabilitation exercise therapy:* a 16 year follow- up. Chest 1998;114:902-906

National Heart Foundation Physical activity recommendations for people with cardiovascular disease

Jollife, J.A., Rees.K., Taylor. RS et al *Exercise-based rehabilitation for coronary heart disease. Cochrane Database* Syst Rev 2000: (4): CD01800.

Age predicted maximal heart rate equation obtained from *Tanaka.H., Monahan.K., Seals.D., Journal of the American College of Cardiology,* 37 (1), 2001, 153-156

Low and Moderate Intensity heart rate zones obtained from *National Heart Foundation ' Recommended Framework for Cardiac Rehabilitation 04.*

Peninsula Private Hospital (June 2005). Diabetes- Hypoglycaemia Management Guidelines. *Clinical Protocol – General Nursing Approved by Physicians Committee*

Type 2 Diabetes and Cardiovascular Disease: Increase your understanding, Lower Your Risks. *Merck Sharp & Dohme and Schering-Plough Pty Ltd (2003)*