

# Cardiac Rehabilitation

Cardiac rehabilitation (CR) helps patients is about enabling people to take responsibility for their own health. It attempts to offer the patient a healthier and improved quality of life (QoL) by means of appropriate education, counselling, exercise and behavioural change. Exercise – based CR is currently underused, even though exercise is one of the few non surgical interventions that can make heart disease cardiac patients feel better both physically and mentally (Thompson, 2001).

The relative importance of physical activity for patients with so called "disorders of the chest" was noted some two hundred years ago. Heberden (In 1772), Heberden published a report in which he described a six- month exercise programme for one of his male patients, who had a diagnosed chest disorder. The programme consisted of 30 minutes of daily sewing activity. In 1799, Parry independently noted the beneficial effects of physical activity in his patients who suffered from chest pain. However, in 1912, Herrich expressed concern regarding physical exertion and the increased risks that it brought along with it. This precipitated the adoption of a conservative treatment approach in which patients were kept in bed for six to eight weeks post myocardial infarction (MI) (Certo, 1985).

Physical inactivity for coronary patients was reinforced in the 1930's by two physicians, Mallory and White (1939). They found that necrotic myocardial region

transformed into scar tissue in about six weeks. Thus they advised a minimum of three weeks in bed for patients who suffered even the slightest MI. Continued limited physical exercise was prescribed after patient hospital discharge. Stair climbing was often prohibited, in some cases for up to a year. During this so called convalescent period, the patient's tendency to become an invalid was enhanced. Frequently, patients did not return to work and were soon considered to be non-productive members of society (Certo, 1985).

An important landmark in the development of cardiac rehabilitation (CR) happened in the 1950's. Dwight Eisenhower, then President of the United States, suffered a heart attack whilst in office. His physician was Paul Dudley White, a man strongly committed to the positive effects of exercise. He prescribed graded levels of exercise, including swimming, walking and golf for his patient. The result turned out to be so positive for President

Eisenhower that he created the President's Youth Fitness Council, which was later to be renamed the President's Fitness Council by President Kennedy (Certo, 1985).

CR is now a world wide routine programme followed by varied groups of individuals with a medical history of cardiac disease, or groups who have undergone heart surgery, including Coronary Artery Bypass Graft (CABG) and Percutaneous Transluminal Coronary Angioplasty (PTCA).

The physiotherapist has a vital role throughout CR. In the early management of patients following coronary artery surgery, the prevention of post-operative pulmonary complications is the primary aim of physiotherapy. Breathing exercises are taught in order to improve ventilation distribution and, together with effective coughing, enhances the clearance of excess retained bronchial secretions, thus aiding in the prevention of atelectasis (lung collapse) and infection (Stiller et al, and Munday, 1992).

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Furthermore, passive, active – assisted and active trunk, shoulder girdle and lower limb exercises, are used to maintain joint range of motion (ROM) and prevent post-operative postural abnormalities and joint problems (Kieran et al, et al., 1993).

Patients who have undergone CABG or PTCA, may experience some spontaneous recovery of exercise capacity even if they do not participate in exercise training. However the recovery time may be longer, and the extent of recovery is usually less than that of patients who are undergoing

exercise training (Lan et al,et al., 2002). Other researchers, comment that the quality of life (QoL) is often worse during the initial months after surgery than it had been prior to surgery. It is at this stage that patients should be introduced to CR programmes.

Patients completing rehabilitation programmes which include exercise, tend to experience a decrease in blood pressure, weight loss, improved muscle tone, increased exercise capacity and tolerance, decreases decrease in debilitating symptoms, as well as a general improvement in cardiac functioning (Barber et al, et al., 2001). It is however highly

important for patients to attend cardiac rehabilitation sessions, so that they can be guided by a physiotherapist on the sufficient intensity of the exercises that should be carried out. Therefore maximumal benefit can thus be achievedobtained, and patients can be taught how to exercise to an intensity which is both safe and effective.

In the long run, behavioural lifestyle modification, in combination with physical exercise are is more effective at relieving symptoms in people with heart disease than a major surgical procedure and it definitely is much more cost effective. .(Circulation, 2004). 