

## Exercise in dilated cardiomyopathy

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Dilated cardiomyopathy is defined as a primary heart muscle disorder characterised by a dilated, poor functioning left ventricle. The main functions of the heart pumping and relaxing are impaired.



As a result of this, the exercise capacity can be diminished causing increased tiredness, fluid retention and shortness of breath.

Symptoms at the time of presentation are very variable; the range from none to severe limitation. The symptoms reflect the incapacity of the heart muscle to cope with the human body's activities; this is why we call it heart failure.

There are different grades of limitations; one of the commonest ways to classify the limitations is the New York Heart Association (NYHA) grade of dyspnea (difficulty in breathing).

### **NYHA classification of heart failure**

#### *Class I: asymptomatic (no symptoms)*

No limitation in physical activity despite presence of heart disease.

This can be suspected only if there is a history of heart disease which is confirmed by investigations - for example, echocardiography.

#### *Class II: mild*

Slight limitation in physical activity. More strenuous activity causes shortness of breath - for example, walking on steep inclines and climbing several flights of steps. Patients in this group can continue to have an almost normal lifestyle and career.

#### *Class III: moderate*

More marked limitation of activity which interferes with work. Walking on the flat produces symptoms

#### *Class IV: severe*

Unable to carry out any physical activity without having symptoms. Patients are breathless at rest and mostly housebound. There are also different stages of the disease - the acute phase and the chronic or stable phase. In the stable phase, optimum therapy has been achieved and although there can still be symptoms these are well controlled with the medication. It has been proven that regular exercise can improve heart failure symptoms. This statement applies to those with mild to moderate symptoms and excludes those with severe limitation where exercise can precipitate acute fluid lung retention and rhythm disturbances.

### **What is the best type of exercise?**

Aerobic exercise has the most benefits for your heart. Over time, aerobic exercise can help decrease your heart rate and blood pressure and improve your breathing (since your heart won't have to work as hard during normal, everyday life). Aerobic exercises include walking, jogging, skipping, bicycling (stationary or outdoor), cross country skiing, skating, rowing, and low-impact aerobics or water aerobics.

### What frequency and intensity are recommended?

In general to achieve maximum benefits you should gradually work up to an aerobic session lasting 20 to 30 minutes at least three to four times a week.

Exercising every other day will help you keep a regular aerobic exercise schedule. Every session needs to include warm-up, conditioning and cool down. The intensity of the exercise can be graded as Rated Perceived Exertion Scale (RPE). It ranges from 0 to 10 and it relates to how easy or difficult an exercise session is. 0 would be not difficult at all; no changes in respiratory rate and 10 would be what you feel after a very heavy session. The recommended level of exercise is 3 to 4 (moderate to somewhat heavy). This scale is per individual so it is important not to compare yourself with others. The scale measures the way you feel when doing exercise.

### Is it important to be aware of your heart rate (HR)?

If the heart works very fast it can consume excess energy and as the body is unable to compensate for this increase signs of heart failure will appear. We can calculate our maximal heart rate predicted (MHRP) with the following formula: 220 minus your age. The target recommended HR zone is between 60 and 80% of the MHRP. To start safely, the target zone should be no more than 50 per cent of MHRP and certainly never more than 85 per cent of MHRP.

### What are the main benefits of exercise?

It:

- strengthens your heart and cardiovascular system
- reduces your heart disease risk factors, such as high blood pressure and being overweight
- improves your circulation and helps the body use oxygen better
- improves your heart failure symptoms builds energy levels so that you can do more activities without becoming tired or short of breath
- improves muscle tone and strength
- reduces body fat and helps you reach a healthy weight
- reduces stress, tension, anxiety and depression



### Precautions

The onset of chest pain, palpitations, dizziness or severe shortness of breath while exercising should be discussed with your doctor. Be safe, use good equipment, stay well hydrated and be rigorous in self-monitoring. Remember exercise should be fun! Take it at your own pace.

### Cardiac rehabilitation programmes

Cardiac rehab includes a global concept beyond pure exercise training. The programme includes education, resources, tailored exercise programmes, strong emphasis in changing your risk factors and emotional support. It is designed to ensure safety and long term results. This is the ideal set up but unfortunately is not widely available for heart failure patients.

### **Research and resources**

The European Working Group of Cardiac Rehabilitation produces guidelines as well as leading research on the benefits of exercise on cardiovascular diseases and heart failure. On-going questions are for example the role of exercise for those with severe disease and particularly those on a heart transplant list preliminary results suggest a possible benefit.

### **Summary**

There is a great deal of evidence that exercise benefits those who have asymptomatic heart disease and those with mild to moderate symptoms. Do consult your doctor about what exercise is best for you.