



*Aging & Chronic Diseases*

# Cardiac rehabilitation in chronic heart failure: a guideline

## Dutch practice guideline

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Chronic heart failure (CHF) is defined as 'a complex of signs and symptoms associated with a structural or functional abnormality of the heart'.

CHF involves peripheral and central changes resulting in reduced exercise capacity. The most frequent causes of CHF are hypertension and coronary artery disease; less frequent causes include heart valve diseases, arrhythmias and viral infections. The prevalence and incidence of CHF increases with age, and has an adverse overall prognosis with a 5-year mortality rate of 45 %. In Dutch CR centres, there is considerable variation in the methods for determination of exercise intensity training, training intensity and volume.

This guideline outlines best practice standards for physiotherapists concerning exercise-based CR in CHF patients. An extensive literature search was performed to assess efficacy of CR in all phases (clinical, outpatient and post-CR).

The guideline elaborates on 6 recommendations in the different phases.

1. early, functional mobilisation in ICU/CCU, treatment of pulmonary symptoms as needed, and education on coping with CHF.

2. aerobic endurance and/or (high intensity) interval training, directed by personal goals and individually directed by VO<sub>2</sub> peak measurements.

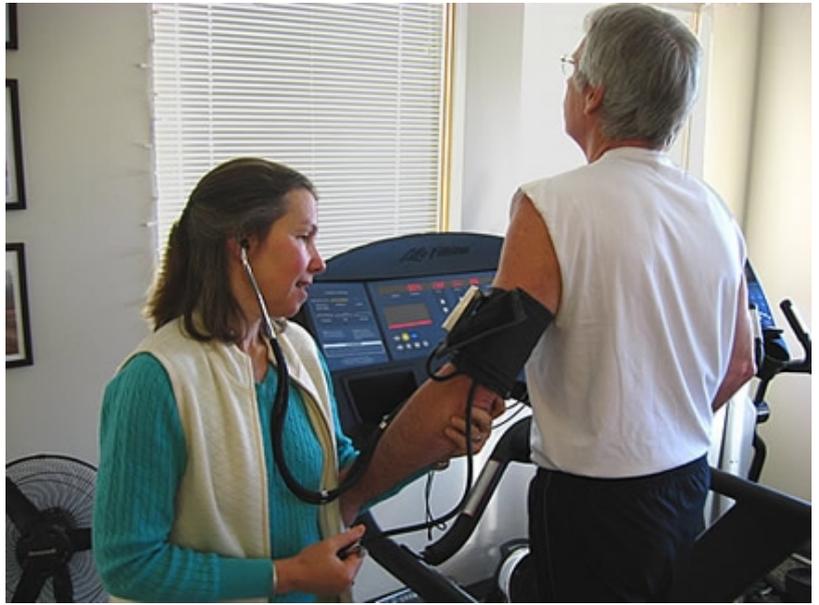
3. submaximal strength training

4. inspiratory muscle training (IMT) to reduce dyspnoea and for patients with piMax < 70%.

5. relaxation therapy (6-8 session, 60-90 minutes) should be included in the physical training program.

6. continuation of a physically active lifestyle, preferably supervised.

This guideline is the first guideline for physiotherapists that provides practical guidance on how to tailor an exercise training program with respect to intensity and duration individually, using results of a maximum or symptom-limited exercise test with respiratory gas analysis.



> From: Achttien et al., *Neth Heart J.* 23 (2015-01-26 10:40:39) 6-17 (Epub ahead of print). All rights reserved to The Author(s). [Click here for the online summary.](#)



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