KNGF Guideline
Cardiac Rehabilitation

Chronic heart failure

Diagnostic process

Medical referral information from patient's cardiologist
- medical diagnosis
- relevant diagnostic details
- results of maximum or symptom-limited exercise test
- relevant comorbidity
- prior history, cardiac & non-cardiac
- medication (type, dosage)

Screening and intake
- by professional from MDT, usually the cardiac rehabilitation coordinator

Interventions
- information program
- training program
- relaxation program
- behavior modification program
- lifestyle program
- psychological program

MDT
- cardiac rehabilitation coordinator
- cardiac rehabilitation cardiologist
- nurse
- dietician
- physical therapist
- social worker
- health psychologist
- other disciplines if necessary

Supplementary intake by different disciplines

1. Physical functioning affected / threatened?
2. Psychological functioning affected / threatened?
3. Social functioning affected / threatened?
4. What is the cardiovascular risk profile?
5. Any unhealthy behavior?

Diagnostic process for physical therapy

History-taking
- presenting problem / target activity level (PSC)
- assessment of activity level before current health problem arose (SWT)
- assessment of health status (nature, course, prognosis)
- assessment of current state
- other information
  - personal details (social, environment)
  - motivation
  - need for information

Examination
- assessment of impairments, activity limitations and health problems that may influence the choice of exercise activities in the rehabilitation program
- assessment of functional exercise capacity (SWT)

Analysis
1. assessment of health status and current functional exercise capacity
2. physical impediments
3. other (internal or external) factors
4. future target situation
5. is target situation feasible within the limits of patient's abilities
6. opportunities to reduce health problem, i.e. improve functions, activities and participation

Designing treatment plan
Rehabilitation goals
- specific goals
  1. optimizing exercise capacity
  2. physical impediments
  3. event rate with physical abilities
  4. reducing dyspnea, fatigue and inactivity
- general goals
  1. exploring own physical limits
  2. learning to cope with physical limitations
  3. overcoming fear of physical exertion
  4. developing a physically active lifestyle

Informing / advising
- improving patient's understanding of heart disease and rehabilitation
- lifestyle information / education
- recognizing signs of deterioration of heart failure (decompensation)
- encouraging compliance, active lifestyle and work resumption
- promoting suitable way to handle symptoms and exertion in daily life (dyspnea and fatigue)

Tailored training program
- patient's wishes / abilities
- patient's exercise capacity
- patient's individual goals
- physical improvements to be expected

Relaxation program
- reducing tension
- regulating breathing
- promoting body awareness

Selecting priorities for exercise program
- practicing skills and activities
- training aerobic (general) exercise capacity
- training local strength endurance of peripheral muscle groups and / or respiratory muscles
- training functions / activities to develop enjoyment of exercise, reduce physical inactivity and reduce risk factors

Selecting training activities
- practicing functional skills and activities for ADL, work and/or hobbies / field training / sports and games / fitness / aerobic / swimming / ergometers / exercising in water / relaxation

Selecting exercise variables
- aerobic training: intensity / frequency / duration / work/rest intervals / structure of training program
- strength training: external resistance / speed / number of repetitions and sessions / recovery intervals

Implementation of program
- interim and final evaluation, adjusting program if necessary

Consultations with MDT and start of aftercare phase (Phase III)
- monitoring lifestyle after 6 and 12 months
- maintenance training > 60% VO2max
  - primary care physical therapy practice / certified exercise facility
  - independence
  - primary care physical therapist / certified exercise facility
- network including primary care practice and hospital or rehabilitation center where cardiac rehabilitation took place

Relevant information for physical therapist
- (medical) diagnosis
- relevant diagnostic (e.g. > 3 weeks hemodynamically stable) and prognostic referral information on patient's physical condition
- all individual rehabilitation goals, especially goals for physical training and possible impediments to physical training, such as anxiety, dysfunctional coping style, compensation risk and comorbidity
- results of maximum or symptom-limited exercise test with gas analysis
- settings of ICD or pacemaker, if present (safe heart rate range for training)
- all medications (type, dosage)
- information relevant to work resumption (mostly for younger patients), prognosis and family information (social support)
- diagnosis for physical therapy

* The training program is part of the multidisciplinary cardiac rehabilitation. For locations of cardiac rehabilitation see the Preface and the introduction to the Verantwoording & Toelichting (review of the evidence) document.

ICD = implantable cardioverter defibrillator; MDT = multidisciplinary cardiac rehabilitation team; PSC = patient-specific complaints; SWT = shuttle walk test; VO2max = maximum oxygen uptake

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Consult the full Guideline on www.kngfrichtlijnen.nl
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