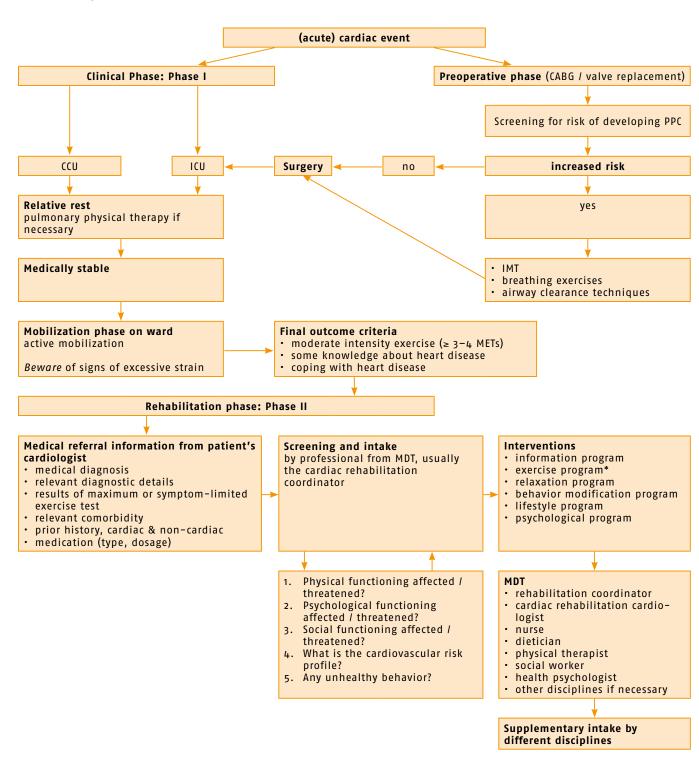
KNGF Guideline

Cardiac Rehabilitation



Coronary heart disease



* The exercise program is part of the multidisciplinary cardiac rehabilitation.

6MWT = Six-minute walk test; CABG = coronary-artery bypass graft; CCU = coronary care unit; ICD = implantable cardioverter defibrillator; ICU = intensive care unit; IMT = inspiratory muscle training; MDT = multidisciplinary cardiac rehabilitation team; MET = metabolic equivalent of task; PPC = postoperative pulmonary complications; PSC = patient-specific complaints; SWT = shuttle walk test; VO_{2max} = maximum oxygen uptake

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Diagnostic process for physical therapy

History-taking

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

Examination

restrictions

and health

the choice

of exercise

program

exercise

or 6MWT)

assessment

of functional

capacity (SWT

problems that

may influence

activities in the

rehabilitation

assessment of assessment of health impairments, status and current activity functional exercise limitations, capacity physical impediments participation

Analysis

- other (internal or external) factors
- impeding recovery 4. future target situation can impediments be

reduced?

opportunities to reduce health problem, i.e. improve functions, activities and participation

Designing treatment plan Rehabilitation goals

- exploring own limits
- 2. learning to cope with physical limitations
- optimizing exercise capacity
 diagnostic: evaluating changes in exercise capacity over time and relations between symptoms and objectifiable defects
- 5. overcoming fear of physical exertion
- developing / maintaining physically active lifestyle

Therapeutic process

Relevant information for physical therapist

- medical diagnosis
- relevant diagnostic and prognostic referral information on patient's physical condition
- all individual rehabilitation goals, especially goals for physical exercise and possible impediments to physical exercise, such as anxiety, dysfunctional coping style and comorbidity
- settings of ICD or pacemaker, if present (safe heart rate range for exercise)
- results of maximum or symptom-limited exercise test
- risk profile
- all medications (type, dosage)
- diagnosis for physical therapy
- information on occupational situation (so rehabilitation can be adapted to this) and prognosis
- any relevant further information about family

Informing / advising

- improving patient's understanding of heart disease and rehabilitation in relation to physical functioning
- encouraging compliance, active lifestyle and work resumption
- promoting suitable way to handle symptoms (including anxiety reduction)

Tailored exercise program

- patient's wishes / abilities patient's exercise capacity
- patient's individual goals

Relaxation program

- reducing tension
- promoting body awareness

Selecting priorities for exercise program

- practicing skills and activities
- training aerobic (general) exercise capacity
- training local strength endurance
- training functions / activities to develop enjoyment of exercise
- training to reduce risk factors (hypertension, diabetes mellitus, overweight / obesity, inactivity)

Selecting exercise activities

practicing functional skills and activities for ADL, work or hobbies / field exercises / sports and games / fitness / aerobics / swimming / ergometers / exercising in water / relaxation

Selecting exercise variables

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

Implementing program

interim and final evaluation, adjusting program if necessary

Consultations with MDT and start of aftercare phase (Phase III)

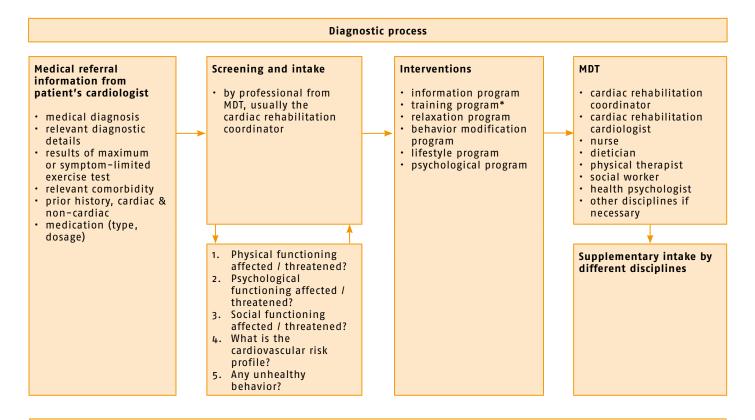
- monitoring lifestyle after 6 and 12 months
- maintaining physically active lifestyle
- inactive lifestyle? see KNGF guidelines for exercise intervention for coronary heart disease (KNGF-standaard Beweeginterventie Coronaire Hartziekte; in Dutch)

KNGF Guideline

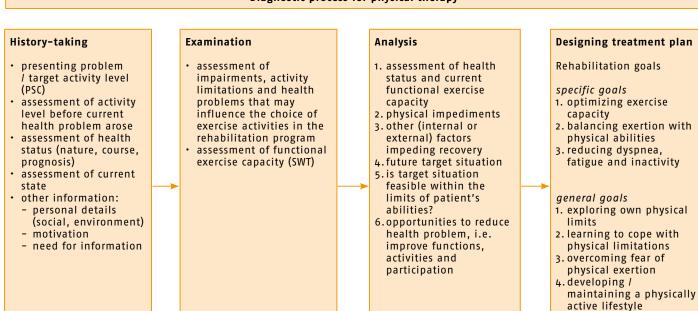
Cardiac Rehabilitation



Chronic heart failure



Diagnostic process 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; VO_{2max} = maximum oxygen uptake

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Therapeutic process

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, decompensation 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 familiy information (social support)

patient's wishes / abilities

patient's exercise capacity

patient's individual goals

diagnosis for physical therapy

Informing / advising Tailored training program

- · improving patient's understanding of heart disease and rehabilitation regarding physical functioning
- lifestyle information / education recognizing signs of deterioration
- of heart failure (decompensation) encouraging compliance, active
- lifestyle and work resumption

program

promoting suitable way to handle symptoms and exertion in daily life (dyspnea and fatigue)

Selecting priorities for exercise

- practicing skills and activities
- training aerobic (general) exercise capacity

physical improvements to be expected

- and encouraging physical activity training (local) strength endurance of peripheral muscle groups and I or inspiratory 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
- / aerobics / 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

program if necessary

interim and final evaluation, adjusting

Consultations with MDT and start of aftercare phase (Phase III)

- monitoring lifestyle after 6 and 12 months
 maintenance training ≥ 60% V0_{2max}
 primary care physical therapy practice / certified exercise facility
- maintenance training < 60% VO_{2max}
 - independently
 - primary care physical therapist I certified exercise facility
- · network including primary care practice and hospital or rehabilitation center where cardiac rehabilitation took place

Relaxation program

- reducing tension
- regulating breathing
- promoting body awareness