

What can the sport cardiologist learn from the sport therapist

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Characteristic: exercise therapist – patient relationship

- ✓ exercise therapy as a core component of the cardiac rehabilitation (CR) process (> 50%)
- ✓ exercising together establishes special patient – therapist relationship
- ✓ the exercise therapist learns to know the patient best during the rehabilitation
 - ✓ familiar and/or occupational pleasures and problems
 - ✓ insecurity, anxiety, motivation, preferences
 - ✓ problems and barriers to fulfil the demands of the CR and lifestyle changes he is confronted with during CR



Characteristic: exercise therapist – patient relationship

- ✓ Supervision of the intervention gives the best opportunity to observe how the patient reacts
 - ✓ meeting his needs – interests – preferences?
 - ✓ motivation?
 - ✓ is he enjoying the participation – having fun?
 - ✓ is he relaxed, anxious, depressed?
 - ✓ exercise intensity adequate?
 - ✓ exercise volume adequate?
 - ✓ contents of exercise program adequate?
 - ✓ occurrence of symptoms i.e. arrhythmia, ischemia ?
 - ✓ musculoskeletal problems?
 - ✓ problems related to co-morbidities?
 - ✓ ...

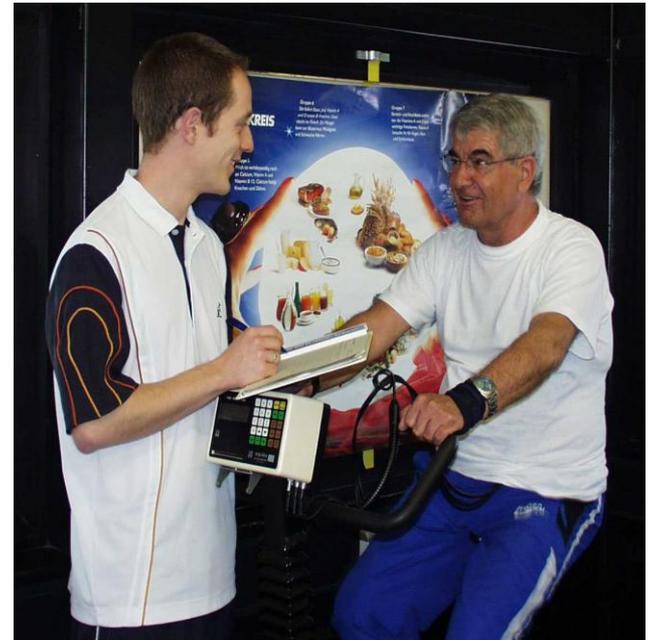


Characteristic: exercise therapist – patient relationship

The exercise therapist is an important connector between the patient and other members of the interdisciplinary team including the sport-cardiologist.

As a “person of trust” his information and “diagnosis” should be considered invaluable

He is “also” an expert in making individually adapted exercise prescription!



Objectives of exercise based training interventions in cardiac rehabilitation

Primary objective

- to positively influence disease progression and prognosis.

Main secondary objectives

- improvement in the symptom-free exercise tolerance
- improvement in overall quality of life.



Objectives of exercise based training interventions in cardiac rehabilitation

Secondary objectives

- overcoming cardiovascular and musculoskeletal limitations caused by inactivity
- **to improve**
 - ✓ mobility
 - ✓ independence
 - ✓ psychological well-being
 - ✓ social and occupational re-integration
 - ✓ cardiovascular risk factors
- **to reduce the need for future home-care**



Objectives of exercise based training in cardiac rehabilitation

These goals will only be achieved if we manage to motivate the patient to change his attitude and take up a regular physical activity and exercise training, optimally to continue this for the rest of his life.



Careful clinical evaluation including: risk stratification, symptom limited exercise testing

Personal characteristics and diagnostic results i.e.
age, gender, cardiac diagnosis, exercise tolerance, functional capacity, risk factors, co-morbidities

Patient

Behavioural characteristics i.e.
motivation, preference, exercise experiences, physical activity level, social support barriers to increase physical activity

Individual objectives of the exercise program

Individual exercise prescription and training protocol

Individually dosed and adapted exercise training

Control of efficacy

Modification and adaptation of the exercise prescription and training protocol referring to the patients objective medical and subjective health status.

Special groups with special needs

Old, very old and frail patients

- Objectives: participation, mobility, independency - enable the patient to take up his further life

How can we comply their special needs?

- ✓ endurance training performed on a cycle or treadmill ergometer?
- ✓ moderately dosed resistance training ?
- ✓ balance- and coordination training ?
- ✓ training of flexibility?
- ✓ walking – or even safety training with their walking frame?
- ✓ - ...

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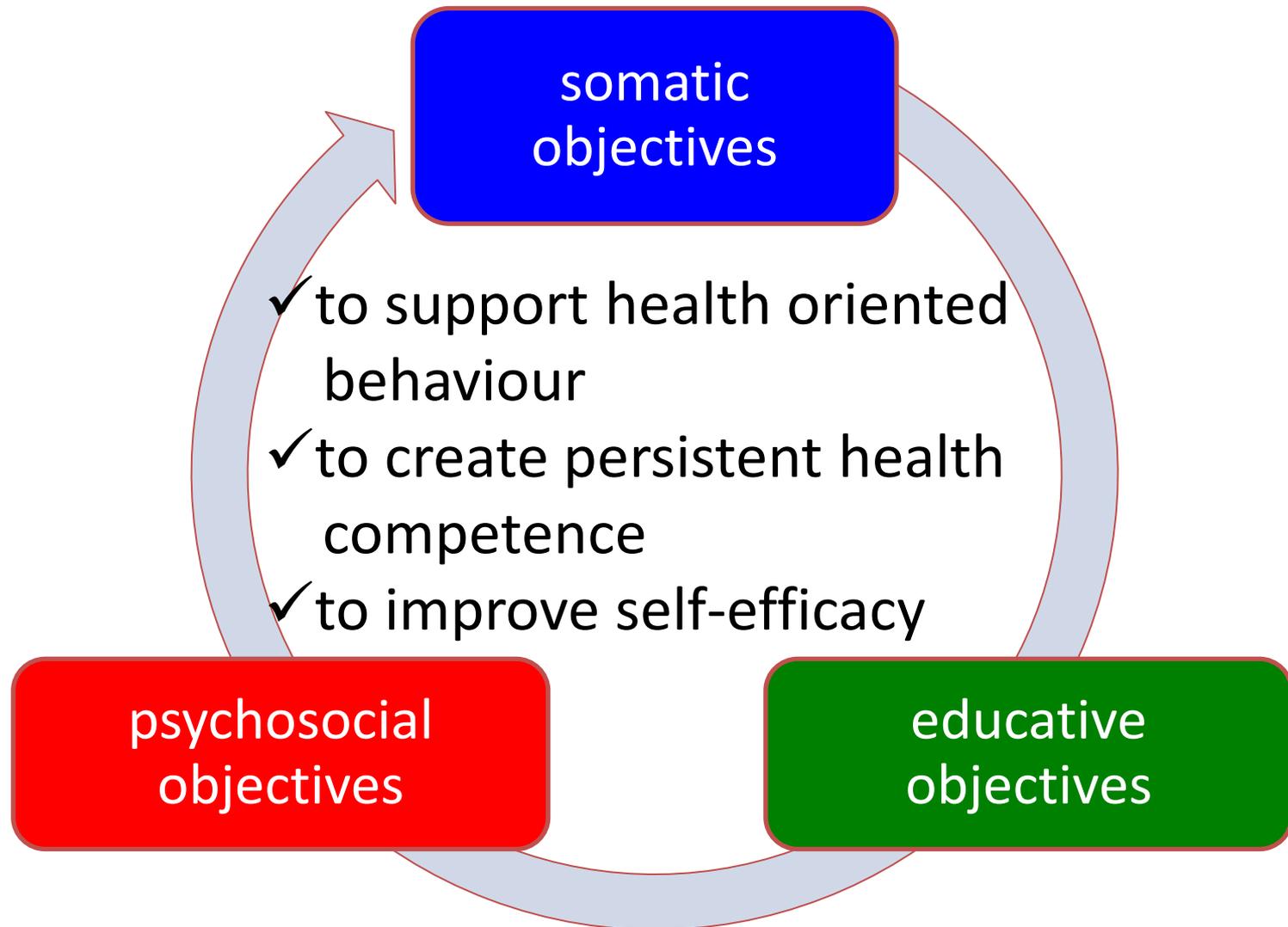
Individual exercise prescription and training protocol

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Objectives of exercise based training interventions



Objectives of exercise based training interventions

somatic
objectives

- ✓ to positively influence disease progression and prognosis
- ✓ to overcome cardiovascular and musculoskeletal limitations caused by inactivity
- ✓ to improve symptom-free exercise tolerance
- ✓ to improve coordination, flexibility and muscular strength
- ✓ to improve mobility and level of independency
- ✓ to positively influence cardiovascular risk factors

psychosocial
objectives

educative
objectives

Objectives of exercisebasedtraining interventions

psychosocial
objectives

- ✓ to improve body awareness and perception, especially the patient's perception of stress during exercise training
- ✓ to reduce the patient's anxiety for overload during exercise training
- ✓ to improve the patient's realistic judgement of his individual exercise tolerance
- ✓ to impact positive experience of physical activity and exercise training
- ✓ to improve psycho-social well-being and coping with the disease
- ✓

Somatic
objectives

educative
objectives

Objectives of exercisebasedtraining interventions

educative
objectives

- ✓ to improve practical skills of self-control and adequate handling during physical activity and/or exercise training
- ✓ to improve knowledge of the impact and health benefits of regular physical activity and exercise training
- ✓ to implement a physically active life-style
- ✓ to improve long-term compliance to life-style changes

psychosocial
objectives

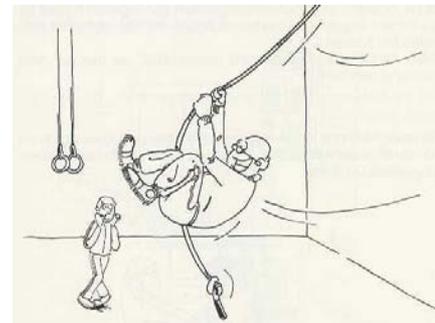
Somatic
objectives

Perception training, body awareness and practical skills of self-control

Uncertainty regarding physical activity

- ✓ how much physical stress am I able to tolerate?
- ✓ what kind of physical activity am I allowed to perform?

- avoidance of any physical strain
 - foster physical inactivity
- tend to suppress the cardiac event
 - might assimilate a danger of overload



Perception training, body awareness and practical skills of self-control

Body awareness and practical skills of self-control are requirements for a self-controlled exercise training and the basis for the patient's health competence

- the patients have to learn what exercise load they are able to tolerate and where their exercise limits are
- to achieve the patient's realistic judgment and his acceptance of the often considerable reduced exercise tolerance



Perception training, body awareness and practical skills of self-control

- explain the exercise procedure and its beneficial as well as possible adverse effects to the patient
- use the experience of subjective and objective symptoms that may occur during exercise training
 - to help the patient recognising such symptoms
 - estimate their relevance for the load achieved



Perception training, body awareness and practical skills of self-control

- learn to perceive and observe local and systemic reactions and to interconnect them to the objective exertion performed
- by gradually increased exercise intensity - perceive the limit of exercise tolerance in order to be able to recognise it



✓ To improve practical skills of self-control and adequate handling during physical activity and/or exercise training to the patient



The Borg Scale

(Rate of Perceived Exertion, RPE)

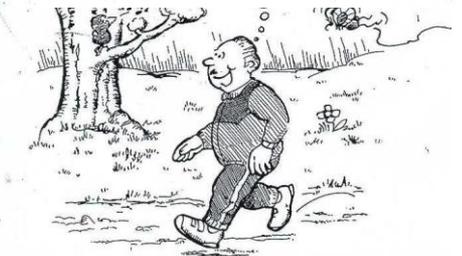
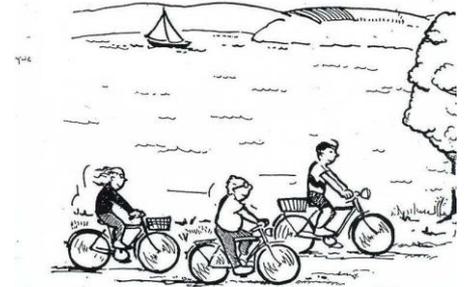
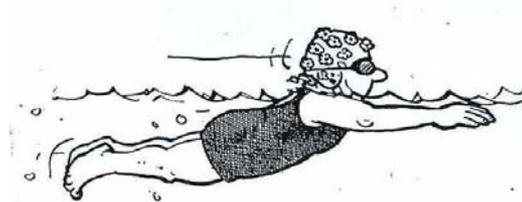
| | |
|----|-----------------|
| 20 | |
| 19 | extremely hard |
| 18 | |
| 17 | very hard |
| 16 | |
| 15 | hard / heavy |
| 14 | |
| 13 | somewhat hard |
| 12 | |
| 11 | light |
| 10 | |
| 9 | very light |
| 8 | |
| 7 | extremely light |
| 6 | |

- ✓ practical skills of self-control are the basic instruments for the patient's safe and effective approach to physical activity
- ✓ will reduce anxiety and improve a certainty regarding physical exertion during occupation, recreation or daily life

The patient's motivation to take up an active lifestyle and start regular exercise training on a sustained basis

Behavioural characteristics

- ✓ motivation
- ✓ preference
- ✓ exercise experiences
- ✓ physical activity level
- ✓ social support
- ✓ barriers to increase physical activity
- ✓



The patient's thorough information and motivation provided by the attending physician is the most effective instrument to achieve behavioural changes ...



“What fits your busy schedule better, exercising one hour a day or being dead 24 hours a day?”

The patient's motivation to take up an active lifestyle and start regular exercise training on a sustained basis

- ✓ Based on initial encouragement by the physician the motivation achieved has to be stabilised and augmented through individual as well as group counselling during the rehabilitation process.



The patient's motivation to take up an active lifestyle and start regular exercise training on a sustained basis

- ✓ During the rehabilitation process the patient's perceptions, attitude and health esteem regarding physical activity and exercise training have to be influenced positively.



The patient's motivation to take up an active lifestyle and start regular exercise training on a sustained basis

- ✓ On a long-term basis the patient will only integrate physical activity and exercise training into his daily life, if medical benefits are associated with personal values.



Exercise based intervention in cardiac rehabilitation

- more than a question of evidence based medicine - exercise training
- more than a question of endurance and resistance training
- more than a question of intensity and volume

primary objective

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main secondary objectives

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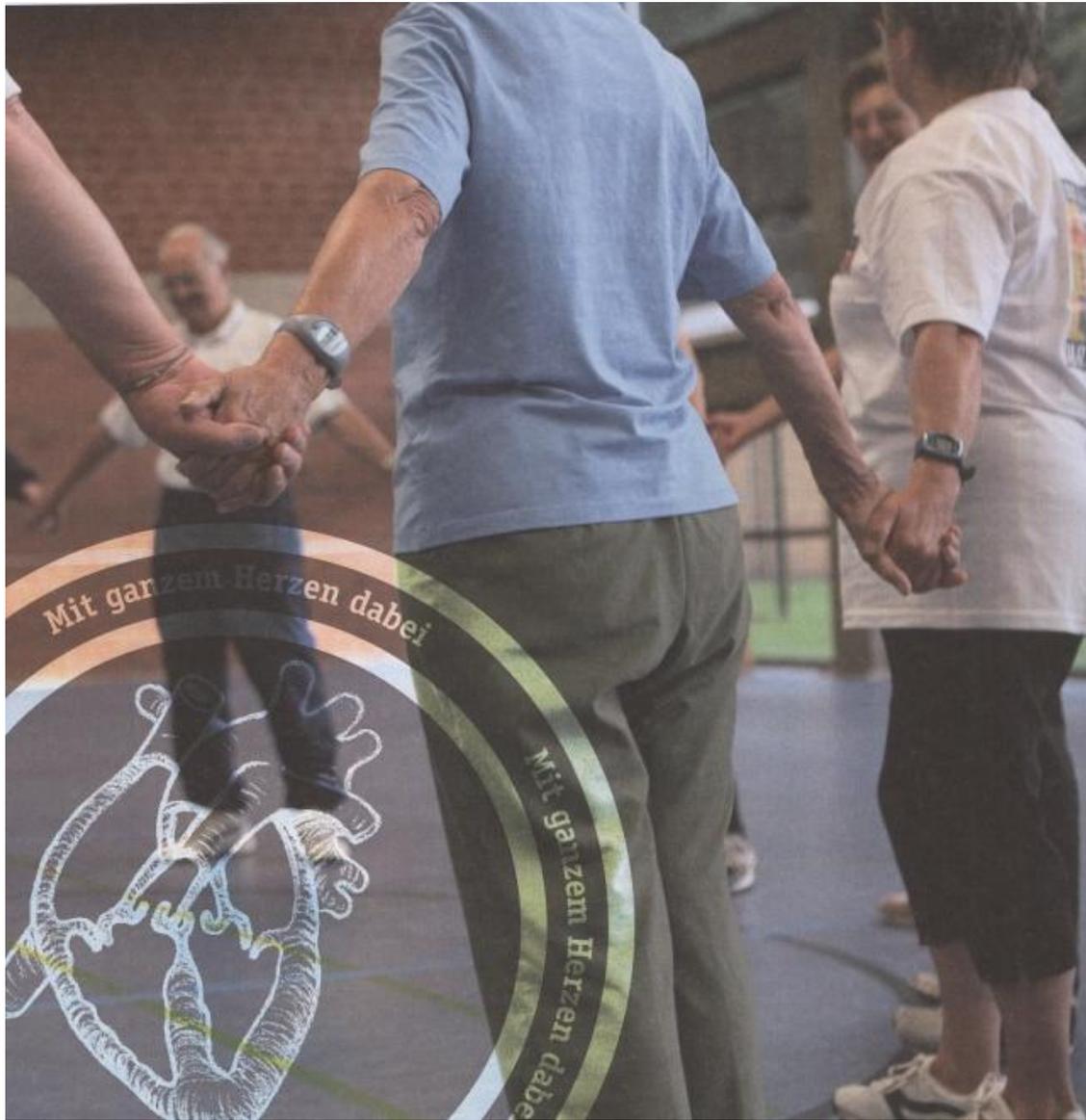
Exercise based intervention in cardiac rehabilitation

These goals will only be achieved

If we manage to motivate the patient to change his attitude and take up a regular physical activity and exercise training, optimally to continue this for the rest of his life.

If we improve his body awareness and practical skills of self-control which are the precondition for a self-controlled exercise training and the basic for the patients health competence.





Thank you
for your
attention