

# Online Taster Course

## Physiotherapy

### Theory – module treatment plan

#### **KNGF Guideline for Hip-Knee Osteoarthritis Conservative, Pre- and Postoperative Treatment**

Exercise therapy should take place under the guidance of a therapist and is always combined with education and lifestyle advice. Specific advice is given during the treatment period and upon its termination on ways to achieve and/or maintain an active lifestyle in the patient's daily life as described in the physical activity guideline of the Health Council.

General aspects of exercise therapy:

- Provide exercise therapy regardless of patient characteristics such as age and severity of (pain) complaints.
- Always offer exercise therapy in combination with education/advice and an exercise plan (including short- and long-term goals for performing and continuing to perform physical activities), which is developed together with the patient.
- Always offer exercise therapy in a combination of supervised exercise therapy and independently performed exercise therapy. Determine the ratio between supervised and independently performed exercise therapy together with the patient, taking into account the level of independence/motivation, personal preferences, and practical considerations.
- Consider using eHealth applications to support the patient in independently performing exercises and/or to reduce the level of supervision.
- Consider offering exercise therapy in group settings if little individual supervision is needed.
- Consider offering exercise therapy in water during the initial phase of treatment if there are severe pain complaints during exercise.

#### **FITT Method**

Apply exercise therapy according to the described frequency, intensity, type, and duration (FITT). It is essential to supplement guided exercise therapy with independently performed exercise therapy and gradually reduce the guidance during the treatment period.

##### **Frequency**

- Strive for the patient to preferably exercise daily, but at least 2 days a week (muscle strengthening/functional) for at least 30 minutes per session (aerobic), while also meeting the exercise guidelines of the Health Council.
- Start with one to two sessions of guided exercise therapy per week, supplemented with independently performed exercises, and reduce the guidance during the treatment period.

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## Intensity

- Aim for the following minimum intensity for muscle strength aerobic training: muscle strength training: 60-80% of 1 repetition maximum (1RM) (Borg score 14-17) or 50-60% of 1RM (Borg score 12-13) for individuals who are not accustomed to strength training, with 2-4 sets of 8-15 repetitions with 30-60 sec. rest between sets; - Aerobic training: > 60% of maximum heart rate (Borg score 14-17) or 40-60% of maximum heart rate (Borg score 12-13) for individuals who are not accustomed to aerobic training.
- Ensure a gradual increase in intensity throughout the program and follow these training principles: - Begin the training with a warm-up and end with a cool-down.
- Determine the starting intensity of the strength training and monitor the intensity during the treatment using the 1RM submaximal test.
- Determine the starting intensity of the aerobic training and monitor the intensity during the treatment using heart rate and/or Borg score.
- Gradually increase the intensity of the training (i.e. once a week) to the maximum level possible for the patient.
- Decrease the intensity of the next training session if joint pain increases after the training and persists for more than 2 hours.
- Start with a short period of 10 minutes (or less if necessary) in aerobic exercises for patients who are untrained and/or limited by joint pain and mobility.
- Provide alternative exercises that target the same muscle groups and energy systems if the exercise leads to an increase in joint pain.
- Use variation in sets and repetitions (for strength), intensity, duration of the session or exercise, type of exercise, and rest periods when adjusting the training intensity, and determine the adjustments in consultation with the patient.

## Type

- Offer a combination of strength training, aerobic training, and functional training.
- Strength training: Choose exercises primarily targeting the major muscle groups around the knee and hip joints (especially knee extensors, hip abductors, and knee flexors).
- Have these exercises performed for both legs (for both unilateral and bilateral osteoarthritis).
- Exercises with high mechanical knee loading (e.g., leg extension machine) should preferably be avoided in knee osteoarthritis and after knee joint replacement surgery.
- Aerobic training: Choose activities with relatively low joint loading, such as walking, cycling, swimming, rowing, and using an elliptical trainer.
- Functional training: Choose (parts of) activities that the patient experiences as challenging in their daily life (e.g., walking, climbing stairs, sitting down and getting up from a chair).
- Note! Focus primarily (at least 75% of treatment time) on one type of training within one treatment session: either strength or aerobic training for optimal treatment results, and instruct the patient to independently perform the type of training not primarily focused on during the treatment session. Within both strength and aerobic training, a combination of functional exercises (e.g., using one's own body weight) and exercises with equipment should be included.

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- Consider offering specific balance and/or coordination/neuromuscular training as a supplement to exercise therapy if there are disturbances in balance and/or coordination/neuromuscular control that hinder the patient's functioning.
  - Consider offering (active) range of motion or muscle stretching exercises as a supplement to exercise therapy if there are muscle tightness or reversible joint mobility limitations that hinder the patient's functioning.

### **Time (Duration)**

- Aim for a treatment period between eight and twelve weeks, supplemented with one or a few follow-up sessions after completion of this treatment period (e.g. 3 and 6 months after the end of the treatment period) to promote adherence to therapy.
- Encourage the patient to continue practicing independently after the treatment period.

### **The importance of exercise and a healthy lifestyle (self-management)**

- Regular physical activity and individually tailored exercises/movement activities (to strengthen the muscles around the joint, improve fitness, and perform daily activities) can reduce pain and improve daily functioning. Even a small number of exercises can yield results if performed regularly (preferably daily).
- Integrating some exercises/movement activities into daily life is a useful way to maintain consistency.
- Sedentary behaviour (excessive sitting) can worsen (osteoarthritis) symptoms and increase the risk of developing other (lifestyle-related) conditions such as type 2 diabetes mellitus (DMII) and cardiovascular diseases.
- Sometimes it may be necessary to reduce the mechanical load on the painful joint (e.g., by taking short rest breaks or using assistive devices).
- If overweight/obesity is present, it is important to lose weight and subsequently maintain a healthy weight through an individually tailored plan that includes dietary adjustments and increased physical activity.

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