

Effects of therapeutic alliance on clinical outcomes in patients with symptomatic knee osteoarthritis undergoing an exercise program: A randomized clinical trial protocol

doi: 10.5867/medwave.2021.03.8159

Appendix 2

Therapeutic exercise protocol for people with knee osteoarthritis

Table 1. Therapeutic exercise protocol for people with knee osteoarthritis.

Nº	Type of exercise	Time	Dosage	Exercise
1	Receipt and delivery of indications	5 minutes	-----	
2	Aerobic exercise on a cycle ergometer	20 minutes	20 minutes to 50-60% of the maximum heart rate.	The seat's height will be adjusted to generate a 15-20-degree knee flexion angle in the lower critical phase of the pedaling cycle.
3	Ankle, hip and knee joint mobility exercises	5 minutes	10 repetitions per limb for each exercise for 3 sets. 15 second rest between sets.	Dorsiflexion: Standing, the person has one limb resting on a bench or chair. A cane is placed vertically in front of the foot on the bench and the person moves the knee forward until it touches the cane, without detaching the heel. Hip flexion-extension: Standing, the person flexes hips and knees trying to reach the full squat position.
4	Isometric exercise	6 minutes	Isometric contraction for 5 minutes or until losing strength, with weight corresponding to 10% of maximum isometric force.	Seated knee extension: Sitting in a chair with a weight at the distal end of the ankle of the lower limb being treated, the person must extend and keep the knee straight.
5	Isotonic exercise	20 minutes	With only body weight and dosage, the exercise will be done according to the perception of fatigue quantified through the BORG scale (0-10). The number of repetitions of each exercise will be established when the perception of fatigue reaches the BORG 7/10. Three sets will be made for each exercise.	Unilateral Bridge: Person in supine position, with one knee flexed resting on the floor and the other in extension, performs a pelvic lift and lower limb extension in one move. Squat: Person in bipedal position, performs symmetrical and bilateral hip and knee flexion in the greatest possible range of motion, without compromising balance. Clamshell: Person in lateral decubitus, with both lower extremities in flexion and an elastic band 5 cm from the upper edge of the patella, performs a unilateral hip abduction while maintaining contact with both feet. Bulgarian squat: User in bipedal position, with one flexed knee and the front of the foot resting

Effects of therapeutic alliance on clinical outcomes in patients with symptomatic knee osteoarthritis undergoing an exercise program: A randomized clinical trial protocol

doi: 10.5867/medwave.2021.03.8159

on an object located behind it. The limb in contact with the ground, flexes the hip and knee in the greatest possible range of motion, without compromising balance.

6 Feedback and
end of the ses- 5 minutes -----
sion

Materials: Heart rate monitor and heart strap, cycle ergometer, BORG CR-10, Stopwatch/timer.

Considerations: Acceptable pain during exercise <5 in PI-NRS

PI-NRS: [Pain Intensity Numerical Rating Scale](#).