Conclusion: Our clinical trial offers preliminary evidence on the superiority of Kinesio-Taping in the treatment chronic back pain compared to placebo concerning the reduction of pain and disability. Thus, it can be used as a complementary method in chronic non-specific low back pain.

Table 2. Primary and secondary outcomes in the Kinesio-Taping and placebo group.

	Taping groupe (n=22)				Placebo groupe (n=24)				ANCOVA
	Baseline	Day 12	4 weeks	p value	Baseline	Day 12	4 weeks	p value	
ODI	36±18,82	24±19,83	24±19,32	<0,001	31±12,65	28±13,32	29±13,24	0,03	<0,001
VAS of pain	7±1,3	3,9±2,2	4,6±2,2	<0,001	6,5±1,2	5,5±2,2	5,7±2,2	0,008	<0,001
VAS of functional disability	6,7±1,5	4±2,8	4,4±2,5	<0,001	5,9±2,3	5,2±2,2	5,3±2,2	0,003	<0,001
Rolland Morris	7,4±4,6	5,2±4,7	5,3±4,6	<0,001	8,4±4,8	7,6±4,2	7,3±4,1	0,05	0,06

ODI: Oswestry Disability Index VAS: visual analog scale

Disclosure of Interests: None declared

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THU0567

HIP ABDUCTORS STRENGTH AND TRUNK, PELVIS, HIP AND KNEE FRONTAL PLANE KINEMATICS ANALYSIS DURING SINGLE-LEG SQUAT IN INDIVIDUALS WITH AND WITHOUT PATELLOFEMORAL OSTEOARTHRITIS

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Background: Previous studies have observed that individuals with patellofemoral pain (PFP) have decreased hip abduction torque, as well as increased hip adduction and knee abduction during activities with unilateral weight bearing^{1,2}. Considering that, a significant number of patients with patellofemoral osteoarthritis (PFOA) have a previous history of PFP³, it is speculated that the mechanical causes of PFP and PFOA may be similar. However, although alterations in hip muscle strength and lower limb kinematics during various functional activities have been reported in patients with PFP, they have not been explored in subjects with PFOA.

Objectives: The objectives of this study were to compare the hip eccentric abductors torque and the trunk, pelvis, hip, and knee frontal plane kinematics in subjects with and without PFOA isolated during the single-leg squat.

Methods: This is a cross-sectional study. The volunteers were divided into two groups: control group (CG - healthy individuals) and PFOA group (PFOAG - individuals with PFOA grade II or III). Eccentric peak torque of the hip abductors was evaluated using an isokinetic dynamometer Biodex Multi-Joint System 3, at angular speed of 30°/s. Trunk, pelvis, hip and knee kinematics were recorded during the single-leg squat using a 6-camera, 3-dimensional motion-analysis system (Vicon Motion Systems, Nexus System 2.1.1 and 3D Motion Monitor). The t-test Student was used to compare the variables between the groups. The significance level was set at 5% for all analyses ($p \leq 0.05$).

Results: The CG was composed by 12 participants (41.7% women). PFOA had 9 participants (44.4% women). Age ($p = 0.1$), height ($p = 0.9$) and body mass ($p = 0.2$) showed homogeneity between groups. Regarding body mass index, the OAPFG showed higher values ($p = 0.02$). PFOAG showed greater increased

Table 1 – Values of joint angles during single-leg squatting and hip abductors torque (normalized by body mass) in PFOA and healthy individuals

	PFOAG	CG	p value
Contralateral trunk lean (°)	4.7±1.3	4.8±1.1	0.94
Contralateral pelvic elevation (°)	1.4±1.2	2.6±1.0	0.45
Hip adduction (°)	14.9±2.2	8.9±1.6	0.05*
Knee abduction (°)	22.8±3.8	19.4±3.3	0.51
Hip eccentric abductor torque (Nm/kg.100)	166.5±24.9	204±27.7	0.006*

PFOAG: patellofemoral osteoarthritis group; CG: control group *Statistical difference between groups

hip adduction than CG ($p = 0.05$) (Table 1). However, there were no differences among groups for trunk lean, contralateral pelvic elevation and knee abduction ($p > 0.05$). PFOAG showed lower hip abductor torque compared with the CG ($p = 0.006$).

Conclusion: PFOA individuals showed greater hip adduction and lower hip abductors torque than the CG. Thus, it is suggested that muscle weakness may excessively influence hip adduction. Hip adduction is the main component of the knee valgus in the frontal plane. So, excessive dynamic valgus results in an increase Q-angle and, consequently, an increase in the lateral forces acting on the patella, causing greater stress on the lateral patellofemoral joint, which may contribute to disease progression. Therefore, we suggest that the hip abductor strengthening should be considered when treating individuals with PFOA.

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EFFECTIVENESS OF FOOT ORTHOSIS TO PROMOTE PHYSICAL ACTIVITY FOR PATIENTS WITH CONCURRENT RHEUMATOID ARTHRITIS AND SARCOPENIA

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Background: Sarcopenia is a progressive systemic skeletal muscle disorder associated with an increased likelihood of adverse outcomes including physical disability, falls, and mortality. The muscle mass of patients with rheumatoid arthritis (RA) is lower than that of age-matched healthy individuals, and a high prevalence rate of sarcopenia has been reported¹. In particular, foot deformities may increase the prevalence rate of sarcopenia because of inactivity due to foot pain on walking. Treatment with a foot orthosis (FO) can reportedly reduce pain²; however, whether a FO can resolve inactivity and sarcopenia is unclear.

Objectives: To elucidate the effectiveness of a FO on physical activity and sarcopenia in patients with RA.

Methods: Thirty patients with RA with foot deformities were enrolled from April 2017 to December 2019. Sarcopenia was diagnosed using the algorithm of the European Working Group on Sarcopenia in Older People, and the cut-off values of the Asian Working Group for Sarcopenia were applied. We also collected the clinical variables of patients with concurrent RA and sarcopenia who continued to use a FO for 6 months. The primary outcome was physical activity determined by the International Physical Activity Questionnaire. The secondary outcomes were foot pain measured with a visual analog scale; activities of daily living (ADL) measured with the Health Assessment Questionnaire; and body mass index, body fat percentage, and the skeletal muscle mass index measured with a body composition device. The clinical variables were compared between baseline and 6 months after continuous treatment with a FO.

Results: The prevalence rate of sarcopenia was 76.6% (23/30), and nine patients with RA continued to use the FO for 6 months. Table 1 shows outcomes at baseline and after 6 months of treatment with a FO. The only clinical variable that showed a significant difference was foot pain. Physical activities, ADL, and body compositions were maintained after 6 months.