

# Effects of a conventional versus an alternative therapy program in male youth soccer players with jumper's knee

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<b>Registration date</b> 24/06/2021	<b>Overall study status</b> Completed	<input type="checkbox"/> Protocol
<b>Last Edited</b> 24/06/2021	<b>Condition category</b> Musculoskeletal Diseases	<input type="checkbox"/> Statistical analysis plan
		<input type="checkbox"/> Results
		<input type="checkbox"/> Individual participant data
		<input type="checkbox"/> Record updated in last year

## Plain English summary of protocol

### Background and study aims

Jumper's knee, also known as patellar tendonitis, is a condition characterized by inflammation of the patellar tendon. This connects the kneecap (patella) to the shin bone (tibia). Jumper's knee weakens the tendon, and, if untreated, can lead to tears in the tendon.

This study tested the effects of a conventional (CON) versus alternative (ALT) therapy program on physical, psychological, and injury-/pain-related parameters in soccer players with Jumper's knee were examined.

### Who can participate?

Children (14 - 16yrs) with Jumper's knee

### What does the study involve?

Balance, strength, and stretching exercises were conducted for 20 weeks with sessions of 30 or 60 minutes.

### What are the possible benefits and risks of participating?

Possible benefits of participating were improved performance and less follow-up injury; possible risks of participating were fatigue-related decrements in balance and strength performance.

### Where is the study run from?

University of Duisburg-Essen (Germany)

### When is the study starting and how long is it expected to run for?

December 2018 to November 2019

### Who is funding the study?

Open Access Publication Fund of the University of Duisburg-Essen (Germany)

### Who is the main contact?

Marc Niering, marc.niering@arcor.de

# Contact information

## Type(s)

Scientific

## Contact name

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# Additional identifiers

# Study information

## Scientific Title

Effects of a conventional versus an alternative therapy program on physical, psychological and injury-related parameters in sub-elite male youth soccer players with jumper's knee

## Study objectives

The ALT- compared to the CON-group will show significantly

1. Better physical and psychological performances
2. Lesser values of injury-/pain-related parameters over the course of a soccer season.

## Ethics approval required

Old ethics approval format

## Ethics approval(s)

Approved 06/12/2018, Human Ethics Committee at the University of Duisburg-Essen, Faculty of Educational Sciences (Universitätsstraße 2, 45141 Essen; +49 2011837237; [ethik-psychologie@uni-due.de](mailto:ethik-psychologie@uni-due.de)), ref: none provided

## Study design

Interventional randomized controlled trial

## Primary study design

Interventional

## Study type(s)

Treatment

## **Health condition(s) or problem(s) studied**

Therapy of jumper's knee in sub-elite soccer players

## **Interventions**

After a pain-related rest period ( $13.3 \pm 4.1$  days) the CON-group performed unilateral eccentric leg squats (3 sets of 20) on a flat surface, unilateral eccentric leg squats (3 sets of 20) on a decline board, static quadriceps and hip flexor stretching exercise (3 sets of 60 s). The sessions were conducted two to three times a week, lasted about 30 minutes and were supervised by a physical therapist.

The ALT-group performed unilateral balance exercises (4 sets of 30), Nordic hamstring exercise (4 sets of 10), isometric split squats (4 sets of 60s), isometric sumo squats (4 sets of 60s) on different unstable devices, Further difficulties like juggling, kicking a soccer ball, weights (1-20kg), as well as unexpected perturbations were added to adjust the exercises. The ALT-group also performed static quadriceps, hip flexor and hamstring stretch (3 sets of 60s).

The sessions were conducted three to four times a week, lasted about 60 minutes and were supervised by an athletic coach.

## **Intervention Type**

Behavioural

## **Primary outcome(s)**

Immediately after intervention; 6w, 16w, 20w follow-up:

1. Muscle power (Drop Jump, Jump and Reach test)
2. Change of Direction Speed (acyclic sprint)
3. Speed (FTT15 test, 30-m sprint)
4. Endurance (Yoyo Intermittent Recovery Test Level 1)

## **Key secondary outcome(s)**

Immediately after intervention; 6w, 16w, 20w follow-up:

1. Achievement Motivation (Achievement Motive Scales-Sport)

## **Completion date**

10/11/2019

## **Eligibility**

### **Key inclusion criteria**

1. Age 14 - 16 years
2. Diagnosis of Jumper's knee using ultrasound

### **Participant type(s)**

Patient

### **Healthy volunteers allowed**

No

### **Age group**

Child

**Lower age limit**

14 years

**Upper age limit**

16 years

**Sex**

Male

**Total final enrolment**

34

**Key exclusion criteria**

Does not meet inclusion criteria

**Date of first enrolment**

16/12/2018

**Date of final enrolment**

02/01/2019

**Locations****Countries of recruitment**

Germany

**Study participating centre**

**University of Duisburg-Essen**

Gladbecker Str. 182

Essen

Germany

45141

**Sponsor information****Organisation**

University of Duisburg-Essen

**ROR**

<https://ror.org/04mz5ra38>

**Funder(s)**

**Funder type**

University/education

**Funder Name**

Universität Duisburg-Essen

**Alternative Name(s)**

University of Duisburg-Essen, Uni Duisburg-Essen, The University of Duisburg-Essen, University of Duisburg, University of Essen, Gerhard Mercator University of Duisburg, UDE

**Funding Body Type**

Government organisation

**Funding Body Subtype**

Universities (academic only)

**Location**

Germany

## Results and Publications

**Individual participant data (IPD) sharing plan**

The current data sharing plans for this study are unknown and will be available at a later date.

**IPD sharing plan summary**

Data sharing statement to be made available at a later date