ISRCTN94413028 https://doi.org/10.1186/ISRCTN94413028

Prevention of knee injury in handball

Submission date
06/04/2022

Recruitment status
No longer recruiting

Registration date
22/07/2022

Overall study status
Completed

Last Edited
22/07/2022

Condition category
Musculoskeletal Diseases

[ ] Prospectively registered
[ ] Protocol
[ ] Statistical analysis plan
[ ] Results
[ ] Individual participant data
[ ] Record updated in last year

Plain English summary of protocol

Background and study aims
Handball is associated with a high risk of knee injury that needs to be reduced. The purpose of this study is to show how an injury-prevention programme effectively reduces knee injury in adult and adolescent handball players.

Who can participate?
Any active handball player aged 14 years or older in any of the German-speaking handball leagues with at least one competitive match during the interventional season 2022-23

What does the study involve?
Teams register for the study and are allocated randomly in either the intervention arm or control arm. Players of the intervention group regularly participate in an injury-prevention programme for one season. Handball exposure and sustained injuries are documented for both groups on a regular basis.

What are the possible benefits and risks of participating?
Possible benefits of the intervention arm are the reduction of knee injury or reduction in prevalence/intensity of overuse knee injury symptoms. No risk are reported to date for neuromuscular injury prevention programmes.

Where is the study run from?
1. Dpt. of Orthopaedic Surgery, König-Ludwig-Haus, University Würzburg, Würzburg, Germany
2. Dpt. of Trauma, Hand, Plastic and Reconstructive Surgery, University Medical Center Wuerzburg, Germany

When is the study starting and how long is it expected to run for?
March 2019 to June 2023

Who is funding the study?
Bundesinstitut für Sportwissenschaft / German Federal Institute for Sports Sciences

Who is the main contact?
Dr Leonard Achenbach
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Contact information

Type(s)
Principal investigator

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Additional identifiers

Protocol serial number
2022-04

Study information

Scientific Title
Prevention of acute severe knee injury in handball: a cluster randomised controlled trial

Study objectives
The purpose of this study is to show how an injury prevention programme specific for knee effectively reduces acute knee injury in handball players

Ethics approval required
Old ethics approval format

Ethics approval(s)
Approved 13/03/2019, Ethical committee of the University of Regensburg (D-93040 Regensburg, Germany; +49 (0)941 943 5370; ethikkommission@klinik.uni-regensburg.de), ref: 15-101-0137

Primary study design
Interventional

Study design
Prospective cluster-randomised controlled trial

Study type(s)
Prevention

Health condition(s) or problem(s) studied
Musculoskeletal knee injury

Interventions
Intervention arm: teams are given a neuromuscular training programme. this should be implemented at least twice per week during the whole course of the season

Control arm: teams proceed with their normal training without any instructions

Total duration: season 2022/23 (July 2022 - May 2023)

Injuries of all participating teams/players are assessed on a regular basis (every six weeks) during the whole season by means of standardised injury questionnaires.

Stratified cluster randomisation is carried out and a 1:1 randomisation in both arms is scheduled. Stratification is based on sex (male/female), age (under-15/under-17/under-19/senior) and level of professionalism (league 1-3/4-6/7 or lower).

Intervention Type
Behavioural

Primary outcome(s)
Number of new acute severe knee injuries sustained per 1000 h of handball throughout the intervention season, such as intraarticular fracture, patella dislocation, rupture of the collateral or cruciate ligament, meniscus tear, cartilage injury or any injury resulting in absence from training session or match for more than 28 days. Measured by online questionnaires and personal contact of the study team with the handball teams.

Key secondary outcome(s)
1. Injury mechanism of knee injuries (contact, indirect contact, non-contact) throughout the intervention season, measured by online questionnaires and personal contact of the study team with the handball teams
2. Prevalence of overuse knee injury throughout the intervention season, measured by online questionnaires and personal contact of the study team with the handball teams

Completion date
30/06/2023

Eligibility

Key inclusion criteria
1. Active male or female handball player in any of the German-speaking handball leagues with at least one competitive match during the interventional season 2022/23
2. Aged 14 years or older

Participant type(s)
Other

Healthy volunteers allowed
No

Age group
Mixed

Sex
All

Key exclusion criteria
1. Inability to understand German
2. No signed consent

Date of first enrolment
01/05/2022

Date of final enrolment
30/05/2023

Locations

Countries of recruitment
Austria

Germany

Switzerland

Study participating centre
Dpt. of Trauma, Hand, Plastic and Reconstructive Surgery, University Medical Center Wuerzburg, Germany
Oberdürrbacher Straße 6
Würzburg
Germany
97080

Study participating centre
König-Ludwig-Haus, Department of Orthopaedics
Brettreichstraße 11
Würzburg
Germany
97074

Sponsor information

Organisation

University Medical Center Würzburg

Funder(s)

Funder type
Government

Funder Name
Bundesinstitut für Sportwissenschaft

Alternative Name(s)
German Federal Institute of Sport Science, BISp

Funding Body Type
Government organisation

Funding Body Subtype
National government

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