

Prevention of overuse shoulder injury in handball

Submission date 15/01/2020	Recruitment status No longer recruiting	<input type="checkbox"/> Prospectively registered <input type="checkbox"/> Protocol
Registration date 06/02/2020	Overall study status Completed	<input type="checkbox"/> Statistical analysis plan <input checked="" type="checkbox"/> Results
Last Edited 25/03/2022	Condition category Musculoskeletal Diseases	<input type="checkbox"/> Individual participant data

Plain English summary of protocol

Background and study aims

Handball is associated with a high risk of overuse shoulder injury in the throwing shoulder that needs to be reduced. The purpose of this study is to show how an injury-prevention programme effectively reduces overuse shoulder injury in adult handball players.

Who can participate?

Any active handball player aged 18 years or older in any of the German-speaking handball leagues with at least one competitive match during the interventional season 2019-20

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 biweekly basis.

What are the possible benefits and risks of participating?

Possible benefits of the intervention arm are the complete reduction or reduction in intensity of overuse shoulder injury symptoms in the throwing arm. No risk are reported to date for neuromuscular injury prevention programmes.

Where is the study run from?

1. Department of Trauma Surgery, University Medical Center Regensburg, 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?

May 2019 to April 2020

Who is funding the study?

Bundesinstitut für Sportwissenschaft / German Federal Institute for Sports Sciences

Who is the main contact?
Dr Leonard Achenbach
leonard@dr-achenbach.eu

Contact information

Type(s)
Scientific

Contact name
Dr Leonard Achenbach

ORCID ID
<https://orcid.org/0000-0002-9053-0624>

Contact details
Josef-Schneider-Straße 2
Wuerzburg
Germany
97080
+49 941 9446805
leonard@dr-achenbach.eu

Additional identifiers

Clinical Trials Information System (CTIS)
Nil known

ClinicalTrials.gov (NCT)
Nil known

Protocol serial number
2019-02

Study information

Scientific Title
Prevention of overuse shoulder 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 shoulder effectively reduces overuse throwing shoulder injury in handball players.

Ethics approval required
Old ethics approval format

Ethics approval(s)

Approved 16.05.2019, Ethics Committee of the University of Regensburg (Universität Regensburg, ETHIKKOMMISSION, 93049 Regensburg, Germany; +49 941 943 5370; ethikkommission@klinik.uni-regensburg.de), ref: ID 17-894_1-101

Study design

Prospective cluster-randomised controlled trial

Primary study design

Interventional

Study type(s)

Prevention

Health condition(s) or problem(s) studied

Overuse throwing shoulder 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 2019/20 (July 2019 - April 2020)

Both arms have a follow-up during the season every two weeks by means of a standardised injury questionnaire, until the end of the study (April 2020)

Due to the low number of expected teams, 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-19/senior) and level of professionalism (league 1-3 / 4-6 / 7 or lower).

Intervention Type

Behavioural

Primary outcome(s)

Prevalence and intensity of overuse throwing shoulder injury measured using the OSTRC (Oslo Trauma Research Center) Overuse questionnaire as well as short handball-specific WOSI (Western Ontario Shoulder Index) every two weeks throughout the study.

Key secondary outcome(s)

Measured using the OSTRC (Oslo Trauma Research Center) Overuse questionnaire as well as short handball-specific WOSI (Western Ontario Shoulder Index) every two weeks throughout the study:

1. Prevalence and intensity of severe overuse throwing shoulder injury
2. Prevalence and intensity of overuse elbow injury

Completion date

30/04/2020

Eligibility

Key inclusion criteria

1. Active handball player in any of the German-speaking handball leagues with at least one competitive match during the interventional season 2019-20
2. Male or female
3. Willingness to implement biweekly prevention exercises into training and match warm-up

Participant type(s)

Healthy volunteer

Healthy volunteers allowed

No

Age group

Adult

Sex

All

Total final enrolment

579

Key exclusion criteria

1. Inability to understand written German
2. No signed consent

Date of first enrolment

01/05/2019

Date of final enrolment

30/06/2019

Locations

Countries of recruitment

Germany

Study participating centre

University Medical Center Regensburg

Department of Trauma Surgery

Franz-Josef-Strauss Allee 11

Regensburg

Germany

93053

Study participating centre
University Medical Center Wuerzburg
Dpt. of Trauma, Hand, Plastic and Reconstructive Surgery
Josef-Schneider-Straße 2
Wuerzburg
Germany
87080

Sponsor information

Organisation
University Hospital Regensburg

ROR
<https://ror.org/01226dv09>

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

Study outputs

Output type	Details	Date created	Date added	Peer reviewed?	Patient-facing?
Results article		11/03/2022	25/03/2022	Yes	No
Participant information sheet	Participant information sheet	11/11/2025	11/11/2025	No	Yes