

Evaluation of a compressed program for shoulder external rotation strength in handball

Submission date 17/09/2019	Recruitment status No longer recruiting	<input checked="" type="checkbox"/> Prospectively registered <input checked="" type="checkbox"/> Protocol
Registration date 18/09/2019	Overall study status Completed	<input type="checkbox"/> Statistical analysis plan <input checked="" type="checkbox"/> Results
Last Edited 13/08/2021	Condition category Other	<input type="checkbox"/> Individual participant data

Plain English summary of protocol

Background and study aims

Many handball players have shoulder pain while playing handball. The throwing shoulder is vulnerable for injuries due to repetitive throwing and tackles. A recent study demonstrated that it is possible to reduce the problem by more than 25%. Despite this reduction in shoulder problems, less than one-third of the coaches and players would continue using the whole program the next season, because 'the program was too time-consuming'. Shoulder external rotation weakness is assumed to be a risk factor for shoulder injuries in handball. Therefore, the compressed program to increase external rotation strength was developed. The aim of this study is to examine the effect of the new, compressed shoulder external strength program in youth handball.

Who can participate?

Handball players aged 16 to 18 who play in clubs located in or close to Oslo

What does the study involve?

Six female and male youth 16-18 handball teams will be invited to participate in this study. The researchers will randomly allocate within each team to one exercise group and one control group. The exercise program will be implemented after regular handball training three times a week for eight weeks in the intervention group. The program consists of two shoulder external rotation strength exercises with variations and progressions, aimed to increase shoulder external rotation strength. One dedicated physiotherapist will deliver and supervise the program in the teams once or twice a week. The program will take about ten minutes to complete. Both groups will continue doing their regular training.

What are the possible benefits and risks of participating?

Increasing shoulder external rotation strength, which is a risk factor for shoulder injuries in handball, is a possible benefit in the intervention group. All the participants will be offered the training program after the intervention is finished. There are no known risks of participating.

Where is the study run from?

Oslo Sports Trauma Research Center / Norwegian School of Sport Science (Norway)

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

January 2019 to December 2020

Who is funding the study?

The Oslo Sports Trauma Research Center has been established at the Norwegian School of Sport Sciences through generous grants from the Royal Norwegian Ministry of Culture, the South-Eastern Norway Regional Health Authority, the International Olympic Committee, the Norwegian Olympic Committee & Confederation of Sport, and Norsk Tipping AS

Who is the main contact?

Mrs Hilde Fredriksen

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Contact information

Type(s)

Scientific

Contact name

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Additional identifiers

Clinical Trials Information System (CTIS)

Nil known

ClinicalTrials.gov (NCT)

Nil known

Protocol serial number

Nil known

Study information

Scientific Title

Evaluation of a compressed program for shoulder external rotation strength in handball. A randomized controlled study among adolescent handball players

Study objectives

The aim of this study is to examine the effect of a new, compressed shoulder ER strength program in handball.

Ethics approval required

Old ethics approval format

Ethics approval(s)

Approved 17/09/2019, Norwegian regional committee for medical and health research ethics, South East region (REK sør-øst, Pb 1130 Blindern, 0318 Oslo, Norway; Email: rek-sorost@medisin.uio.no), ref: 2019/1301/REK sør-øst

Study design

Randomized controlled trial

Primary study design

Interventional

Study type(s)

Other

Health condition(s) or problem(s) studied

Shoulder strength training in healthy adolescent handball players

Interventions

Six female and male youth 16-18 handball teams will be invited to participate in this study. The researchers will conduct single randomization within each team to one exercise group and one control group. The exercise program will be implemented after regular handball training three times a week for eight weeks in the intervention group. The program consists of two shoulder external rotation (ER) strength exercises with variations and progressions, aimed to increase shoulder ER strength. One dedicated physiotherapist will deliver and supervise the program in the teams once or twice a week. The program will take about ten minutes to complete. Both groups will continue doing their regular training.

Intervention Type

Other

Primary outcome(s)

Shoulder external rotation strength is measured using a handheld dynamometer (MicroFET, Hoggan Health Industries, Salt Lake City, Utah, USA) at baseline and after 8 weeks of intervention

Key secondary outcome(s)

Shoulder internal rotation range of motion is measured using a digital goniometer (Easyangle, Meloq AB, Stockholm, Sweden) at baseline and after 8 weeks of intervention

Completion date

31/12/2019

Eligibility

Key inclusion criteria

1. Handball players
2. Aged 16 to 18 years
3. Play handball in clubs located in or close to Oslo

Participant type(s)

Healthy volunteer

Healthy volunteers allowed

No

Age group

Other

Sex

All

Total final enrolment

92

Key exclusion criteria

Teams who participated in a similar study last year

Date of first enrolment

23/09/2019

Date of final enrolment

03/10/2019

Locations

Countries of recruitment

Norway

Study participating centre

Oslo Sports Trauma Research Center/ Norwegian School of Sport Science

Sognsveien 220

Oslo

Norway

0806

Sponsor information

Organisation

Oslo Sports Trauma Research Center, Norwegian School of Sports Sciences

ROR

<https://ror.org/018ct3570>

Funder(s)

Funder type

Government

Funder Name

The Oslo Sports Trauma Research Center has been established at the Norwegian School of Sport Sciences through generous grants from the Royal Norwegian Ministry of Culture, the South-Eastern Norway Regional Health Authority, the International Olympic Committee, the Norwegian Olympic Committee & Confederation of Sport, and Norsk Tipping AS

Results and Publications

Individual participant data (IPD) sharing plan

The datasets generated during and/or analysed during the current study are/will be available upon request from Hilde Fredriksen (hilde.fredriksen@nih.no). De-identified raw data will be available from the date the article is published. The data will be available for meta-analyses by researchers doing the same type of studies, looking at shoulder strength in athletes.

IPD sharing plan summary

Available on request

Study outputs

Output type	Details	Date created	Date added	Peer reviewed?	Patient-facing?
Results article		01/04/2021	13/08/2021	Yes	No
Participant information sheet	Participant information sheet	11/11/2025	11/11/2025	No	Yes
Protocol file		18/09/2019	18/09/2019	No	No
Protocol file		29/06/2020	29/06/2020	No	No