Tailored exercises for elite youth football players

No registrations found.

Ethical review	Positive opinion
Status	Recruitment stopped
Health condition type	-
Study type	Interventional

Summary

ID

NL-OMON24392

Source
NTR

Brief title
DVJT-study

Health condition

Knee, Hamstring, Adductor, Ankle, Achilles, Prevention, Injury, Exercise

Sponsors and support

Primary sponsor: Erasmus Medical Center
Source(s) of monetary or material Support: None

Intervention

Outcome measures

Primary outcome

The Knee Abduction Moment (KAM) score. This is a validated and reliable method to predict the risk of knee injury.

Secondary outcome

- Difference in test characteristics of Weight Bearing Dorsiflexion Lunge Test (WBDLT) (toe-to-wall distance, angle of tibia during), between the training group versus the control group, three months after baseline measurements.

- Difference in test characteristics of Single Leg Balance Test (SLBT) between the training group versus the control group.

- Difference in test characteristics of the adductor strength test between the training and the control group.

- Difference in test characteristics of the hamstring strength test between the training group versus the control group.

- Compliance to the tailored exercise programme.

- Difference in injury rate between the training group and the control group.

Study description

Background summary

Background of the study

Lower extremity injuries are a common and serious injury for elite youth football (soccer) players. It may lead to a prolonged absence from sports activities, which may cause a reduced performance and decreased quality of life. Multiple simple physical tests have been shown to be valid and reliable with the ability to estimate the prognosis of lower extremity injuries. Correction of potential deficits, measured with physical tests, can be achieved with specific neuromuscular training. It is known that the broadly implemented FIFA 11+ prevention program results in a decreased rate of lower extremity injuries in football players. However, the problem with this program is the fact that the players do not perform these non-tailored exercises. It is known that a tailored approach results in better implementation of neuromuscular training than a non-tailored approach. This would favour the implementation of a tailored prevention training program. It is currently unknown whether preventive exercises for frequent injuries are effective in improvement of test results and/or reduction of musculoskeletal injuries.

Objective of the study

Five physical tests will be performed: the Drop Vertical Jump Test (DVJT), Single Leg Balance Test (SLBT), Weight Bearing Dorsiflexion Lunge Test (WBDLT), adductor strength test and hamstring strength test using hand-held dynamometry (HHD). Players with an abnormal test

outcome will be advised to perform a tailored neuromuscular training program at Excelsior Football club. The players at the Feyenoord Academy will undergo the Drop Vertical Jump Test (DVJT), Dorsiflexion Lunge Test (WBDLT), adductor strength test and hamstring strength test. No intervention will be provided in this group and they will perform regular football training.

The primary aim of this study is to investigate whether the specific test characteristics improve after a tailored neuromuscular training program.

Study design

Prospective controlled clinical trial. All measurements will be performed at baseline and after 12 weeks. Compliance to the exercise program and occurrence of musculoskeletal injuries will be registered during the 12 week period. Primary and secondary outcome measurements will be collected at baseline and 12 weeks.

Study population

100 healthy elite youth football players will be included in this study.

Intervention

Athletes with abnormal test outcome will receive a tailored intervention. The athletes perform tailored exercises (selected to improve their abnormal test outcome). These exercises are mainly based on the FIFA 11+ prevention program and will be executed three times a week during a 12-week period.

Primary study parameters/outcome of the study

- Difference in Drop Vertical Jump Test characteristics (Knee Abduction Moment-value) between the training group and the control group, three months after baseline measurements.

Secondary study parameters/outcome of the study

- Difference in test characteristics of Weight Bearing Dorsiflexion Lunge Test (WBDLT) between the training group versus the control group, three months after baseline

measurements.

- Difference in test characteristics of Single Leg Balance Test (SLBT) between the training group versus the control group.
- Difference in test characteristics of the adductor strength test between the training and the control group.

- Difference in test characteristics of the hamstring strength test between the training group versus the control group.

- Correlation between difference in landing strategy with the DVJT (quantified as probability of high KAM) and compliance to the neuromuscular training program within the training group.

- Correlation between distance and angle of the Achilles with the WBDLT and compliance to the neuromuscular training program within the training group.

- Compliance to the exercise program

- Number of musculoskeletal injuries and time-off injuries

Study objective

Tailored exercises lower the injury risk significantly compared to regular exercises in elite youth football players with a high injury risk

Study design

Baseline, 12 weeks

Intervention

Tailored exercises

Contacts

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Eligibility criteria

Inclusion criteria

- Age 14-21 years.

- Male gender.

- Play football on an elite level at Excelsior football club or Feyenoord Academy.

- No musculoskeletal injuries at baseline during physical testing.

Exclusion criteria

- Football player is not willing to participate in the study.

- Parents of the football player are not willing to sign informed consent form.

- Football player is not available in the week of the baseline physical testing during the trial period.

Study design

Design

Study type: Interventional

Intervention model:	Parallel
Allocation:	Randomized controlled trial
Masking:	Open (masking not used)
Control:	Active

Recruitment

NL

Recruitment status:	Recruitment stopped
Start date (anticipated):	01-08-2016
Enrollment:	100
Type:	Actual

Ethics review

Positive opinion

Date:	07-09-2016
Application type:	First submission

Study registrations

Followed up by the following (possibly more current) registration

No registrations found.

Other (possibly less up-to-date) registrations in this register

No registrations found.

In other registers

Register	ID
NTR-new	NL5872
NTR-old	NTR6044
Other	: MEC-2016-237

Study results

Summary results

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