

The effect of training 5% lighter on strength and power in collegiate football athletes

Submission date 02/01/2018	Recruitment status No longer recruiting	☒ Prospectively registered ☐ Protocol
Registration date 11/01/2018	Overall study status Completed	☐ Statistical analysis plan ☐ Results
Last Edited 21/02/2018	Condition category Other	☐ Individual participant data ☐ Record updated in last year

Plain English summary of protocol

Background and study aims

It is common for athletes to lift weights to improve performance. Recently, there is evidence to suggest that training light can be an effective alternative to training heavy. However, little research has been done to establish what effects a small drop in weight could have on strength improvement in collegiate football players. The aim of this study is to investigate the effect of collegiate football athletes training with 5% lighter weights over 12 weeks on three main exercises: bench press, back squat and power clean.

Who can participate?

Male collegiate football athletes who are at least 18 years old and have a minimum of one year of strength and conditioning experience in a University setting

What does the study involve?

The study involves pre testing of athletes lifting the most they can lift in 1 repetition for the bench press, back squat and power clean. They are then randomly allocated to a group that trains at an average of either 80% or 75% of that 1 repetition maximum over 12 weeks. They strength train three times a week for 12 weeks, with each training session lasting 75 minutes. All athletes train on the same training program, except for lifting different intensity weights on their main exercises. The program is provided by an accredited strength and conditioning coach and is planned out to vary over the course of the study. At the end of the 12 weeks, the athletes re-attempt their 1 repetition maximum in the main lifts. Both pre and post testing are structured in order to make sure the results are reliable.

What are the possible benefits and risks of participating?

The benefit of this study is that participants will likely get stronger and more powerful, regardless of which group they're assigned to. Their participation will result in more information being available to strength coaches and trainers about the appropriate dose of weight to be prescribed. The risks of this study include: soreness, fatigue, and injury. However, these risks are no greater than what they would be exposed to if they didn't participate in this study since they will be strength training as part of their off-season training plan.

Where is the study run from?

The study is being run from the Stevens High Performance Centre, within the Acadia Athletics Complex, on the campus of Acadia University, in Wolfville, Nova Scotia, Canada.

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

January 2018 to April 2018

Who is funding the study?

Investigator initiated and funded

Who is the main contact?

Elliott Richardson

elliott.richardson5@gmail.com

Contact information

Type(s)

Public

Contact name

Mr Elliott Richardson

Contact details

15 Peverill Crt

Bedford

Canada

B4A 4G4

+1 (0)9026989662

elliott.richardson5@gmail.com

Additional identifiers

Protocol serial number

156283

Study information

Scientific Title

The effect of training 5% lighter on strength and power in collegiate football athletes: a randomised controlled trial

Study objectives

The hypothesis of the study is that there will be no meaningful difference in strength and power improvement by training at 5% lighter for 12 weeks.

Ethics approval required

Old ethics approval format

Ethics approval(s)

St. Mary's University - Twickenham London, 12/01/2018, ref: SMEC_2017-18_062

Primary study design

Interventional

Study design

Single-centre randomised controlled trial

Study type(s)

Other

Health condition(s) or problem(s) studied

Strength and power for athletes

Interventions

Collegiate football athletes will be match paired based on position group and strength level and then be randomly assigned to a group that trains at an average intensity of either 75% or 80% of 1 repetition maximum for the 12-week training. The programs will be identical except for the training intensity for the key exercises: back squat, bench press, power clean. They will train 3 times per week for 75 minutes per training session.

Intervention Type

Behavioural

Primary outcome(s)

Strength and power in three key exercises (bench press, back squat, and power clean) at baseline and 12 weeks

Key secondary outcome(s)

There are no secondary outcome measures

Completion date

10/04/2018

Eligibility**Key inclusion criteria**

1. Male university varsity football athletes
2. At least a year of strength training experience in university setting
3. Free from injury that would limit participation in exercises
4. Volunteer to participate

Participant type(s)

Healthy volunteer

Healthy volunteers allowed

No

Age group

Adult

Sex

Male

Key exclusion criteria

1. Choose not to participate
2. Have injury that limits their ability to train key exercises
3. Not member of Acadia Axemen varsity football team

Date of first enrolment

11/01/2018

Date of final enrolment

11/01/2018

Locations**Countries of recruitment**

Canada

Study participating centre

Acadia Athletics Complex

550 Main Street

Wolfville

Canada

B4P 2R6

Sponsor information**Organisation**

St. Mary's University

ROR

<https://ror.org/0067fqk38>

Funder(s)**Funder type**

Other

Funder Name

Investigator initiated and funded

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 Elliott Richardson (elliott.richardson5@gmail.com) and Dr Daniel Cleather (daniel.cleather@stmarys.ac.uk). The data will be held on the St. Mary's University campus server from the date after collection for a period of ten years. The client information sheets will be stored include their attempts of a maximal lift attempt for power clean, bench press, and squat, both pre and post testing of their training program. They will be stored in Word and Excel formats, with a statistical analysis by SPSS being completed to determine statistical difference between intervention groups. Each participant will be assigned a control number to keep anonymity and privacy. Results of randomization will be stored as well. Consent forms will be obtained and stored as well. Participants will have approved to have data stored.

IPD sharing plan summary

Available on request