

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

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| <b>Submission date</b><br>02/01/2018   | <b>Recruitment status</b><br>No longer recruiting | <input checked="" type="checkbox"/> Prospectively registered<br><input type="checkbox"/> Protocol            |
| <b>Registration date</b><br>11/01/2018 | <b>Overall study status</b><br>Completed          | <input type="checkbox"/> Statistical analysis plan<br><input type="checkbox"/> Results                       |
| <b>Last Edited</b><br>21/02/2018       | <b>Condition category</b><br>Other                | <input type="checkbox"/> Individual participant data<br><input type="checkbox"/> 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

**EudraCT/CTIS number**

**IRAS number**

**ClinicalTrials.gov number**

**Secondary identifying numbers**

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

**Study design**

Single-centre randomised controlled trial

**Primary study design**

Interventional

**Secondary study design**

Randomised controlled trial

**Study setting(s)**

School

**Study type(s)**

Other

**Participant information sheet**

Not available in web format, please use the contact details to request a patient information sheet

**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 measure**

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

**Secondary outcome measures**

There are no secondary outcome measures

**Overall study start date**

12/01/2018

**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

## Age group

Adult

## Sex

Male

## Target number of participants

50

## 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

**Sponsor details**

Waldegrave Road  
Twickenham  
England  
United Kingdom  
TW1 4SX

**Sponsor type**

University/education

**ROR**

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

**Funder(s)****Funder type**

Other

**Funder Name**

Investigator initiated and funded

**Results and Publications****Publication and dissemination plan**

Planned publication in a high impact journal (likely the Journal of Strength and Conditioning Research).

**Intention to publish date**

10/04/2019

**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](mailto:elliott.richardson5@gmail.com)) and Dr Daniel Cleather ([daniel.cleather@stmarys.ac.uk](mailto: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