

Osteopathic manipulative treatment for enhanced pitch performance in collegiate baseball players

Submission date 19/05/2025	Recruitment status No longer recruiting	<input type="checkbox"/> Prospectively registered <input type="checkbox"/> Protocol
Registration date 21/05/2025	Overall study status Completed	<input type="checkbox"/> Statistical analysis plan <input type="checkbox"/> Results
Last Edited 21/05/2025	Condition category Other	<input type="checkbox"/> Individual participant data <input checked="" type="checkbox"/> Record updated in last year

Plain English summary of protocol

Background and study aims

A previous study found that a hands-on treatment called osteopathic manipulative treatment (OMT) helped improve shoulder flexibility in college baseball players, but it didn't increase how fast they could pitch. This new study is trying to improve both flexibility and pitching performance by refining the treatment approach. Researchers will look at both how players feel and how they perform after treatment.

Who can participate?

To join the study, you must be a pitcher on the William Carey University baseball team. You also need to have a current sports physical that clears you to play and get permission from your coach to take part.

What does the study involve?

Participants will be randomly placed into one of two groups:

- One group will receive the hands-on treatment (OMT).
- The other group will rest for 10 minutes instead of receiving treatment.

Everyone in the study will:

- Fill out a short questionnaire about how their shoulder feels.
- Have their shoulder and hip flexibility measured.
- Throw 10 fastballs.
- Then, either receive treatment or rest.
- Have their flexibility measured again.
- Throw 10 more fastballs.

After the first part of the study, players in the rest group will have the chance to receive the treatment too.

What are the possible benefits and risks of participating?

There are no known risks from participating. The treatment may help improve flexibility and pitching performance, but this isn't guaranteed. Players in the rest group might feel left out, but they'll get a chance to try the treatment later.

Where is the study run from?

All study activities will take place at the William Carey University baseball complex (USA)

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

The study is expected to run throughout the 2024–2025 baseball season.

Who is funding the study?

William Carey University Athletics Department (USA)

Who is the main contact?

Dr Rosalynn Schneider, rschneider@wmcarey.edu

Dr Carissa Rosten, crosten@wmcarey.edu

Contact information

Type(s)

Principal Investigator

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Type(s)

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Additional identifiers

EudraCT/CTIS number

Nil known

IRAS number

ClinicalTrials.gov number

Nil known

Secondary identifying numbers

Nil known

Study information

Scientific Title

Osteopathic manipulative treatment for enhanced pitch performance in collegiate baseball players: a feasibility study on shoulder and hip interventions

Study objectives

An OMT protocol which targets the hips, diaphragm, and throwing shoulder will improve 1) speed 2) spin 3) vertical break 4) zone time of fastball in the experimental group compared with the control group. OMT protocol will also increase the active ranges of motion of the throwing shoulder and the bilateral hips of those in the experimental group compared to the control group.

Kerlan-Jobe Orthopaedic Clinic Shoulder and Elbow Score (KJOC-SES) will also improve in the experimental group compared to control.

Ethics approval required

Ethics approval required

Ethics approval(s)

Approved 01/11/2024, William Carey University Institutional Review Board (710 William Carey Blvd, Hattiesburg, 39401, United States of America; +1 9514156435; irb@wmcarey.edu), ref: 2024-062

Study design

Single-center interventional randomized cross over prospective cohort

Primary study design

Interventional

Secondary study design

Randomised cross over trial

Study setting(s)

University/medical school/dental school

Study type(s)

Treatment

Participant information sheet

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

Health condition(s) or problem(s) studied

Pitch performance in US collegiate baseball pitchers

Interventions

Individual pitchers are eligible for enrollment and are randomized via random number generator into either control or interventional groups.

Both groups consent, complete the Kerlan-Jobe Orthopaedic Clinic Shoulder and Elbow Score (KJOC-SES), and have measurements taken of shoulder and hip ranges of motion. Both groups complete 10 'fastball' pitches.

The experimental group receives Osteopathic Manipulative Treatment (OMT), but the Control group does not, and instead rests for 10 minutes.

After OMT or rest, all subjects repeat range of motion measurement and complete 10 additional baseball pitches.

At 3 week follow up and at 5 week follow up, all subjects repeat the KJOC-SES, range of motion measurement, and complete 10 additional pitches.

At five week follow up, the control group is offered the opportunity to receive intervention (OMT) and undergo an additional 5 weeks of data collection.

Intervention Type

Procedure/Surgery

Primary outcome measure

1. Range of motion of the shoulder and hips, obtained via goniometry at baseline, immediately post-treatment, 3 weeks, and 5 weeks
2. Pitch metrics, obtained via Trackman Radar at baseline, immediately post-treatment, 3 weeks, and 5 week follow up
3. KJOC-SES, obtained at baseline, immediately post-treatment, 3 weeks, and 5 week follow up

Secondary outcome measures

Injury rates reported by the subjects (players) and coaches throughout the course of the study

Overall study start date

15/07/2024

Completion date

15/04/2025

Eligibility

Key inclusion criteria

Participants must be pitchers, currently participating in on the William Carey University baseball team, have a sports physical clearing them for athletic participation for the academic year, and have the permission of their coach to be included in the study.

Participant type(s)

Learner/student

Age group

Adult

Lower age limit

18 Years

Upper age limit

35 Years

Sex

Male

Target number of participants

20

Total final enrolment

16

Key exclusion criteria

1. Injuries which preclude participation in baseball.
2. Insufficient English fluency necessary to complete KJOC-SES

Date of first enrolment

12/12/2014

Date of final enrolment

14/01/2025

Locations**Countries of recruitment**

United States of America

Study participating centre

William Carey University

710 William Carey Blvd

Hattiesburg

United States of America

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Sponsor information

Organisation

William Carey University

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Sponsor type

University/education

Website

<http://www.wmcarey.edu/>

ROR

<https://ror.org/03r7c7356>

Funder(s)

Funder type

University/education

Funder Name

William Carey University Athletics Department; William Carey University College of Osteopathic Medicine Department of Research

Results and Publications

Publication and dissemination plan

Planned publication in a peer-reviewed journal, likely one with focus towards sports medicine, or osteopathic medicine.

Intention to publish date

15/04/2026

Individual participant data (IPD) sharing plan

The datasets generated during and/or analyzed during the current study will be deidentified and available upon request from Carissa Rosten, DO crosten@wmcarey.edu or Danielle Fastring, PhD dfastring@wmcarey.edu

Consent is obtained via Informed consent (accessible to participants either on paper or by phone).

Raw data includes KJOC-SES scores, Trackman pitch data (deidentified) and ROM data (also deidentified).

Data is anonymized to adhere to FERPA standards and replaced with Study ID numbers between 1000 and 2000. It will be kept physically on hand at William Carey for a minimum of 10 years, double-locked.

It can be shared upon reasonable request in its deidentified form for audit for study method integrity, or for secondary analysis (with permission).

IPD sharing plan summary

Available on request