

Effects of Gua Sha intervention on sports performance in badminton players

Submission date 17/03/2025	Recruitment status No longer recruiting	<input checked="" type="checkbox"/> Prospectively registered <input type="checkbox"/> Protocol
Registration date 19/03/2025	Overall study status Completed	<input type="checkbox"/> Statistical analysis plan <input type="checkbox"/> Results
Last Edited 18/03/2025	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

Muscle tearing causes inflammation, which can lead to swelling, soreness, and other symptoms. The most common way for preventing muscle soreness and flexibility reduction are foam roller, massage balls, manual massage, and stretching exercises. Gua Sha is a scraping technique that is effective on anti-inflammatory and analgesia. However, there have been very few studies on scraping intervention in sports in the past. Therefore, the purpose of this study is to investigate the effects of various massage techniques on the performance of badminton players.

Who can participate?

People who live in Taiwan and aged 18-30 years old who are regularly practice badminton for at least twice per week.

What does the study involve?

Participants will be randomly allocated into three groups using sealed envelopes, namely Gua sha group, foam roller group, and control group. Participants in each group will received a 4-week massage interventions by Gua sha, foam roller or massage oil effleurage technique.

What are the possible benefits and risks of participating

The possible benefits include muscle flexibility of the lower extremity improved and further improve the agility and balance. Risks include possible muscle soreness after the measurements.

Where is the study run from?

China Medical University, Taiwan

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

July 2024 to July 2025

Who is funding the study?

China Medical University, Taiwan

Who is the main contact?

Dr Yu-Lin You, oilfish@mail.cmu.edu.tw

Contact information

Type(s)

Public, Scientific, Principal investigator

Contact name

Dr Yu-Lin You

Contact details

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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

Effects of Gua Sha intervention on the flexibility, agility and balance in badminton players

Study objectives

Gua Sha intervention improves flexibility, agility and balance in badminton players

Ethics approval required

Ethics approval required

Ethics approval(s)

approved 30/07/2024, China Medical University Hospital Research Ethics Committee (no. 2 Yude Road, Taichung,, 40047, Taiwan; +886-4-22052121; irb@mail.cmuh.org.tw), ref: CMUH113-REC1-127

Study design

Interventional randomized controlled trial

Primary study design

Interventional

Study type(s)

Other

Health condition(s) or problem(s) studied

Healthy, active, and experienced badminton players

Interventions

Participants will be randomly allocated into three groups using sealed envelopes, namely Gua sha group, foam roller group, and control group. Participants in each group will received a 4-week massage interventions by Gua sha, foam roller or massage oil effleurage technique.

Intervention Type

Other

Primary outcome(s)

Measured before the intervention, and after a 4-week intervention:

1. Agility test measured using hexagon agility tests
2. Muscle properties of lower extremity measured using Myoton (MyotonPRO, Myoton AS, Tartu, Estonia)

Key secondary outcome(s)

Balance ability will be measured by Y-balance test before the intervention and after a 4-week intervention

Completion date

29/07/2025

Eligibility**Key inclusion criteria**

1. Badminton training for two days or more per week, with each training session lasting two hours or more.
2. Age: 18-30 years old

Participant type(s)

Healthy volunteer

Healthy volunteers allowed

No

Age group

Adult

Lower age limit

18 years

Upper age limit

30 years

Sex

All

Key exclusion criteria

1. People with chronic or serious diseases (such as diabetes, cancer, cardiovascular disease, poor liver and kidney function)
2. Pregnant

Date of first enrolment

20/03/2025

Date of final enrolment

29/07/2025

Locations

Countries of recruitment

Taiwan

Study participating centre

Department of Sports Medicine, China Medical University, Taiwan

No. 100, Section 1

Jingmao Road

Beitun District

Taichung City

Taiwan

406040

Sponsor information

Organisation

China Medical University

ROR

<https://ror.org/032d4f246>

Funder(s)

Funder type

University/education

Funder Name

China Medical University, Taiwan

Alternative Name(s)

CMU

Funding Body Type

Private sector organisation

Funding Body Subtype

Universities (academic only)

Location

Taiwan

Results and Publications

Individual participant data (IPD) sharing plan

The datasets generated during and/or analysed during the current study will be available upon request from Dr Yu-Lin You (oilfish@mail.cmu.edu.tw) until 31/7/2026. The personal information of all participants will be anonymized by code name.

IPD sharing plan summary

Available on request

Study outputs

Output type	Details	Date created	Date added	Peer reviewed?	Patient-facing?
Participant information sheet	Participant information sheet	11/11/2025	11/11/2025	No	Yes