

# Effects of Gua Sha intervention on sports performance in badminton players

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

## 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