

## Participant Information Sheet

**Study Title:** Effect of Lumbopelvic Spinal Manipulation on Lower Extremity Performance in Adolescent Athletes

**Principal Investigator:** Xuyang Zhang, Qian Zhang

**Institution:** Beijing Sports University

**Ethics Approval Number:** 2025325H

You are being invited to participate in a research study investigating the role of chiropractic care in enhancing physical performance in adolescent athletes. Before you decide whether to participate, it is important to understand why the study is being conducted and what it will involve. Please read the following information carefully and discuss it with others if you wish. Ask us if anything is unclear or if you would like more information.

This study aims to evaluate whether periodic spinal manipulation, when combined with a standardized neuromuscular training program, can improve strength, agility, power, balance, and endurance in adolescent male athletes.

You have been invited because you are a male student athlete from the sports specialty program at Shandong Heze Martial Arts School, aged between 15–17 years, with at least two years of consistent athletic training and no recent musculoskeletal injuries or major health conditions.

- The total study duration is approximately 6 weeks, including:
  - 1 week of baseline testing
  - 4 weeks of physical training intervention
  - 1 week of post-testing
- You will receive spinal manipulation twice a week along with training sessions (8 sessions total).
- All participants will undergo a battery of 9 physical tests before and after the training period, including:
  - Bench press and squat strength (1RM)
  - Pull-up repetitions
  - Standing broad jump
  - Sprint and agility tests
  - Balance tests

- Training will occur 4 days per week (Monday, Tuesday, Thursday, Friday), supervised by certified coaches.

Participation in this study is entirely voluntary. You may withdraw from the study at any time without giving a reason and without penalty. If you choose not to take part, it will not affect your current training or school activities.

There is a small risk of muscle soreness, fatigue, or strain from training or testing. Spinal manipulation may cause mild, temporary discomfort in some cases. All sessions will be supervised by trained professionals. First aid and emergency procedures are in place.

Although there may be no direct benefit to you, you may experience improvements in your athletic performance. Your participation will help researchers understand how spinal manipulation may support athletic development in youth athletes.

All information collected will remain confidential. You will be assigned a code number instead of using your real name. Data will be securely stored and used only for research purposes.

The results of this study may be published in scientific journals or presented at conferences. You will not be identified in any report or publication. De-identified data may be shared with other researchers to support further research.

If you have any questions about this study or your rights as a participant, you may contact:

**Principal Investigator:** Xuyang Zhang, Qian Zhang

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If you agree to participate, you and your parent/guardian will be asked to sign an informed consent form before any study activities begin.