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Dynamic versus static stretching in the sports warm-up

Submission date 01/02/2010	**Recruitment status** No longer recruiting	[ ] Prospectively registered [ ] Protocol [ ] Statistical analysis plan [ ] Results [ ] Individual participant data [ ] Record updated in last year
Registration date 09/02/2010	**Overall study status** Completed	
Last Edited 09/02/2010	**Condition category** Signs and Symptoms	

Plain English summary of protocol
Not provided at time of registration

Contact information

Type(s)
Scientific

Contact name
Dr Gayle Silveira Rebello

Contact details
Unit 4, 5 Adelaide Terrace
Edwardstown
South Australia
Australia
5039
+61 (0)4 3172 1469
gaylerebello@yahoo.com

Additional identifiers

Protocol serial number
N/A

Study information

Scientific Title
Dynamic stretching in the warm-up enhances both static and dynamic hamstring flexibility while static stretching only impacts static flexibility: a randomised controlled trial

Study objectives
1. Static flexibility measurements will not correlate with dynamic hamstring flexibility measures
2. Static stretching exercises will only improve static flexibility and will have no impact on dynamic hamstring flexibility
3. Dynamic stretching exercises will improve dynamic flexibility and will have no impact on static flexibility
4. The intervention treatments will be gender dependent, i.e., females will achieve greater changes in hamstring flexibility following each of the stretching intervention

Ethics approval required
Old ethics approval format

Ethics approval(s)
Committee for Ethics in Human Research approved from 8th December 2004 until 8th December 2006 (ref: CEHR 04-94)

Study design
Randomised cross-over controlled trial

Primary study design
Interventional

Study type(s)
Treatment

Health condition(s) or problem(s) studied
Hamstring flexibility/hip flexion range of motion

Interventions
The final sample consisted of 12 students of which five females and seven males served as participants.

Participants (n = 12) were randomly assigned to three intervention treatments of 225 seconds on separate days in a cross-over study design:
Treatment 1: No stretching
Treatment 2: Static stretching
Treatment 3: Dynamic stretching

Each participant presented for testing for a duration of approximately 15 minutes on a designated day - once every week for three weeks (three sessions in total).

Intervention Type
Other

Phase
Not Applicable

Primary outcome(s)
Change in hamstring flexibility (hip ROM in degrees) after each intervention (Treatment 1, 2 , 3) from pre-test to post-test

Key secondary outcome(s))
No secondary outcome measures

Completion date
01/07/2006

Eligibility

Key inclusion criteria
1. Drawn from a variety of sporting backgrounds which predominantly involved the lower body
2. Trained lightly for a minimum of three times a week
3. Did not use any routine muscle flexibility training in their regular training program of their specific sport
4. Free of any bony or soft tissue injury to the spine and lower limbs, and no history of the same in the past one year
5. Adults (aged 18 years and over), either sex

Participant type(s)
Patient

Healthy volunteers allowed
No

Age group
Adult

Lower age limit
18 years

Sex
All

Key exclusion criteria
1. Those who had an designated period of stretching in daily warm-up routine
2. History of lower limb/lumbosacral spine injury in the last year
3. Inability to be present for testing sessions every week

Date of first enrolment
01/01/2005

Date of final enrolment
01/07/2006

Locations

Countries of recruitment
Australia

Study participating centre
Unit 4, 5 Adelaide Terrace
South Australia
Australia
5039

Sponsor information

Organisation
Individual Sponsor (Australia)

Funder(s)

Funder type
Other

Funder Name
Investigator initiated and funded (Australia)

Results and Publications

Individual participant data (IPD) sharing plan

IPD sharing plan summary
Not provided at time of registration

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