

Search PubMed for  Go Clear [Advanced Search \(beta\)](#)

Limits Preview/Index History Clipboard Details

Display AbstractPlus Show 20 Sort By Send to

All: 1 Review: 0 

1: [Pediatr Rehabil.](#) 2004 Apr-Jun; 7(2): 97-103.

[Links](#)

**Trunk muscular strength in pre-pubertal children with and without back pain.**

[Merati G](#), [Negrini S](#), [Carabalona R](#), [Margonato V](#), [Veicsteinas A](#).

Centro di Medicina dello Sport, Fondazione Don C. Gnocchi, Milan, Italy.  
gmerati@dongnocchi.it

**OBJECTIVE:** While in adulthood there is no proven relationship between back pain and trunk muscle strength, in pre-pubertal subjects this topic has been poorly studied. The aim of the study was to evaluate isometric and isokinetic trunk muscle strength in children with or without previous back pain. **METHODS:** The recent occurrence of back pain (last 6 months) among 144 children (77 males, 67 females, age 11.9 +/- 0.3 years) was assessed using a questionnaire. Extensor and flexor trunk muscle strength was measured through isometric and isokinetic (60, 90, 120 degrees/s) tests. Peak torque (PT), PT angle, PT flexor/PT extensor ratio and intra-session coefficient of variation (COV) were determined. **RESULTS:** Flexor and extensor muscle PT, but not PT angle, were significantly higher in males than in females, irrespective of back pain occurrence. PT flexor/PT extensor ratio at 90 degrees angular velocities increased significantly only in males with back pain, compared with males without back pain. The COV trend was similar for flexor and extensor muscles. **CONCLUSIONS:** Isometric and isokinetic trunk muscle strength probably play a minor role in back pain occurrence in children. The isokinetic testing velocity may be important in determining trunk strength differences between children with and without back pain. Copyright 2004 Taylor and Francis Ltd.

PMID: 15204580 [PubMed - indexed for MEDLINE]

Display AbstractPlus Show 20 Sort By Send to

**Related Articles**

- ▶ Isokinetic testing of flexor and extensor muscles in athletes suffering from low back pain. [J Sports Med Phys Fitness. 1998]
- ▶ Assessment of isokinetic muscle strength in women who are obese. [J Orthop Sports Phys Ther. 2002]
- ▶ Human trunk strength profile in flexion and extension. [Spine. 1995]
- ▶ Trunk extensor and flexor strength measured by the Cybex 6000 dynamometer. Assessment of reliability. [Spine. 1996]
- ▶ Trunk muscle strength in and effect of trunk muscle exercises for patients with chronic low back pain. [Spine. 1995]

» See all Related Articles...

[Write to the Help Desk](#)

[NCBI](#) | [NLM](#) | [NIH](#)

[Department of Health & Human Services](#)

[Privacy Statement](#) | [Freedom of Information Act](#) | [Disclaimer](#)