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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.

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