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A pragmatic randomised trial of stretching before and after physical activity to prevent injury and soreness.

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Abstract

OBJECTIVE: To determine the effects of stretching before and after physical activity on risks of injury and soreness in a community population.

DESIGN: Internet-based pragmatic randomised trial conducted between January 2008 and January 2009.

SETTING: International.

PARTICIPANTS: A total of 2377 adults who regularly participated in physical activity.

INTERVENTIONS: Participants in the stretch group were asked to perform 30 s static stretches of seven lower limb and trunk muscle groups before and after physical activity for 12 weeks. Participants in the control group were asked not to stretch.

MAIN OUTCOME MEASUREMENTS: Participants provided weekly on-line reports of outcomes over 12 weeks. Primary outcomes were any injury to the lower limb or back, and bothersome soreness of the legs, buttocks or back. Injury to muscles, ligaments and tendons was a secondary outcome.

RESULTS: Stretching did not produce clinically important or statistically significant reductions in all-injury risk (HR=0.97, 95% CI 0.84 to 1.13), but did reduce the risk of experiencing bothersome soreness (mean risk of bothersome soreness in a week was 24.6% in the stretch group and 32.3% in the control group; OR=0.69, 95% CI 0.59 to 0.82). Stretching reduced the risk of injuries to muscles, ligaments and tendons (incidence rate of 0.66 injuries per person-year in the stretch group and 0.88 injuries per person-year in the control group; HR=0.75, 95% CI 0.59 to 0.96).

CONCLUSION: Stretching before and after physical activity does not appreciably reduce all-injury risk but probably reduces the risk of some injuries, and does reduce the risk of bothersome soreness.

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