Relation between foot arch index and ankle strength in elite gymnasts: a preliminary study
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Background: Gymnasts usually start intensive training from early childhood. The impact of such strenuous training on the musculoskeletal system is not clear.

Objectives: To evaluate the relation between muscle strength of the ankle joint and foot structure in gymnasts.

Methods: The study population comprised 20 high level male gymnasts and 17 non-athletic healthy male controls. Arch indices were measured using a podoscope. Ankle plantar/dorsiflexion and eversion/inversion strengths were measured using a Biodex 3 dynamometer within the protocol of concentric/concentric five repetitions at 30˚/s velocity.

Results: The mean arch index of the right and left foot of the gymnasts and the controls were respectively: 31.4 (29.1), 34.01 (34.65); 60.01 (30.3), 63.75 (32.27). Both the arch indices and the ankle dorsiflexion strengths were lower in the gymnasts. Although no correlation was found between strength and arch index in the control group, a significant correlation was observed between eversion strengths and arch indices of the gymnasts (r = 0.41, p = 0.02).

Conclusions: Whether or not the findings indicate sport specific adaptation or less training of the ankle dorsiflexors, prospective data are required to elucidate the tendency for pes cavus in gymnasts, for whom stabilisation of the foot is a priority.

Long term outcomes of inversion ankle injuries
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Background: Ankle sprains are common sporting injuries generally believed to be benign and self limiting. However, some studies report a significant proportion of patients with ankle sprains having persistent symptoms for months or even years.

Aims: To determine the proportion of patients presenting to an Australian sports medicine clinic who had long term symptoms after a sports related inversion ankle sprain.

Methods: Consecutive patients referred to the NSW Institute of Sports Medicine from August 1999 to August 2002 with inversion ankle sprain were included. Exclusion criteria were fracture, ankle surgery, or concurrent lower limb problems. A control group, matched for age and sex, was recruited from patients attending the clinic for upper limb injuries in the same time period. Current ankle symptoms, ankle related disability, and current health status were ascertained through a structured telephone interview.

Results: Nineteen patients and matched controls were recruited and interviewed. The mean age in the ankle group was 20 (range 13–28). Twelve patients (63%) were male. Average follow up was 29 months. Only five (26%) ankle injured patients had recovered fully, with no pain, swelling, giving way, or weakness at follow up. None of the control group reported these symptoms (p<0.0001). Assessments of quality of life using short form-36 questionnaires (SF36) revealed a difference in the general health subscale between the two groups, favouring the control arm (p<0.05). There were no significant differences in the other SF36 subscales between the two groups.

Conclusion: Most patients who sustain an inversion ankle injury at sport and who were subsequently referred to a sports medicine clinic had persistent symptoms for at least two years after their injury. This reinforces the importance of prevention and early effective treatment.