Reviewer’s report

Title: The paediatric flat foot and basic anthropometry in 140 Australian school children. Fatter children not found to have flatter feet.

Version: 1 Date: 19 June 2010

Reviewer: Meredith Wilkinson

Reviewer’s report:

The intended subject of this article is of interest, however, the data does not convincingly support the fact that ‘fatter children not found to have flatter feet’.

Although the study has found results that indicate with increasing weight there is likely to be less flat feet, the children are apparently within the range of normal body weight.

The means from the anthropometric data did not differ significantly, this indicates that the cohort of children in the study were similar and therefore in the realms of normal for weight and height for their age group. If the children are considered within normal limits for these parameters, then conclusions are limited to the relationship between foot posture and anthropometric data of 140 children (as the title of the article suggests). However, the statement that ‘Fatter children not found to have flat feet’ is misleading. Furthermore, as written in the article waist girth was not only strongly correlated to weight but also to height this is unsurprising that taller children were heavier and therefore of normal body proportion?

The outlier was the only subject who had larger body weight, compared with the rest of the children.

Therefore the article in my view should make it clear that the subjects in the study were considered normal (or otherwise in bodyweight). Therefore in the conclusion it should be pointed out, the study is inconclusive about any relationship between overweight and obese children and foot posture and potential pathology as a consequence.

The comparative studies such as Pfeiffer and the Taiwanese reportedly found correlations between flat feet and obesity. I am assuming the definition of obesity is the same worldwide, and overweight (or fat) children were not identified in this study.

With regard to the measurement technique, as it is stated that many of the other studies use footprints to measure the foot posture and this study uses the FPI, are there any studies which compare the taking of footprints and the FPI? There is no remark on the foot posture measurement technique in Pfeiffer’s study.
I think the sentence should read ‘The finding of Pfeiffer has been supported by previously reported………’. I would recommend this change for clarity.

Page 9 Typing error
This study examined 140 children (not 160 children).

In summary, the results of this study is of interest but the finding that fat children have less flat feet has not been clearly proven by the presented data. Therefore, the importance of the finding of any relationship between body size and foot posture in 7-10 year olds is limited.

I reserve the opinion on publication until the author clarifies/comments on the above review.

**Level of interest:** An article of limited interest

**Quality of written English:** Acceptable

**Statistical review:** Yes, but I do not feel adequately qualified to assess the statistics.

**Declaration of competing interests:**

I declare I have no competing interests.