

## **Author's response to reviews**

**Title:** Hallux valgus and hallux rigidus: a comparison of impact on health-related quality of life in patients presenting to foot surgeons in Australia

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1<sup>st</sup> August 2008

Dear JFAR Editors,

Thankyou for the opportunity to respond to the reviewer's comments and resubmit our manuscript titled:

**Hallux valgus and hallux rigidus: a comparison of impact on health-related quality of life** (Manuscript number: MS: 1561728972110834)

Yours sincerely,

Mark Gilheany

Karl B Landorf

# Responses by the authors to the reviewers' comments

## Major Compulsory Revisions

### Comment 1

Concerns about referencing and repetition in the following sentence in the introduction have been raised.

"Hallux valgus is generally felt to be a genetic deformity (with transverse plane joint subluxation in the transverse plane - drifting of the great toe to the outside of the foot) leading to joint degeneration and instability."

In response to this comment we have changed this sentence to;

"Hallux valgus a deformity of the first metatarsophalangeal joint. It is characterised by lateral drift of the great toe in association with joint subluxation. It is considered to be familial (Kilmartin 1993) and may result in degeneration and instability (Menz)."

### Comment 3

Concerns regarding "lack of clarity" in respect to x-ray evaluation and a suggestion to modify the sentence: "Diagnosis was delineated into 'hallux valgus', 'hallux rigidus' or 'other' based on clinical and radiographic parameters.

We have altered the sentence as per the reviewer's suggestion to the following:

"Diagnosis was delineated into 'hallux valgus', 'hallux rigidus' or 'other' based on clinical and *radiographic* evaluation."

### Comment 4

*Concern that there is insufficient discussion relating to the similarities in effect seen on general foot health subscale.*

We felt we had addressed this point adequately - it is difficult to elaborate further on this finding than has already been done without further research. However in consideration of the reviewer's comments we have added further clarification (additional statement is highlighted below).

"The lack of significant difference between the two conditions in respect of footwear and general foot health reflects that although there are distinct differences in pain and function, there are also some similarities.

Alternatively, it is possible that the shoe fit and general foot health domains

of the Foot Health Status Questionnaire are not sufficiently sensitive to detect clinically worthwhile differences between two conditions.

The authors are not aware of any previous studies which have reported the relative impacts of these conditions. These findings are of interest and further research would be of use to explore both the apparent similarities in impact on foot health of these conditions and the appropriateness of the footwear and foot health domains of the Foot Health Status Questionnaire.”

In addition the following has been added to the limitations section of the manuscript.

“Finally, some criticisms have been raised about the Foot Health Status Questionnaire, including its initial development, validation and its ability to discriminate levels of general foot health [24, 25]. The similarities in effect on footwear and general foot health results may reflect a limitation of the Foot Health Status Questionnaire. However, in a comparison with other foot and ankle outcomes by Suk and colleagues [26] the Foot Health Status Questionnaire was rated the highest in quality (methodological quality and clinical utility) of 25 foot and ankle outcome measures.

Comment 4

*Rewording of the following sentence in the limitations section for clarity*

“Thirdly, the findings from this study reflect the status of patients in Australia presenting to foot surgeons and caution is needed generalising these findings to the wider population”.

The sentence has been altered to:

“Thirdly, the study population was recruited from patients in Australia presenting to foot surgeons. As this represents a biased sample caution is needed generalising these findings to the wider population”.

Comment 5

*Further clarification of patient population in the incidence section of the discussion required.*

We have altered the following sentence to include the words presenting to podiatric surgeons as highlighted:

“Of further interest is the proportion of participants with hallux valgus and hallux rigidus within males and females, indicating a possible gender bias of each condition **in patients presenting to podiatric surgeons.**”

[Comment 7](#)

*Ongoing concerns have been raised about power calculations.*

The original response to this issue follows - but in consideration of the concerns raised post hoc power calculations were performed as per:

Erdfelder, E., Faul, F., & Buchner, A. (1996). GPOWER: A general power analysis program. *Behavior Research Methods, Instruments, & Computers*, 28, 1-11.

These calculations confirmed that the findings in respect to pain and function were statistically powerful (Pain - 1-Beta error prob = .85 & Function 1Beta error prob = .89).

*No, an a priori sample size calculation was not performed. The sample size was limited by the nature of participants that enrolled in the study period. Clearly, however, there is sufficient statistical power with the sample size analysed to detect statistically significant differences between the groups. These differences also appear to be clinically worthwhile (i.e. they reach a minimal important difference) at approximately 14 points for pain and 15 points for function.*

*Unfortunately, there has only been one study (Landorf and Radford, The Foot, 2008) evaluating the minimal important differences for the Foot Health Status Questionnaire. This study found minimal important difference values of 14 points for pain and 7 points for function; although it must be stressed that this study evaluated participants with plantar fasciitis, not hallux valgus or hallux rigidus, and it is unknown whether the values are the same across different conditions. The critical point here is that the sample size had sufficient statistical power to detect statistically significant findings, and these findings are, in the absence of further evidence, clinically worthwhile.*

### Minor Essential Revisions

[Comment 1](#)

*Abstract: Last sentence, paragraph 1 is too vague for an abstract.*

In response to this comment we have altered the sentence

“In this project, the foot health status of patients with hallux valgus and hallux rigidus presenting to foot surgeons was compared to determine if there were differences between the two conditions.”

The sentence now reads:

“In this project, the foot health status of patients with hallux valgus and hallux rigidus presenting to foot surgeons was compared.”

### **Discretionary Revisions**

Two points were raised - neither requires action.