



Letter to the Editor

Reply Letter to the Editor on: “Return to sport following Lisfranc injuries: A systematic review and meta-analysis”


Dear Prof Richter,

Thank you for having given us the opportunity to answer the remarks raised by Prof Kerkhoffs. We are pleased that our article has raised his interest.

Before addressing the points raised by Prof Kerkhoffs, we respectfully point to the limited quality of evidence available in this field, as expressly specified in the relevant section of our Discussion [1]. As we explicitly discuss in the article, most of the included studies were only level 3 or 4 evidence [1]. Few studies provided comprehensive descriptions of sporting outcome, particularly with regard to the return times to sport, with many studies reporting return to sport as a secondary outcome measure [1]. Similarly, most of the studies comprised heterogeneous cohorts of patients who had sustained a Lisfranc injury, inevitably including a wide variety of injury types [1]. As such, analysis of and conclusion from the data was at best challenging. Indeed, there are many ways of skinning a cat, and indeed such analysis could have been performed in a variety of ways [1]. Nevertheless, and despite these issues, we have provided the first systematic overview on return to sport following Lisfranc injuries to date. We performed this systematic review and meta-analysis to the best of our ability and available evidence: as any honest clinician scientist, we remain open to valuable criticism and suggestions, and will carry these forward to future research projects.

Regarding the first point, we re-iterate that we used the Modified Coleman Methodology to define the quality of each of the included studies [1,2]. However, the primary aim of the data extraction process was to determine return rates and return times to sport [1]. Some studies may exhibit low Modified Coleman Methodology Scores, but even they provide recorded return rates or return times to sport – this indeed was a necessary inclusion criterion for the systematic review [1]. Thus, with transparent return to sport data from each of the studies, it was more realistic to process this on numerical value than to complicate the data by incorporating risk bias stratification [1]. This provides the reader with a clearer perspective on the expected return rates and return times to sport, whilst allowing the descriptive value of the Modified Coleman Score to inform the reader of the quality of each of the studies [1,2]. It cannot be assumed that a study with a high Modified Coleman Score will have a more accurate assessment and record of return to sport data (the score is more encompassing than this) [2]. Thus, had we weighted the return to sport data based on this, we would have unfairly skewed the results [1]. Hence, we acknowledge that we could have integrated the Modified Coleman

Score into the analysis, but this would have confused the synthesis data obtained from the studies [1].

We confirm that the meta-analysis statistics were all performed using the RevMan Version 5.3 (The Cochrane Group) Programme [1]. For dichotomous data, odds ratios (ORs) were reported for comparison assessment, using a random effects model, with the Mantel-Haenszel Statistical Method [1]. For continuous data, mean differences (MDs) were reported for comparison assessment, using a random effects model, with the Inverse Variance Statistical Method [1]. Cohort heterogeneity was analysed using the I^2 statistic; this was deemed to be significant with $I^2 > 50\%$ [1]. The significance level was set at $p < 0.05$ [1]. In these respects, therefore, our statistical model is sound, and in keeping with the present state of the art when performing such type of investigations.

Regarding the second point, we reinforce that analyses were performed both on the return rates to sport and the return rates to pre-injury level of sport, as described in the Results section of our investigation [1]. Regarding return times to sport, we can only reiterate, as we did in the text of the article under study, that few studies provided comprehensive descriptions of sporting outcome, particularly with regard to the return times to sport [1]. Thus, the majority of studies did not provide return times to pre-injury level of sport [1]. Therefore, this variable could not be provided in the results section, and obviously could not be analysed [1]. This has been discussed in the Limitations section of our article [1]. Given the present data presented in the published articles on the topic at hand, we can but sympathise with Prof Kerkhoffs's remarks, but we cannot be held responsible for not having reported and analysed data which were not available.

Regarding the third point, we would like to advise Prof Kerkhoffs that our systematic review and meta-analysis did adhere fully to the PRISMA guidelines [1,3]. The PRISMA guidelines advise inclusion of a search strategy [3]. Given the current length of the article, this was excluded for succinctness: however, should Prof Kerkhoffs require this, he could have emailed the authors directly: we would happily have provided this [1]. Similarly, had Prof Kerkhoffs required information regarding, for example, the articles excluded because duplication, how the exact identification of suitable articles was achieved or on which basis the articles were excluded after full-text screening, again we would have been, and are, happy to provide this. Having undertaken a large number of systematic reviews and meta-analyses, and having studied at length and in depth the PRISMA guidelines, we can confirm that we cannot specifically find note of these exact requirements in the PRISMA guidelines [3,4]. Lastly, we note Prof Kerkhoffs's advice regarding article screening: the first screening could have been performed by title and abstract. This indeed may have been performed by Prof Kerkhoffs and his team when they undertake such type of investigation, but we can confirm that this again is not specified in the PRISMA guidelines [3,4], and it is entirely appropriate to screen articles by title, when this can be performed accurately.

Regarding the final point, we would like to advise Prof Kerkhoffs that registration within a suitable register, such as PROSPERO, is not mandatory [3,4]. The PRISMA Guidelines advise: 'Indicate if a review protocol exists, if and where it can be accessed (e.g., Web address), and, if available, provide registration information including registration number' [3,4]. Thus, we would then suggest that we did not 'describe that they have followed the PRISMA guidelines, but ultimately failed to report that they did not fully comply with the guidelines' [1]. The authors will however consider registration within a suitable register for future reviews [5–7]. In the competitive world of academic medicine, it is well likely that many authors undertake registration with PROSPERO or similar databases to ensure intellectual priority. Registration in and by itself does not guarantee intellectual honesty.

In conclusion, we would like to thank Prof Kerkhoffs for his comments, though we fail to sympathise with the tone of the letter he has written. As advised in the Limitations section of our article, the quality of the work is limited by the quality of the included studies [1], a reflection of the limited quality of evidence on the topic [1]. However, the methods chosen to undertake the systematic review and meta-analysis were selected purposely, as we feel that this best portrays the information obtained [1]. We do however note Prof Kerkhoffs's advice on how to optimise this, as well as the recommendation for protocol registration. While we respectfully point out that they reflect Prof Kerkhoffs's personal preference and biases, we appreciate his informative letter, and will consider his suggestions for future work in his field.

Funding

No funding or any financial support was provided nor received for the design and writing of the present manuscript.

References

- [1] Robertson GAJ, Ang KK, Maffulli N, Keenan G, Wood AM. Return to sport following Lisfranc injuries: a systematic review and meta-analysis. *Foot Ankle Surg* 2018 in press.
- [2] Coleman BD, Khan KM, Maffulli N, Cook JL, Wark JD. Studies of surgical outcome after patellar tendinopathy: clinical significance of methodological deficiencies and guidelines for future studies. *Victorian Institute of Sport Tendon Study Group. Scand J Med Sci Sports* 2000;10:2–11.
- [3] Moher D, Liberati A, Tetzlaff J, Altman DG, Group P. Preferred reporting items for systematic reviews and meta-analyses: the PRISMA statement. *BMJ* 2009;339:b2535.
- [4] Liberati A, Altman DG, Tetzlaff J, Mulrow C, Gotzsche PC, Ioannidis JP, et al. The PRISMA statement for reporting systematic reviews and meta-analyses of studies that evaluate healthcare interventions: explanation and elaboration. *BMJ* 2009;339:b2700.
- [5] Booth A, Clarke M, Dooley G, Ghera D, Moher D, Petticrew M, et al. The nuts and bolts of PROSPERO: an international prospective register of systematic reviews. *Syst Rev* 2012;1:2.
- [6] Chien PF, Khan KS, Siassakos D. Registration of systematic reviews: PROSPERO. *BJOG* 2012;119:903–5.
- [7] Moher D, Booth A, Stewart L. How to reduce unnecessary duplication: use PROSPERO. *BJOG* 2014;121:784–6.

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Received 27 March 2019