Reviewer’s report

Title: The perceptions of professional soccer players on the risk of injury from competition and training on natural grass and 3rd generation artificial turf.

Version: 1 Date: 25 October 2013

Reviewer: Alan McCall

Reviewer’s report:

This study investigated the perceptions of professional soccer players regarding the risk of injury from training or playing on either artificial turf or natural grass. The study found that the majority of professional soccer players reported that the risk of non-contact injury was higher on artificial turf. Three surface related risk factors on artificial turf were identified; 1. Greater surface stiffness, 2. Greater surface friction, 3. Larger metabolic cost. There was no increased risk perceived regarding contact injury.

1. Major Compulsory Revisions

This study deals with a relevant and important topic in soccer (injury risk). The study design using a survey to uncover the perceptions of players regarding injury risk is both interesting and original. It is a good example of attempting to bring science and practice closer together and the findings can have implications for 1. The practice to guide future research and 2. Practical application for practitioners. However, the research questions and rationale should be clearer.

The rationale should be stronger/explained more clearly. You state that research to date has shown comparable injury rates on surface, why then do you want to study specifically the perceptions of players e.g. to reduce the gap between practice and science? Why is this important to you and to the professional soccer population?

In the discussion of your findings it is not clear what implications they have for future research and what the practical applications are. There should be a more consistent flow to this section with clear interpretations and applications provided based on your findings.

There are some limitations to the study that should be included (see below);

The response rate is low and should be mentioned as a limitation and therefore the generalizability of your results is impacted. For example, 6 teams from 18 in the league corresponds to 33.3%. Also according to the number of players the representation of the league as a whole is low. You state that for 6 teams there were a possible 180 players, if we say on average 30 players per team this would mean from the league as a whole there are 540 players (18 teams x 30 players) meaning that your response is made up of only ~18% of the players of the entire league. This should be stated and taken into account in the interpretation of your
results in the discussion.

The overall concept of this article and its’ design is interesting and original, but the rationale and explanation of the findings and their meaning should be improved to make the article stronger.

2. Minor essential revisions

You change between ‘athletes’ and ‘players’, please harmonize and use ‘players’ throughout the manuscript.

Abstract

Please specify non-contact injury as you found that contact injury was not perceived by players as having an increased risk.

Please change ‘athletes’ to ‘players’ here and throughout

Conclusion: Line 3: Future studies…. Put ‘to’ between systematically and track.

Introduction

First sentence: ‘Soccer is…interest in the sport’. This does not have relevance to the topic and you could open the article with a bigger impact. I would suggest to open the article (introduction) with ‘the impact and or/prevalence of injuries in soccer and that it is important to understand the risk factors for injury in order to reduce them.

Paragraph 1; Line 3: ‘Currently, two types of surfaces are sanctioned by UEFA and FIFA’. Is this up to date as of the present date? What about the 4th Generation?

Paragraph 2; Line 4: ‘Notably missing in this body of literature…….’ This should come later in the introduction when you are justifying the rationale for your survey and leading into the ‘purpose’ of your study.

Paragraph 3; Line 7 ‘However, Nedelec et al…. In the paper by Nedelec et al. the subjects/players were accustomed to training on artificial turf. This may be worth stating and taking into consideration later in the discussion and interpretation of your results.

Methods:

Participating players had to speak or read English, were any players excluded as they did not meet this criterion? If so, how many were excluded?

Please state how many questions were closed and how many were open, also how many were statements.

You state that 10% of data was missing. Can you specify which questions and how many answers were missing for each question.
Please report if no significant differences were found between subjects from different teams (in terms of anthropometric, age data ...).

You should state in the methods section that players were prompted to recall their experiences on 3rd generation and that you provided a detailed description of this type of turf in your survey. It is an important point as the reader could be left wondering if all players are recalling experience on the same artificial turf or some are thinking about the new type or old types.

Discussion

First sentence – you cannot generalise ‘players from North America’ as you only had a sample of approximately 18% of the professional players in North America. You do not know if this reflects the perceptions of all of the players. Please amend to show that the findings indicate that a selected group of professional soccer players.....’

Also in the first sentence: your results showed that the perception of contact injury risk was not related to playing surface, only non-contact, you should make this clear as you write that ‘surface type can affect the risk of injury’ it is misleading as this could mean both contact and non-contact. Please specify non-contact.

Please explain how the mechanisms by which the 3 identified surface mechanical properties may be able to affect injury risk.

Paragraph 2; Line 8 to 14: 'Interestingly.....likely to occur on FT. It is not clear why this finding is 'interesting'. Please rephrase the paragraph to make it more clear for the reader.

Paragraph 3: Line 4: You write that it would be interesting to see if these findings extend to other sports. I think first of all it will be interesting to see if these findings extend to the wider soccer population as your sample is low and will need to be validated with larger sample size and from other football leagues.

Paragraph 3; Line 6: ‘The evidence suggests .... Have not been captured in the current literature’. This may be one possible scenario but the low sample in your study does not make it possible to claim that the ‘evidence suggests this’. Although your findings are interesting the evidence is still weak and needs to be strengthened with further research to see if this is indeed the case.

Paragraph 4; Line 1: Please reference the literature that has found these mechanical properties to affect aetiology of injury.

Paragraph 5; Line 5. There is not enough evidence to state that proper maintenance of artificial turf could reduce the risk of surface related injury. Even if this makes common sense I think according to the evidence to date, it could be recommended to maintain both artificial and natural surface, and that perhaps the risk of non-contact injury and quality of surface should be verified.
Paragraph 7; Line 5; You state that the findings may not be able to be extended to other populations. Please state the limitation of your sample size and that it may not represent the professional elite male soccer population as a whole. And that further research needs to be also performed in this group (as outlined in ‘general comments’ section).

Conclusion

Please specify that artificial turf was related to non-contact injury. As your findings showed contact injury risk was not perceived to be higher on artificial turf.

References

The link for reference number 2 does not exist anymore. Please update this with an up to date link


Level of interest: An article whose findings are important to those with closely related research interests

Quality of written English: Acceptable

Statistical review: No, the manuscript does not need to be seen by a statistician.

Declaration of competing interests:

'I declare that I have no competing interest