Reviewer’s report

Title: A protocol to prospectively assess risk factors for medial tibial stress syndrome in distance runners

Version: 0 Date: 09 Sep 2018

Reviewer: Phillip Newman

Reviewer’s report:

Thank you for this opportunity to review your research proposal. The concept is important to MTSS broadly speaking.

There are a few issues may need some more thought to improve the paper/ project;

Population- distance runners still competing tend to be "survivors". Our data suggests MTSS is much more common in novice runners, with less than 3.5 years of running experience and those running around 3km less than 2x times per week. Targeting a 30km per week group you may miss the more typical sufferer.

Particularly if you choose a more novice runner group you will need to make account for changes in morphology and other measures that are a positive adaptation of training. Make sure you have a very robust measure of training load (and rest ) so that you can give meaningful analysis as to cause and effect of any changes at follow-up.

Leg girth needs to be normalised to height or shank length otherwise your measure may simply be a proxy of another anthropometric feature.

I think I understand your "injury" definition- make sure you articulate this a little more clearly in terms of time loss.

Individual Muscle strength with hand-held dynomometer- are you sure this method will work? Some criticism exists of hand held dyno for high power lower limb muscles.

Surface EMG will be tricky in this area- do you really think you can get independent muscle signals?

If you get enough participants consider some alternatives or additions (train and test approach) to logistic regression- some great freeware around (and some in SPSS) that will enable greater capacity to identify subgroups in your data, with often higher classification accuracy than logistic regression.

I provide these references only to explain this concept, not to pursue citations....... See DOI: https://doi.org/10.1016/j.jsams.2017.10.020 and https://doi.org/10.1016/j.jsams.2017.09.082 OR
https://www.researchgate.net/publication/321443985_Predicting_InjuriesAre_we_using_the_appropriate_statistical_approach.

All the best with the project,

Dr Phil Newman

**Are the methods appropriate and well described?**
If not, please specify what is required in your comments to the authors.

Yes

**Does the work include the necessary controls?**
If not, please specify which controls are required in your comments to the authors.

Yes

**Are the conclusions drawn adequately supported by the data shown?**
If not, please explain in your comments to the authors.

Unable to assess

**Are you able to assess any statistics in the manuscript or would you recommend an additional statistical review?**
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