

# Letter to Editor about “Functional evaluation of the knee following ACL reconstruction: A complex dynamical systems perspective”

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Dear Editor:

We congratulate the authors for the article “*Functional evaluation of the knee following ACL reconstruction: a complex dynamical systems perspective*” (Albano et al., 2020), recently published on the Journal of Human Sport & Exercise. We appreciate the work undertaken by the authors, but we respectfully put forward that the article required further details give how ‘hot’ the topic at hand it. This letter underlines and discusses some relevant details that we suggest should be taken into consideration in this type of articles. Doubtless, the brief review (Albano et al., 2020) deals a very interesting topic about human motion analysis, but some issues need to be clarified:

1. The authors state that they collected all scientific articles from 2000 to 2020. It is not clear why time restriction was applied, and this criterion should be justified.
2. Previous articles (Harbourne et al., 2009; Stergiou et al., 2011) clarified, as milestone, some tricky aspects dialled in “*Functional evaluation of the knee following ACL reconstruction: a complex dynamical systems perspective*”, but the present article makes no mention of them. Moreover, on several occasions there is confusion about “*variability*” and “*stability*”. The difference between these two terms is well described by Stergiou et al. (2011) as used in our recent study (Russo et al., 2020). Stergiou et al. (2011) was cited in the main text of the manuscript, but it is not present in the references list. In addition, this article described well the issue and differences between the linear

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and nonlinear analysis. In this respect, the present review (Albano et al., 2020) is a short replication of the work by Stergiou et al. (2011).

3. In our opinion, the misuse of the terms “*variability*” and “*stability*” affects the search strategy because the search included “*variability*”, but not “*stability*”.

In general terms, it is unclear what this brief review adds to the body of knowledge about ACL and complex dynamic systems. It summarizes some relevant articles in the field, but scientific accuracy and methodological issues should be underlined, according to review guidelines (Impellizzeri et al., 2012). In the abstract, the term “*sport*” is mentioned, none of the references is sport-related. The reported searching strategy and the selection criteria of the articles do not allow reproducing the study. Some cited papers in the results does not match the criteria of Owings et al. (2003) suggesting at least 400 steps to study step kinematic variability on instrumented treadmill. Finally, the brief review does not compare the benefits of linear and nonlinear analysis, and it just summarizes some papers.

The starting point of this brief review (Albano et al., 2020) is very interesting, but does not provide proper details about the “*Functional Evaluation*” because this was not studied, and the article does not provide any suggestions on the best solution to promote the use of these analysis tools for both researchers and professionals. Further rigorous research will need to attend to these points to advance the evidence on this topic.

**Keywords:** Kinematic variability; Stability; Knee; ACL; Gait analysis.

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