Reviewer’s report

Title: Investigation of Cardiopulmonary Exercise Testing Using a Dynamic Leg Press and Comparison With a Cycle Ergometer

Version: 1 Date: 03 Jan 2018

Reviewer: Petros Botonis

Reviewer's report:

The authors have investigated the feasibility of a dynamic leg press for incremental cardiopulmonary exercise testing and compare the results with those obtained using a standard exercise testing modality, versus a cycle ergometer. The study is interesting and well-designed but has some major flows which must be addressed in order to published. These flows are mainly related to the Results sections, where authors must be concise and accurate.

Introduction

Page 2, line 8. do not start a sentence with an abbreviation.

Page 2, line 44. "viz." please change to "versus".

Methods

Page 2 , line 53. "abled-bodied" change to "healthy".

Page 5 , line 5. You should provide some references. It is not needed to provide so much information regarding the outcome measures. For instance, we know that the peak HR is the highest value of heart rate. Specifically, references should be provided in terms of measurement the ventilatory threshold.

Statistical analysis

The statistical analysis is poor. How did you compare the test results of DLP and CE? The t-test in isolation is simplistic. Please also check and report the statistical power.
Results

Indeed, I do not understand the reason of having so many Figures. Please eliminate the figures. For instance, the Figures 2 and 3 are not needed. The figures 3-6 represents the physiological responses of one subject only. This is simplistic and cannot be accepted.

Page 6, Line 22-23. "vo2 peak was 3.207+/-0.499 l/min vs 4.099 =- 0.492 l/min" should be changed into: VO2 peak was lower in DLP (3.21+/-0.50) compared to CE (4.10+/-0.49) (p<0.001).

Please note that it is redundant to report the exact values both in the text as well as in Tables of Figures.

The table 1 should be deleted and the data should be put in the methods section (i.e., subjects description).

The results should be rewritten. Please follow these suggestions when you report your findings.

Discussion

The paragraph incorporate the study limitations should be expanded. Both a sport scientists/practitioners and clinicians should be aware why the physiological values obtained by the dynamic leg press are lower compared to cycling and what this finding exactly means not only for the healthy population but also for the patients. I did not also understand and is not clear if a clinician should use the dynamic leg press instead of cycling to assess.

The scientific references provided should be expanded. In fact you should provide some more references to discuss your results.

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.

No
Are you able to assess any statistics in the manuscript or would you recommend an additional statistical review?
If an additional statistical review is recommended, please specify what aspects require further assessment in your comments to the editors.

I recommend additional statistical review

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Please indicate the quality of language in the manuscript:

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