Author's response to reviews

Title: Using cardiorespiratory parameters to assess functional impairment after knee anterior cruciate ligament reconstruction: a cross-sectional study

Authors:

Marília S. Andrade (marilia1707@gmail.com)
Claudio A. B. de Lira (andre.claudio@gmail.com)
Rodrigo L. Vancini (rodrigoluizvancini@gmail.com)
Fernanda P. Nakamoto (fepatti@uol.com.br)
Moisés Cohen (m.cohen@uol.com.br)
Antonio C. da Silva (anton.fisio@gmail.com)

Version: 3 Date: 21 March 2014

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Title: Using cardiorespiratory parameters to assess functional impairment after knee anterior cruciate ligament reconstruction: a cross-sectional study

18-Mar-2014
Dear Dr. Catia Cornacchia
Executive Editor

_BMC Musculoskeletal Disorders_

We thank you for the opportunity to resubmit a revised version of the original manuscript. We have made a number of extensive revisions and considerably improved major sections of the paper. We believe that the revisions have significantly improved the manuscript and hope it is now suitable for publication in BMC Musculoskeletal Disorders.

Title: The authors need professional copyediting for English usage in their manuscript including the title

**Answer:** Our manuscript was reviewed and edited by an English speaker (Mrs Laura Massey). We are sending you attached the certificate of review.

**ABSTRACT**

**Background:** It is too long for abstract. The authors should shorten it.
Answer: We shortened the abstract as requested by Associate Editor.

**Results:** Cardiorespiratory responses to exercise performed with the involved limb presented higher values after five minutes of cycling. The authors should clearly specify the parameters for cardiorespiratory responses in the results section of the abstract.
Answer: We specify the parameters for cardiorespiratory responses in the results section of the abstract as requested by Associate Editor.

**Introduction**

Line 54-: Recovery of the functional performance of the quadriceps and muscle strength is among the main goals of the ACL rehabilitation programs because it is
closely related to knee function [2]. What does the functional performance of the quadriceps mean?

Answer: We wanted to say about muscle strength, power and endurance capacity. The sentence has been rewritten to clarify the idea.

Methods

Line 85-: All participants trained for three days per week, about 60 minutes per day, for at least one year before ACL lesion and they were sequentially invited to participate in the study, as they started the rehabilitation program, in a private orthopaedic clinic. How did the authors examine the number of the day the subjects performed the training during 12 months before their ACL injuries? How about average and SD values of Tegner activity scale of the subjects?

Answer: Page 85 - All participants trained at least for three days per week (3.5 ± 0.6 days per week). This information has been included as requested by Associate Editor.

Line 124-: Extracting information from previous similar studies for estimation of HR and standard deviation was used, as it was recommended by Noordzij et al [17]. The authors should clearly specify the average and SD of HR values in the previous similar studies for estimation of the standard deviation in the present study.

Answer: Line 124- We used HR and VE means and SD values, published in previous similar studies, to calculate the sample size necessary in our study. The sentence has been rewritten as requested.

LIMITATIONS

There are several limitations in the present study, e.g. small sample size, no information about gender- or age-based difference, the effects of the graft source, or the effects of physical activities before ACL injury.

Answer: Others limitations have been included as requested by Associate Editor.

Figure: The authors should show the representative data about oxygen uptake, carbon dioxide production, minute ventilation, breathing frequency, tidal volume, ventilatory equivalent for O2, ventilatory equivalent for CO2, end-tidal pressure of O2, end-tidal pressure of CO2, and HR at every 20-second during testing.

Answer: Representative data about oxygen uptake, carbon dioxide production, minute ventilation, breathing frequency, tidal volume, ventilatory equivalent for O2, ventilatory
equivalent for CO2, end-tidal pressure of O2, end-tidal pressure of CO2, and HR after
three and five minutes of exercise under a constant submaximal intensity are presented in
the graphs below. Collected data at every 20 second during testing were not included,
because we had a critical problem with our computer, which prevented these data
inclusion. We hope that the data from 3 to 5 test minutes are sufficient to clarify what
the editor wants.

### Heart rate

![Bar graph showing heart rate (HR) comparison between uninvolved and involved limbs over 3 and 5 minutes.]

* * p<0.05 (different from uninvolved limb at same time).

### VO2

![Bar graph showing VO2 comparison between uninvolved and involved limbs over 3 and 5 minutes.]

* * p<0.05 (different from uninvolved limb at same time).
* p<0.05 (different from uninvolved limb at same time).

* p<0.05 (different from uninvolved limb at same time).
Tidal volume

* p<0.05 (different from uninvolved limb at same time).

Breathing frequency

* p<0.05 (different from uninvolved limb at same time).
* p<0.05 (different from uninvolved limb at same time).
* p<0.05 (different from uninvolved limb at same time).

Request from the Associate Editor:

We recommend that you copyedit the paper to improve the style of written English. If this is not possible, you may need to use a professional language editing service. For authors who wish to have the language in their manuscript edited by a native-English speaker with scientific expertise, BioMed Central recommends
Edanz (www.edanzediting.com/bmc). BioMed Central has negotiated a 10% discount to the fee charged to BioMed Central authors by Edanz. Use of an editing service is neither a requirement nor a guarantee of acceptance for publication. For more information, see our FAQ on language editing services at http://www.biomedcentral.com/authors/authorfaq/editing.

Answer: Our manuscript was reviewed and edited by an English speaker (Mrs Laura Massey). We are sending you attached the certificate of review.

Editorial Requirements:
We strongly urge you to make these changes promptly, as we cannot proceed to the next process until we have received a version containing the changes.

1. Please include a title page at the front of your manuscript file. It should contain, at minimum, the names, institutions, countries and email addresses of all authors, and the full postal address of the submitting author.
Answer: We included title page at the front of manuscript file.

2. Kindly name the University that approved the study in the methods section.
Answer: Page 97 – The name has been included.