Reviewer’s report

**Title:** Association of cardiovascular response to an acute resistance training session with the ACE gene polymorphism in sedentary women: a randomized trial

**Version:** 2 **Date:** 26 September 2012

**Reviewer:** James Navalta

**Reviewer’s report:**

This is an interesting investigation that assessed cardiovascular measures in response to an acute resistance-training bout, and partitioned subjects according to their polymorphism for the angiotensin converting enzyme gene. Differences between the polymorphism groups were not observed utilizing traditional statistical analysis tests, but a case for effect size analysis is strongly made. Suggestions to improve each section are noted below, and can be considered Minor Essential Revisions:

Overall, the manuscript could use another detailed English review for wording and phrasing.

**INTRODUCTION**

In the introduction, a paragraph detailing the blood pressure response to resistance training is necessary. This will provide a link as to why the authors believe that an acute resistance-training bout can influence the cardiovascular responses measured, in addition to the ACE polymorphism.

**METHODS**

Rather than “Five gave up for difficulties to move to the laboratory” authors could use “Five participants were lost due to subject mortality.”

Please provide a definition of sedentary and how this was determined.

How were the other adopted exclusion criteria determined? (Health history questionnaire, etc.)

If available, please provide what the average laboratory environmental and temperature conditions were.

**RESULTS**

It is important to note and emphasize in the first paragraph of the results (as well as in table 1) that these data refer to resting values. Perhaps the results section could be divided into Resting, and Acute Resistance Training subheadings to make this distinction clear.

For the second paragraph, please note the type of analysis and values utilized that resulted in no differences (for example, “results of the two-way repeated
measures ANOVA revealed no significant differences between CON and RT sessions when group averages were compared. In addition, this analysis found no differences for group averages between II and ID groups at any time point.” I would suggest removing the reference to figure 1 here as it is confusing to look at the figure and see significance markers) This will make a clear distinction between these results and the effect size differences that are noted in the following paragraph.

In the third paragraph, when referring to magnitude please note what direction the cardiovascular measures occurred (for example: positive or negative, higher or lower, etc.). In table 2, consider notations for moderate and large effect sizes (similar to significance markers, * or †) and include in table legend.

In the fourth paragraph please include appropriate P-value for T10, T20, and T30 so that the readers can know the significance.

DISCUSSION

It is interesting that significant results were found over time for all cardiovascular variables when the entire group was combined (i.e. figure 2), but not when partitioned by polymorphism (figure 1). Is it possible that the sample size in each polymorphism group was not enough to reveal differences? A post hoc power analysis may shed some light on this.

What other gene polymorphisms have the possibility to be investigated, now that these results tend to show some promise?

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

Quality of written English: Needs some language corrections before being published

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 interests