Reviewer’s report

Title: Safety and applicability of a pre-stage public access ventilator for trained laypersons: a proof of principle study

Version: 0 Date: 01 Aug 2017

Reviewer: David Peran

Reviewer’s report:

Thank you for inviting me to review this article. I found the following when reviewing the manuscript:

Methods - experimental protocol

According to the "Figure 1" there is a question about dead space, which might be described here or on the picture. The expiration valve is pretty far from the patient and this might be a practical limitation.

Results

Results are described clearly.

Discussion

Page 9, line 43 - 44: "These problems could be solved through automatic non-invasive ventilation by means of a public access respirator." This claim or hypothesis has no justification in the text and the protocol was not aiming exactly on this. The technical part of the respirator is one thing (signalling of obstruction), but there is always a human factor that we need to consider.

Figure legends

Figures 2 - 4 are not distinct. They need better clarity or technical design.

Summary

Overall, this manuscript is well-written. The methodology is appropriate and the results are clear.

I am curious if the authors come up with other studies about this prototype and if they will prosper the use of it in practise.
I thank the authors for their work on this manuscript and for the opportunity to provide these minor comments.

**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.

Yes

**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 am able to assess the statistics

**Quality of written English**
Please indicate the quality of language in the manuscript:

Acceptable

**Declaration of competing interests**
Please complete a declaration of competing interests, considering the following questions:

1. Have you in the past five years received reimbursements, fees, funding, or salary from an organisation that may in any way gain or lose financially from the publication of this manuscript, either now or in the future?

2. Do you hold any stocks or shares in an organisation that may in any way gain or lose financially from the publication of this manuscript, either now or in the future?

3. Do you hold or are you currently applying for any patents relating to the content of the manuscript?

4. Have you received reimbursements, fees, funding, or salary from an organization that holds or has applied for patents relating to the content of the manuscript?
5. Do you have any other financial competing interests?

6. Do you have any non-financial competing interests in relation to this paper?

If you can answer no to all of the above, write 'I declare that I have no competing interests' below. If your reply is yes to any, please give details below.

I declare that I have no competing interests.

I agree to the open peer review policy of the journal. I understand that my name will be included on my report to the authors and, if the manuscript is accepted for publication, my named report including any attachments I upload will be posted on the website along with the authors' responses. I agree for my report to be made available under an Open Access Creative Commons CC-BY license (http://creativecommons.org/licenses/by/4.0/). I understand that any comments which I do not wish to be included in my named report can be included as confidential comments to the editors, which will not be published.

I agree to the open peer review policy of the journal.