Reviewer’s report

Title: Role of tube size and intranasal compression of the nasotracheal tube in respiratory pressure loss during nasotracheal intubation: a laboratory study

Version: 0 Date: 07 Oct 2016

Reviewer: Shalini Raj Lawrence

Reviewer's report:

Dear Dr Takasugi and team,

Thank you for doing an in-depth study into a subject on which little work has been conducted. I recognise that a lot of thought has gone into the design and methodology of your experiments, and I congratulate the attention to detail.

Strengths: Good study design, relevant results displayed, attention to detail.

Weaknesses: Why could pressure not be directly measured in the clinical subjects rather than using calculations? Nowadays there are pressure sensors that can be inserted directly into small structures. The reader has to be able to understand mathematical and physical principles, which may be worth describing in more detail. The figures need to be better annotated, perhaps at the bottom of each figure rather than as a list to enable to reader to better understand each figure rather than having to keep turning pages. Limited access to several of the references as they are in Japanese

Specific corrections:

I would recommend that you include a picture of the calipers used to measure the mean axis in intubated patients.

Table 1 has been repeated twice.

In Figure 1, please state clearly what 'D' and 'b' are.

In Figure 3 please explain why there is a change in equivalent diameter - to my mind the diameter would remain the same but there would be a change in cross-sectional area and therefore resistance to flow during compression of the nasotracheal tube. Unless by equivalent diameter you mean 'b' in Figure 1? In any case this information is a bit unclear.
Figure 4: There is a significant difference between men and women which has not been discussed in any detail...there is also a significant different in their height and weight which should be discussed in more detail.

Figure 6: In the explanation of the experiment, you did you discuss the significance of the measurements with and without slip joint in place, and yet there are two graphs of results in this figure. Perhaps percentage pressure loss would be more clinical relevant data to present, rather than the raw numbers. This would make the data more useful to interpret.

Figure 9: what is the bottom line in mm?

**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 recommend additional statistical review

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Please indicate the quality of language in the manuscript:

Acceptable

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