Reviewer's report

Title: The effect of changing ventilator settings on indices of ventilation inhomogeneity in small ventilated lungs

Version: 3 Date: 23 July 2006

Reviewer: George Hatzakis

Reviewer's report:

General

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Major Compulsory Revisions (that the author must respond to before a decision on publication can be reached)

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Minor Essential Revisions (such as missing labels on figures, or the wrong use of a term, which the author can be trusted to correct)

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Discretionary Revisions (which the author can choose to ignore)

As per my initial review I find the experiments well conducted and the results sound. However, this work is based on the assumption that air flow and respiratory rate were kept constant throughout the experiments while tidal volume changed following changes of peak inspiratory pressure. These conditions do not exactly describe what seen in clinical practice. Hoping that this approach could also be of clinical usefulness, it would be appreciated if the authors could comment on: 1) whether this model could be applied on humans and if so with what assumptions, 2) whether this model could be applied on humans while tidal volume and respiratory rate vary and if so, how the ventilation inhomogeneity indices would be expected to change in this case.

What next?: Accept after discretionary revisions

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

Quality of written English: Acceptable

Statistical review: Yes

Declaration of competing interests:

I declare that I have no competing interests