Reviewer’s report

Title: Sensitivity of intra-abdominal, intra-organ and intravascular pressures in detecting changes induced by external abdominal pressure with and without PEEP: an experimental study

Version: 2 Date: 4 October 2009

Reviewer: marja boermeester

Reviewer’s report:

The authors performed an interesting study in pigs to evaluate different methods to measure intra-abdominal pressure, induced by a 7 kg weight, with or without PEEP.

Major comments:
This study with all its efforts misses out on the essential question at hand. What is the effect of level of PEEP on the level of elevated intra-abdominal pressure? In other words: at the same 'real' intra-abdominal pressure what level is measured at high or low PEEP level. This question is not answered by present study set-up. Only one PEEP level was used during artificial elevated intra-abdominal pressure, so no comparison can be made. A far more interesting set-up would have been to artifically elevate intra-abdominal pressure and measure at different PEEP settings (0, 5, 10, 15 PEEP). Now we still don't know whether the - too strict - Burch criteria and the clinically adhered cut-off level of 25 mmHg is influenced by the level of PEEP necessary in a particular patient.

The message that we can measure intra-abdominal pressure in many ways reliably does not answer the only really important question: what level under what circumstances requires an intervention?

Statistical analysis is adequate.

Minor comments:
Figures 1 and 2 are uninformative and hard to interpretate. Use medians and range for the group and depict as such. If baseline measurements differ that much among the twelve pigs it will be apparent in the ranges, or the experimental setting is inadequate.

Level of interest: An article of limited interest

Quality of written English: Acceptable

Statistical review: Yes, and I have assessed the statistics in my report.

Declaration of competing interests:
I declare that I have no competing interests.