Reviewer's report

Title: Effects of Changes in Intraoperative Management on Recovery from Anesthesia: A Review of Practice Improvement Initiative

Version: 2 Date: 17 January 2015

Reviewer: Andrea Orfanakis

Reviewer's report:

1. Is the question posed by the authors well defined?
The question is both well defined and an important topic in everyday anesthesia, one which should appeal to private practice and academic, inpatient and surgery center, high volume and slower paced centers.

2. Are the methods appropriate and well described?
The methods are well described, they only made three interventions which allowed for the data to be statistically analyzed adequately.

3. Are the data sound?
The data is indeed sound. Any area which I would like to see them expand on, is the use of reversal for NDMR as this is a big component to respiratory depression. We are seeing, with the increased use of rocuronium, that fewer people are using reversal or if they are using it they are using it indiscriminately (such as without assessing twitch). Both actions have led to an increase in respiratory events in the PACU period.

Also I was surprised to see that on average the post op patients were receiving only 1mg of morphine equivalents. Though not unheard of, this was surprising. The intraop narcotic use wasn’t excessive but it also didn’t explain the lack of narcotic use in the postop period.

4. Do the figures appear to be genuine, i.e. without evidence of manipulation?
It seems very reasonable that desflurane is associated with fewer respiratory events compared to isoflurane. Same thing would go for 3 element prophylaxis for PONV lowering incidence. The overall PONV rate was average for a center so I don’t feel that the data was manipulated.

5. Does the manuscript adhere to the relevant standards for reporting and data deposition?
yes

6. Are the discussion and conclusions well balanced and adequately supported by the data?
The discussion is fine. I don’t think that we can make practice changes based strictly on this data. It was after all retrospective and not randomized. Also due to the small sample size, we can only conclude that this intervention was effective
for this one medical center’s operating room cohort.

7. Are limitations of the work clearly stated?

Some of it, such as study design and cohort are clearly touched on in the discussion. The other area worth expanding on would be PONV risk factors for this specific population. The medications chosen were not without risk and the use was ultimately dictated by the attending anesthesiologist so it is hard to know if the intervention was causal to the outcome. Additional the decrease in PACU opioid use could be the causal effect on decrease PACU PONV, and the decrease in morphine equivalents was an outcome seen.

8. Do the authors clearly acknowledge any work upon which they are building, both published and unpublished?

no

9. Do the title and abstract accurately convey what has been found?

yes

10. Is the writing acceptable?

well written

**Level of interest:** An article of importance in its field

**Quality of written English:** Acceptable

**Statistical review:** Yes, but I do not feel adequately qualified to assess the statistics.

**Declaration of competing interests:**

I declare that I have no competing interests