MPOG Proposal Modifications per PCRC Review

Management of mechanical ventilation during thoracic surgery – variation and trends in clinical practice

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Discussion Points/Questions with Corresponding Responses:

- Will you choose to look at median values and pick a number for pre one-lung and during one-lung and after? Will you pick a median and throw out the highs and lows?

- We anticipate extracting and analyzing tidal volume and other ventilator data at all available time points within the analysis periods described above. This will allow us to determine variability during the ventilation periods as well as minimum, maximum, and median values. Page 8.

- Barrel pressures can be measured simultaneously along with the tidal volumes.

- Ventilator/airway pressure is one of the variables we planned to extract and analyze and this parameter is already in the proposal. Page 6.

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- Have you thought of getting the end tidal $C0_2$ to see if there is rise in permissive hypercapnia and at least by the lower tidal volumes during one-lung ventilation? People allowing lower tidal volumes are allowing for higher CO_2 levels.

- Although this was not considered in the original proposal we completely agree that this would be interesting and worth analyzing. We have added this to the proposal. Page 6.

- The Walsh paper has been looking at the times at a particular tidal volume and making that a parameter. How long you are you going above or below the threshold? This paper is descriptive and does not have an outcome. Walsh looked at the time and had a risk variable.

- As discussed during the meeting, we do not yet have access to the STS database to examine the relationship between these ventilatory exposures and clinical outcomes. The time above a tidal volume threshold or a time

volume integral would be of even greater interest in conjunction with clinical outcomes, but as our current plan is to extract all ventilator data points, calculating the time above a threshold or time-volume and/or time-pressure integrals should be easily feasible and has been added to the proposal. Page 8.

- Since this is a descriptive paper, it may be interesting to show not just the mean but the quantile regression, so you can look at the full distribution.

- This is an excellent suggestion and we have incorporated this concept in the Statistics section of the paper. Page 8.

- We need a revision taking a look at how we get in the concept of duration of injury or possible increase as opposed to presence/absence or median over time. Currently, if that median is over two hours or thirty minutes they are both be represented equally in the current proposal.
- Dr. Saager: I like the idea of looking at the area under the threshold.

- These comments and those above reflect the interest in defining not only the magnitude of the exposure (tidal volume, ventilator pressure, etc.) but the exposure over time as well. As addressed above, the modified proposal incorporates these concepts as we plan to evaluate integrals of pressure and volume over time. Page 8.