**Multicenter Perioperative Outcomes Group (MPOG)**
**PCRC Meeting Notes – August 13, 2012**

**Attendees: P=Present; A=Absent; X=Expected Absence**

| **Active PIs** | | **In-Progress PIs** | |
|---|---|---|---|
| **A** | Kenneth Abbey, MD - OHSU | **A** | Michael Avidan, MD - Wash Univ, St. Louis |
| **P** | Michael Aziz, MD - OHSU | **P** | Daniel Biggs, MD – Oklahoma Univ Med Cntr |
| **X** | Brian Bateman, MD - MGH | **A** | James Caldwell, MD - UCSF |
| **A** | Mitchell Berman, MD - Columbia | **A** | Rich Colquitt, MD – Univ of Virginia |
| **A** | Edward Bitner, MD - MGH | **A** | Robert Craft, MD - University of Utah |
| **A** | Matthias Eikermann, MD - MGH | **A** | Marcel Durieux, MD – Univ of Virginia |
| **P** | Jerry Epps, MD - University of Tennessee | **A** | John Hanks, MD – Univ of Virginia |
| **P** | Ana Bustamante-Fernandez – Univ of Colorado | **A** | Dan Helsten, MD – Wach Univ, St. Louis |
| **A** | Alexander Friend, MD – Univ of Vermont | **A** | Timothy Morey, MD - Univ of Florida |
| **P** | Leslie Jameson, MD - Univ of Colorado | **A** | Marco Navetta, MD – Santa Barbara Cottage |
| **A** | Sachin Kheterpal, MD - University of Michigan | **P** | Nathan Pace, MD – Univ of Utah |
| **A** | William Paganelli, MD – Univ of Vermont | **P** | David Robinowitz, MD – UCSF |
| **A** | Stephen Robinson, MD – OHSU | **A** | Scott Springman, MD – Univ of Wisconsin |
| **A** | John Walsh – MGH | **A** | Kelley Smith, MD – Univ of Utah |
| **Active Chairs** | | **A** | Kevin Wethington, MD – Univ of Utah |
| **A** | Thomas Henthorn, MD – Univ of Colorado | **MPOG** | |
| **A** | Jeffrey Kirsch, MD – OHSU | **A** | Mark Dehring |
| **A** | Howard Schapiro, MD – Univ of Vermont | **P** | Tory Lacca, MBA |
| **P** | Kevin Tremper, PhD, MD – Univ of Michigan | **P** | Amy Shanks, MS |
| **A** | Jeanine Wiener-Kronish, MD – Mass Genn | **Guest:** | |
| **A** | Margaret Wood, MD – Columbia | **P** | Satya Krishna Ramachandran, MBBS |

Meeting started at 2:10pm EST.

**Ground Rules for PCRC:**

1. Each protocol must have specific testable hypothesis with data available in MPOG data structure
2. People requesting specific data elements must also supply that data type to MPOG. If you don't submit that data type currently, then you can't get that type of data type out. However, if you have a co-investigator from another site that does supply that data, then you can ask for that type of data. The reason is so someone on the research team understands the limitations of each data element being requested and used
3. To ensure that there is not a lack of clarity about what the status of the proposal is, each proposal will get the following overall decision at the end of each presentation and discussion
    a. Accept with minimal or no changes required
    b. Accept with major changes required
    c. Revise and reconsider at future meeting
    d. Reject
4. Meeting will be recorded to be shared later with members of MPOG via the MPOG website. There were no objections to this via the members that were on the call.

## Presentation:

**Title:** Effect of high altitude on sleep apnea and incidence of sleep apnea-related preioperative hypoxemia

**Proposed Authors:** Ana Fernandez-Bustamante, MD; Leslie Jameson, MD; Chirag Shah, MD; Sachin Kheterpal, MD, MBA; Satya Krishna Ramachandran, MBBS; Zung Tran, PhD; Others TBD

**Primary Institution:** University of Colorado

**Presentation Overview:**

- Background: Higher incidence of leaner people with sleep apnea in Colorado
- Study question: Is there an altitude effect of lean people with sleep apnea compared to sea-level patients?
- Goal: Compare prevalence of lean sleep apnea patients compared to patients at sea-level

**Discussion Points:**

- For Table 1 need all mallampati scores, not just III or IVl
- What about race? There is an incidence of sleep apnea in lean Japanese patients. Is there race in the database? Race be a confounder
    - Michigan has only race in about 70% of the database and it is based on the scheduling system. It is whatever race you told the clerk you were or what the clerk thinks you are.
    - Suggestion: We can check the overall distribution or ethnicity of race by institution to see if Asian is a confounder or not.
    - One site doesn't have many Asians at all. They are about 90% white (with Hispanics).
    - Vermont has good race information
    - OHSU doesn't have an opinion about race
- For primary outcome, variables with ≥ 3 risk factors will predict OSA. Why not just use those patients with a diagnosis of sleep apnea only?
    - One reason why we need the extra information, is that the PI thinks that it is under-diagnosed and if we only go with diagnosis of sleep apnea we will miss patients
    - The PI thinks that the definition of the primary outcome is skewed towards the obese but not completely towards the obese
- Perhaps look at the prevalence of sleep apnea and the use of CPAP at the multi-center level
    - Look at the prevalence of distribution
        - Known sleep apnea across regions
        - Suspected sleep apnea of obese across regions
        - Suspected sleep apnea of non-obese across regions
    - Then look at it as well by altitude
- How do we deal with the patients with known sleep apnea and how many do we get from each region that MPOG covers?
- Do we have CPAP fields completed?

    - One site has if diagnosed, if prescribed treatment (oxygen, CPAP), how many have tentative diagnosis at the time of surgery
- Sachin suggested
    - Primary outcome: Confirmed sleep apnea distribution
    - Secondary analysis: also present in the additional elements
        - Thoughts of this topic
            - There is no documentation of sleep apnea by a clinician for patients for at least one site. PCP may send patients to get the machine without an official PSG. Therefore diagnosis may not be validated but the patient has been told or thinks that they have sleep apnea
            - Insurance reimbursement for CPAP means it's titrated correctly. Private pay may not be titrated correctly. Titration can take weeks to a year.
- PI wants to look at patterns and symptoms of sleep apnea and if it changes by altitude
    - They agree it's massively under-diagnosed
- Sachin suggested: Still of value to do this epidemiologic study, with keeping in mind that the reader and the community would like it divided into more definite and somewhat definite.
    - Suggests more definite sleep apnea: self-diagnosis, surgery, treatment
        - Get prevalence across these centers among non-obese patients
    - Secondary analysis of suspected sleep apnea
        - Get prevalence across these centers
        - Should we take out BMI<35 out as definition of suspected sleep apnea
        - Any others?
- Look at obese vs. non-obese sleep apnea by center as well
- How do we handle multiple data points for repeat patients?
    - Do we count each patient once operation per year or one per hospitalization?
    - Should we consider each patient just once?
        - If we use patients multiple times, will need to use a mixed model
        - Would it add anything to include patients in the dataset with multiple operations?
    - Decision: Each patient will only be counted once for which anesthesiology was needed to manage the airway
- Can we look at the patient's zip code to determine altitude?
    - Each site has their individual zip codes
        - Can look for altitude for high vs. low
    - Data is de-identified when it is sent to MPOG but not at each individual site
- Can use altitude as a continuous variable.
    - Perhaps see a dose-response effect
    - Should we have 3 groups: (Utah, Denver, all the other centers)
- We can graph prevalence by site and then we can determine which ones are at which altitude
- What else predicts sleep apnea? Should we use a different score?

    - PSAP score: Incorporates the STOP-BANG with Diabetes, short thyromental distance, Malampatti III or IV, and thick neck. We don't ask the question about airway obstruction or daytime sleepiness.
- Authors should consider how to merge variables from different sites into one dataset
    - Krishna discussed how PSAP and STOP-BANG can be equated across different validated studies. However, it's a challenge if we aren't using the same tool across the centers
    - If one site doesn't collect all variables of STOP-BANG, then you cannot comment on the diagnosis of sleep apnea
    - PI needs to expand the variables that should be looked at to make sure we have all the variables in STOP-BANG and PSAP scores
- Author should think about obesity across its current definition and perhaps the BMI of 35 is not reasonable.
    - Is there an official number in the sleep apnea literature at which causes sleep apnea?
        - STOP-BANG is BMI 35
        - PSAP is BMI 30
        - Other articles are BMI 40+
    - Do BMI as binary? Or via WHO classifications?
        - PI is interested in obstructive sleep breathing by BMI
        - PI will think about this further and we may choose to try different cut-offs
- History of prior anesthetics, how was previous upper airway management?
- Should have at least 5 sites available for this project.
- Statistical Analysis: If the risk factors are similar, will do a simple chi-square. If we have confounders, then a multi-variate model will be included

- **Action Item:** Each site will send what elements of STOP-BANG and PSAP that they have
- **Action Item:** Sachin will determine how sleep apnea elements are recorded within the MPOG data structure

**Vote:**

| **Institution** | **Vote** |
|---|---|
| Columbia | Not present |
| Massachusetts General Hospital | Not present |
| Oklahoma University Medical Center | Not present |
| **Oregon Health Science University – Dr. Aziz** | **Accept with minor revisions** |
| Santa Barbara Cottage Hospital | Not present |
| **University of California, San Francisco – Dr. Robinowitz** | **Accept with minor revisions** |
| **University of Colorado – Dr. Jameson** | n/a |

| | |
|---|---|
| University of Florida | Not present |
| **University of Michigan –KKT** | **Accept with minor revisions** |
| **University of Oklahoma – Dr. Biggs** | **Accept with minor revisions** |
| **University of Tennessee – Dr. Epps** | **Accept with minor revisions** |
| **University of Utah – Dr. Pace** | **Accept with moderate revisions** |
| **University of Vermont – Dr. Pagenelli** | **Accept with minor revisions** |
| University of Virginia | Not present |
| University of Wisconsin | Not present |
| Washington University, St. Louis | Not present |

**Final Status:** Accept with moderate revisions. PI will get information from each site how they document these elements. Sachin will send PI how we see the data documented and then it will be revised and sent out to the PCRC group for review.

**Review of Previous Proposals:**

- Mike Aziz – rescue of failed laryngoscopy – Sachin needs to review and will send out for review
- Sachin Kheterpal – AKI – approved and pending abstraction
- Bukky Nafiu – Obesity in kids – approved and pending abstraction
- Will send out the next set of proposals to review so we can
- Hopefully by ASA, we will have manuscripts out for review so PCRC members can state if the manuscript was consistent with PCRC approval

**General Questions/Discussions for the committee:**

- All proposals will be sent out to active and non-active PI's
- Amy will resend out the proposals that are to be re-reviewed to the group
- 38 RSVP's for the MPOG retreat. We still have room for more people
- Agenda for MPOG retreat will be sent out
- Proposals for September and October will be reviewed during the MPOG retreat. Please have one member from each institution available

**ASA MPOG Retreat Updates, Friday, October 12, 2012:**

- Dr. Eisenach will be speaking.
- National leaders and Europe
    - Amsterdam, Germany and Utrecht
    - 38 Confirmed guests