



Anesthesiology Performance Improvement and Reporting Exchange (ASPIRE)

Pediatric Subgroup Meeting Minutes – November 30, 2022

Attendance:

Ben Andrew, Duke University	Diana O’Dell, MPOG Coordinating Center
Meridith Bailey, MPOG Coordinating Center	Vikas O’Reilly-Shah, Seattle Children’s
Nicole Barrios, MPOG Coordinating Center	Uma Parekh, Penn State
Kate Buehler, MPOG Coordinating Center	Vikram Patel, Le Bonheur Children’s Hospital
Morgan Brown, Boston Children’s	Archana Singaravelu Ramesh, Yale
Priti Dalal, Penn State	Lori Riegger, University of Michigan
Olga Eydlin, NYU Langone	Kesavan Sadacharam, Nemours
Lucy Everett, Massachusetts General	Charles Schrock, St. Louis Children’s
Jeff Feldman, CHOP	Ashka Shah, University of Utah
Amber Franz, Seattle Children’s	Nirav Shah, MPOG Coordinating Center
Bishr Haydar, University of Michigan	Ruchik Sharma, University of Virginia
Rebecca Johnson, Metro/Spectrum	Kim Strupp, Children’s Colorado
Tory Lacca, MPOG Coordinating Center	Anna Swenson, University of Minnesota
Eva Lu-Boettcher, University of Wisconsin	Brad Taicher, Duke University
Tiffany Malenfant, MPOG Coordinating Center	

Meeting Summary

Announcements

- New Pediatric Subcommittee Chair and Co-Chair: Drs. Brad Taicher (Duke) & Vikas O’Reilly-Shah (UWashington). Thank you to the outgoing chair: Dr. Bishr Haydar!
- May meeting recap- TRAN03 and TRAN04 will have a per/kg measure, ped sustainability, and unblinded review to benchmark across MPOG pediatric sites. Any questions, reach out to Meridith Bailey or Brad Taicher - happy to set up time to discuss what was missed.
- See [website](#) for 2023 meeting schedule

State of MPOG Pediatrics

- 27 pediatric sites to date: 2,311,506 pediatric cases. opportunity for an immense amount of projects with this data.
- Additional pediatric hospitals have recently joined MPOG - Seattle Children’s and Boston Children’s.
- 5 Pediatric Measures Published in 2022. Most recently published:
 - FLUID-02-Peds: See slide 10 for performance variation by site. Minimizing colloid use in cardiac and non-cardiac cases.
 - SUS-05-Peds: See slide 12 for performance. Nitrous utilization during induction.
- 2023 Planning
 - Develop 2 new pediatric measures

- SUS-06-Peds: Weight-based, low FGF during induction. Eva Lu-Boettcher and Jeffrey Feldman working together on this measure- workgroup meeting in next few months. CHOP has adopted this as a QI initiative recently and is making good progress. Suggest to change verbiage to weight based fresh gas flows rather than low FGF.
 - Jeffrey Feldman (CHOP): Re: nitrous, can follow use rate. Maybe trial unplugging.
 - Vikas O'Reilly-Shah (Seattle Children's): Usage went down, purchasing remained flat. Maybe go to tank usage? But would need to be decommissioned and that would be a large undertaking. Considerations for Dental school.
 - Lucy Everett (MGH): working on getting EPIC alert for appropriate weight based flow for patient.
- ABX-02-Peds: Antibiotic Timing, Intraop
- Other Measures of interest?
 - Jeffrey Feldman (CHOP): Comment about flows during induction. Opportunity for study- follow rate of rise of anesthetic agent concentration to demonstrate that it doesn't change. Can be prospective study- when induction starts goal is to limit rebreathing
 - Kesavan Sadacharam (Nemours): In regard to Nitrous - I would like to hear about any difference in duration of induction or increased incidence of laryngospasm without nitrous for induction.
 - Vikas O'Reilly Shah (Seattle Children's): As far as I've been able to discern we've had no change in times to IV placement nor in airway events during induction since discontinuing nitrous
 - Charles Schrock (St. Louis Children's) - Behavior of different machines might be a potential variable to explore. St. Louis Children's now has a fleet of Getinge Flow-e and Flow-i machines. South African built machines ped neonates- very happy with them/ Have ability to smartly adjust.
 - Jeffrey Feldman (CHOP): GE is the only FDA approved in USA. Spent money to do the trials. 18yr and up and older. robust technology, would use. Technology has been around more than 10 years and used in other parts of the world.
 - Bishr Haydar (UMich): GE Device is FDA cleared for adults only (18+ years)
 - Vikas O'Reilly-Shah (Seattle Children's): As far as I've been able to discern we've had no change in times to IV placement nor in airway events during induction since discontinuing nitrous
 - Archana Ramesh (Yale): In your experience have you seen any difference in mask acceptance since eliminating nitrous oxide?
 - Vikas O'Reilly-Shah (Seattle Children's): Not really. Calm kids go to sleep just as well, ones prone to getting upset or midazolam. We have a low rate of premed, high rate of parental presence, child life/distraction, and use of flavorings in the mask
 - Jeffrey Feldman (CHOP)- No difference in mask acceptance in my practice. Distraction, fragrance are both useful. Caveat, practice at CHOP has a high percentage of midazolam premedication.
 - Amber Franz (Seattle Children's)-I've noticed it's helpful to have a small amount of gas flowing when you first hand them the mask (with flavor

in mask) so that they don't notice the change in smell (as they would when you turn on the gas after they have already smelled the mask)

- Jeffrey Feldman (CHOP): Have not used nitrous in a long while. Don't miss it. APSF/ASA course on Low-Flow anesthesia can be found at the APSF landing page:
<https://www.apsf.org/apsf-technology-education-initiative/low-flow-anesthesia/>
 - The page has information on the practice of low-flow as well as a link to the ASA website to access the course. Unique learning platform using guided simulation and 8 topics taught in 15 minute modules. Free of charge to all interested. 3 CME hours eligible for MOCA safety credits.
- [5 Pediatric Measures Due for Review](#)

Evaluation of PONV Consensus Guidelines in Pediatrics using MPOG Data- Dr. Lucy Everett (MGH)

- Two pediatric research studies approved through PCRC evaluating PONV outcomes
 - PCRC 0145: Aims to evaluate pediatric practice related to recommendations for PONV prophylaxis in the recent Consensus Guidelines (used to construct PONV-04).
 - PCRC 0180: Aims to evaluate the correlation between compliance with PONV prophylaxis and outcomes.
- Additional Questions:
 - Can we validate the previously identified risk factors or assign weighting to them?
 - Can we validate the inclusions/exclusions (case type, etc)?
 - Can we assign any weight based on the MPOG data?
 - Can we identify other specific risk factors that impact outcome?
- Results:
 - **Descriptive data and pilot data show variability by provider. More than 2 risk factors including hist of PONV had a higher pass rate.**
 - **Success on prophylaxis measure did not correlate with success on outcome measure at either pilot center.**
- Discussion:
 - Wes Templeton (Wake Forest) via chat: Another pediatric study (unrelated to PONV) - PCRC 0143 is basically done...risk factor for hypoxemia and OLV in 4-17 years of age. Manuscript has finished the review phase...and should be submitted shortly...

Pediatric Postoperative Mortality Project - Dr. Ruchika Sharma (UVA)

- ASPIRE measure: MORT-01: 30 day in-hospital mortality. two part project.
- Mortality Project
 - Part A: Raw POMR - UVA pilot study of unadjusted 24h, 30d POMR in 2019, 2020, 2021
 - Abstract submitted to SPA
 - Data obtained using the MPOG database - pediatric patients < 18 years of age that underwent surgical procedure with anesthesia between 2019-2021 at the University of Virginia Health System
 - Primary outcomes:
 - Death within 24 hrs → Decision to operate, anesthetic care, ability to care for a deteriorating patient intraoperatively/postoperatively.
 - Death within 30 days → Overall hospital performance

- Secondary outcomes: risk scores, using the Pediatric Risk Assessment (PRAM) score
 - Results: Shared during the meeting but omitted from minutes- will be published after SPA
- Part B: Risk Adjusted POMR
 - STS-CCAS database: participating program outcomes are open to the public.
 - O/E ratios for benchmarking
 - 4 surgical risk categories (STAT 1-5)
- See presentation slides 33-37 for literature to support this project

Open Discussion: Hot Topics in Pediatric Anesthesia

- **Safety**
 - Intraoperative Cardiac Arrest
 - Unplanned reintubation within 24hrs
 - Unplanned ICU admission within 24hrs
 - Unplanned Hospital readmission for outpatient surgery
 - Activation of rapid response team within 24hrs
 - Death within 72hrs of anesthesia (MORT-02?)
 - Medication Error
- **Effectiveness**
 - PACU length of stay \geq 120 min
 - PONV requiring rescue antiemetic (PONV-03)
 - Failed Regional anesthetic
 - Duration of postop intubation (cardiac surgery, neonates)
- **Efficiency**
 - % On time 1st case starts
 - Delayed case start \geq 60 min
 - Emergence Duration: Surgery end --> extubation
 - OR turnover time
 - % Same day case cancellation
- **Equity**
 - Consistent outcomes regardless of
 - Race
 - Ethnicity
 - Gender
 - Socioeconomic status
- **Timeliness**
 - % Emergent cases arriving to OR within 60 min
- **Patient-Centered**
 - Patient Satisfaction survey scores (via MPOG's survey app - MQUARK)
- **Discussion:**
 - Vikas O'Reilly-Shah (UWashington): Should we benchmark quality outcomes for peds anesthesia care? we see inst rate but not anonymized. would be nice to have that information benchmarked. What would be interesting targets?
 - Vikas O'Reilly-Shah (UWashington): Have access to gender/sex but not gender identity.

- Nirav Shah (MPOG Quality Director): As part of PCRC 131, we found that race and ethnicity are under-reported in the MPOG data. Assuming this is a local documentation issue or related to patients not being comfortable self-reporting identity but national level is over 10% but rare for any MPOG to show > 10%.
 - Vikas O'Reilly-Shah (UWashington): Is the discrepancy due to mapping issues or single race as category? self reporting may also be an issue.
 - Nirav Shah: Don't think the data is collected from sites
 - Brad Taicher (Duke): We find that race is being reported but ethnicity is not. Many race projects proposed at Duke, not ethnicity projects, since source cannot be trusted.

Meeting Concluded @ 1606