



## Anesthesiology Performance Improvement and Reporting Exchange (ASPIRE)

Pediatric Subcommittee Meeting Minutes – March 7, 2023

### Attendance:

Andrew Zittleman, MPOG	Kate Buehler, MPOG
Brad Taicher, Duke Children's	Lisa Vitale, Mott Children's
Ben Andrew, Duke Children's	Lucy Everett, MGH
Bob Brustowicz, Boston Children's	Meridith Bailey, MPOG
Bishr Haydar, Mott Children's	Morgan Brown, Boston Children's
Carrie Menser, Vanderbilt	Monica Servin, University of Michigan
David Waisel, Yale	Olga Eydlin, NYU Langone
David Clark, MPOG	Prabhat Koppera, Mott Children's
Diana O'Dell, MPOG	Priti Dalal, Penn State Children's
Ellen Wang, Stanford Children's	Red Starks, USAP
Eva Lu-Boettcher, Univ. Wisconsin	Ryan Brandstret, Bronson Healthcare
Frances Guida Smiatacz, MPOG	Sarah Zhao, MPOG
Jacques Scharoun, Weill Cornell	Tiffany Malenfant, MPOG
James Xie, Stanford Children's	Uma Parekh, Penn State Children's
Jay Deshpande, Wake Up Safe	Vikas O'Reilly-Shah, Seattle Children's
Jeana Havidich, Dartmouth-Hitchcock	Victoria Lacca, MPOG
Kaveh Aslani, Corewell East-Royal Oak	Wilson Chimbara, Mott Children's
Kesavan Sadacharam, Nemours Children's Health	Yuan Yuan, MPOG

### Meeting Summary

Minutes from November 30, 2022 meeting approved - [minutes](#) and [recording](#) posted on the MPOG website for review

### Announcements

- Upcoming Meetings - See [website](#) for 2023 meeting schedule
  - SPA Quality & Safety - Mar 31, 2023 (Austin, TX)
  - Peds Subcommittee Meeting - June, 2023 (virtual) Doodle poll will be posted to basecamp in May
  - MPOG Annual Retreat - Oct 13, 2023 (San Francisco, CA)
- QI Measure Page Updated!
  - New table format and sections for Cardiac, Peds, and Obstetric Measures
  - Toolkit Links
  - Measure reviewers and Version History now available
  - Next Release to include: Flowcharts to outline measure logic, Improve mobile UI, Ability to attach supporting documents
- SUS-03 Measure Released!
  - Informational dashboard - Carbon footprint during induction of anesthesia.

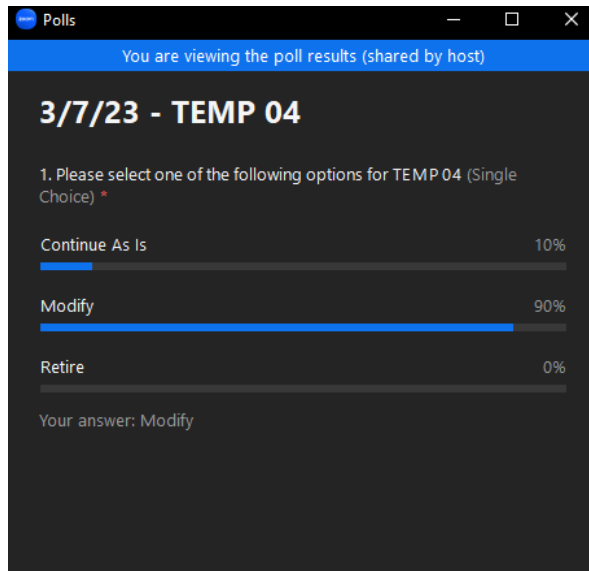
- Beta-version of the measure is available on the dashboard now. Please review and let the Coordinating Center know what modifications may be helpful.
- Please view the [measure specification](#) for more information
- Quality Committee Update
  - Meetings held January 24th and February 27th - Two measures reviewed
  - [Oral Morphine Equivalents, Intraop](#)
    - Pediatric measures include Tonsil/Adenoidectomy & Spine
    - **QC Vote: Modify** or add separate measure for OME in PACU
  - [Transfer of Care: ICU](#)
    - Yes/no measure of whether ICU handoff was documented by anesthesia provider
    - QC Vote: Continue as is, consider adding handoff elements in the future
  - **New Measure Proposed and approved** for - Low dose Sugammadex use (Dr. Megan Anders, University of Maryland)
    - Percentage of cases with sugammadex administration where cumulative sugammadex dose < 200 mg OR  $\leq 3$  mg/kg
      - Fixed cost of 200mg vial
        - Acknowledges dose rounding given small injection volumes
        - Encourages judicious use of NMBD to end with at least TOF = 2
        - Compliant with FDA approved dosing and ASA 2023 guideline
      - Inclusion: Sugammadex administered, Adult patients?
      - Exclusion: No weight documented, ASA 6
      - Attribution options: Provider(s) signed into case at time of last sugammadex administration
- **DISCUSSION:**
  - *James Xie (Stanford) via chat:* Agree with the sugammadex measure - a lot of folks routinely give 4 mg/kg for kids without checking twitches... are you seeing this in your centers?
  - *Brad Taicher (Duke) via chat:* I have seen that. But NMB01 hints at that problem. NMB02 gets to the issue of multiple half lives: it must have worn off by now. This new one appears to be trying to look at smaller doses of sugammadex. It's certainly worth a discussion. Plan to invite Megan Anders and the Maryland team to a future pediatric subcommittee meeting to discuss this measure further.

**00:09:22 Measure Review: [TEMP-04-Peds Dr. Vikas O'Reilly-Shah \(Seattle Children's\)](#)**

- *Vikas O'Reilly -Shah (Seattle Children's/MPOG Pediatric Subcommittee Co-Chair)* presented findings for TEMP04.
  - Artifact reduction built into measure (exclusion criteria)
  - Recommends modifying the measure time period to procedure start to procedure end and modifying definition of hypothermia to move away from median to <5-10% of entire procedural length or AUC, though AUC may be very hard to measure and not necessarily justified in the literature.
- **00:22:47 DISCUSSION:**
  - *Jacques Scharoun (Weill Cornell):* I think if we're going with the idea that hypothermia is bad for the patient, then the smart thing to do is flag certain people who have a time of hypothermia that exceeds a certain threshold. I like the first option the best and to define exposure as < 36C for greater than 30 minutes. Then we're actually focusing on what we believe to be the problem which is a hypothermic baby.

- *Brad Taicher (Duke)*: Agree - using the median will always have bias towards longer cases. To Jacques point, if it's a 4 hour case and the patient is hypothermic for 55 minutes, was that 55 minutes clinically meaningful? Having no data to support this, I feel like it's meaningful to me. I wouldn't want to be left cold for that long during surgery.
- *James Xie (Stanford) via chat*: AUC seems to be the most theoretically "fair", but I do see your point about it not being evidence based and perhaps not worth the complexity.
- *Wilson Chimbira (Michigan Medicine)*: Our team struggles with this measure with only about 70% of patients passing the existing measure. I like the finite option to define exposure.
- *Ben Andrew via chat (Duke)*: It may be worth looking at AUC vs risk for SSI / other complications in a continuous fashion to understand if there is a clinically meaningful inflection point to base a threshold definition upon
- *Meridith Bailey (MPOG Pediatric Program Lead)* - Can move threshold. Can also modify exclusion from <30 minutes to exclude cases < 60 min
- *Brad Taicher (Duke)*: We are all aiming high towards meeting the measure but don't necessarily think the threshold being set high matters. What are we trying to fix? What are we trying to stop? Does hypothermia in fact lead to issues? We can do the research on this topic and get data on what each of these looks like. What is the function of this report? We need data to implement change usefully.
- *Vikas O'Reilly-Shah (Seattle Children's)*: Health systems are looking to us for a national consistent standard that's being used across pediatric hospitals and what it means to be hypothermic in the OR. If we set a minimum single point temp of 36 that would effectively make many cases hypothermic. In a new facility with not enough bair huggers, lots of process issues can arise depending on choice of metric.
- *Brad Taicher (Duke)*: What will the report look like? What's important here is what is actionable and to Wilson's point look at whether hyperthermia should be carved out as a separate measure.
- *Ellen Wang (Stanford) via chat*: Hi, everyone, sorry for the tardiness (conflicting meetings) - I support a separate hyperthermia measure.
- *Bob Brustowicz (Boston Children's) via chat*: What do you do about orthopedic surgeons that do not want the Bair Hugger turned on until the patient is draped?
  - *Vikas O'Reilly-Shah (Seattle Children's)*: We have it on until prep, then turn off until draped
  - *Ellen Wang (Stanford)*: Turn the room temp up!
  - *David Waisel (Yale)*: Another strategy: pull surgeon's SSI data and see how it compares with others who leave it on
- *Jacques Scharoun (Weill Cornell)*: Is anyone using a radiant warmer to supplement forced air warming, especially during skin prep time
  - *Wilson Chimbira (Michigan Medicine)*: yes
  - *Brad Taicher (Duke)*: Only in neonates....
  - *Ellen Wang (Stanford)*: Radiant warmer only in neonates here too
  - *Morgan Brown (Boston Children's)*: We have old radiant warmers which we use for neonates/infants. We've had a hard time identifying a new product as ours are in poor condition

● VOTE:



- **Conclusion: Modify TEMP-04. Multiple modifications proposed including additional hyperthermia measure. Additional detailed survey to be sent out via pediatric basecamp forum.**

**00:31:56 QI Collaboratives in Pediatric Anesthesia (Dr. Jay Deshpande, Wake Up Safe, Executive Director)**

- There is a variety of pediatric committees and registries with a lot of overlapping interest, meetings/activities and people. How can we make sense of this so we are not diluting or diverting attention from the core mission to improve outcomes for children while reducing workload for all of us.
- Wake up Safe has focused on mutual support for reducing specific problems in anesthesia care. It has evolved into both a registry and quality improvement activity consortium. We have worked with ACS Children’s Surgery verification program since it lacks an implementation arm for QI. One example of working together was a few years ago when we provided a workshop on QI.
- How do we leverage both the data collection and hard work that our colleagues are doing to have a multiplier effect rather than a push pull effect.
  - *Brad Taicher (Duke):* Can there be dovetailing of work?
  - *Jay Deshpande (Wake-up Safe):* Yes, believe so. They do tests of changes every day with 2-3 patient’s then up to 35 to see changes. Just as we look at measures and parameters, when you identify an issue the subset of people that can do PDSA over a few months then you complete the pilot phase. ID issue through getting data, and then taking what you learn and applying it rather than waiting for publication).
  - *Jay Deshpande (Wake-up Safe):* Would it be possible to join periodically?
    - *Brad Taicher (Duke):* yes, all are welcome to join this group.

**00:41:25 Pediatric Sustainability Update: [Introducing SUS-06-Peds](#) (Dr. Eva Lu-Boettcher)**

- Low (weight-based) Fresh Gas Flow, Induction
  - Induction: significant opportunity to decrease greenhouse gas emissions
  - Key Determinants: Agent choice and Fresh Gas Flow
  - Questions and Feedback
  - Interest in [SUS Toolkit](#) - Peds?

- Description: Percentage of pediatric cases with a max fresh gas flow (FGF) equal to or less than a weight-based threshold during the induction phase of anesthesia.
  - [Table: Glenski et al 2022. "Low Flow Anesthesia in Pediatric Patients."](#)

Weight (kg)	Mean FGF
< 20	≤ 3 L/min
20-30	≤ 4 L/min
30-40	≤ 5 L/min
> 40	≤ 6 L/min

- Simplified calculation for FGF Induction: Set FGF to exceed minute ventilation (VE) for open circuit conditions: **150 mL x weight (kg)**, where VE~120 ml/kg estimate based upon VCO<sub>2</sub> from Brody's equation (*Values on table calculated based on 150mL x Weight (kg)*)
- Why set induction FGF to exceed minute ventilation during induction?
  - To prevent rebreathing/dilution.
  - [Simulation: "Low Flow Anesthesia"](#) (University of Florida Center for Safety, Simulation & Advanced Learning Technologies)

● **DISCUSSION:**

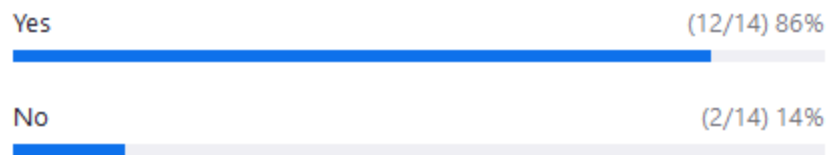
- *Bishr Haydar (Michigan Medicine) via chat:* I saw in the news that Scotland banned desflurane due to its environmental impact
- *Eva Lu-Boettcher (UWisconsin):* Are there other institutions that are utilizing weight-based FGF or is this a new concept?
  - *Wilson Chimbira (Michigan Medicine):* We have a laminated table and it is on every anesthetic machine in all rooms. We do not need a calculator, we can just look up and see it and the information is available .
- *James Xie (Stanford) via chat:* Has anyone successfully worked with anesthesia machine manufacturers / biomed to build in this ml/kg FGF rate when you set patient weight on the machine?
  - *Brad Taicher (Duke):* We are discussing locally with GE how this might be operationalized.
  - *James Xie (Stanford):* Some have also proposed simply reducing the default FGF from 8L/min to 6L/min (150ml/min x 40kg = 6L/min)
- *Meridith Bailey (MPOG Pediatric Program Lead):* Full SUS06 [spec](#)
- *Eva Lu-Boettcher (UWisconsin):* Looking at getting feedback about incorporating a peds component into sustainability toolkit which includes a PPT meant to help sites launch sustainability initiatives at their site. The champion can use the material and present it to colleagues locally. This would be available to all sites publicly on the MPOG website.
  - *Vikas O'Reilly-Shah (Seattle Children's):* Great idea to change default choices upfront. Update choice architecture.
  - *Eva Lu-Boettcher (UWisconsin):* We dropped presets to 1 L/min and have seen 35% reduction of FGF over past months. Toolkit will provide information specifically for peds on SUS 05 and SUS 06. Any latest publications on volatiles.

An obvious choice would be adults on their pre-made toolkits: we already know natural oxide is bad for ozone depletion. Obvious spot to slide in why to avoid nitrous during induction- work toward low FGF.

- *Ellen Wang (Stanford)*: We do not, this would be a practice change for us at Stanford. We should totally do this though.
- *Vikas O'Reilly-Shah (Seattle Children's)*: We default to 3LPM at Seattle Children's. Can increase as desired obv.
- *Meridith Bailey (MPOG Pediatric Program Lead)*: What are you suggesting for attribution for this measure? Should it be informational at the departmental only or should we be flagging cases and including those cases in provider feedback emails?
  - *Eva Lu-Boettcher (UWisconsin)*: I think we can start out as an informational measure for the 1st rollout. I would like to see where we are in terms of what institutions are doing.

1. SUS Toolkit Interest? (Single Choice) \*

14/14 (100%) answered



**Meeting Concluded @ 1702**