

Anesthesiology Performance Improvement and Reporting Exchange (ASPIRE)

Pediatric Subgroup Meeting Minutes – July 21, 2020

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

P	Alina Bodas, Cleveland Clinic	A	Lisa Chan, Arkansas Children's
A	Allan Simpao, Children's Hospital of Philadelphia	P	Lisa Vitale, Michigan Medicine
P	Amber Franz, Seattle Children's	P	Lucy Everett, Mass General Hospital
A	Anna Clebone, University of Chicago	A	Lori Reigger, Michigan Medicine
A	Anna Swenson, University of Minnesota	A	Luis Tollinche, Memorial Sloan Kettering
A	Anastasia Grivoyannis, Weill-Cornell	A	Marco Silvestrini, US Anesthesia Partners
A	Anshuman Sharma, Washington University	P	Morgan Brown, Boston Children's
P	Bishr Haydar, Michigan Medicine	A	Olga Eydlin, NYU Langone
A	Bob Brustowicz, Boston Children's	A	Paul Reynolds, Michigan Medicine
P	Brad Taicher, Duke University	P	Phillip Collier, Beaumont Royal Oak
P	Carrie Menser, Vanderbilt	A	Phillip Yun, OHSU
A	Charles Schrock, Washington University	A	Priti Dalal, Penn State University
P	Cheryl Gooden, Yale University	P	Red Starks, US Anesthesia Partners
A	Christy Crockett, Vanderbilt	P	R.J. Ramamurthi, Stanford
P	Claudia Benkwitz, UCSF	A	Robert Bryskin, US Anesthesia Partners
A	Dan Roke, St. Louis Children's	A	Robert Christensen, Michigan Medicine
A	David Buck, Cincinnati Children's	A	Ronak Patel, University of Virginia
A	Elizabeth Elliot, Children's Hospital of Philadelphia	A	Ruchika Gupta, Michigan Medicine
A	Germaine Cuff, NYU Langone	A	Ryan Bradstreet, Bronson Healthcare Group
A	Gina Whitney, University of Colorado	A	Shannon Grap, Penn State Children's
A	Hamid Vahabzadeh-Monshie, University of Oklahoma	P	Shobha Malviya, Michigan Medicine
P	Imelda Tjia, Texas Children's	P	Stephanie Kahntroff, University of Maryland
A	Jacob Tiegs, NYU Langone	A	Steve Zgleszewski, Boston Children's
A	Jennifer Dagen, US Anesthesia Partners	A	Tetsu Uejima, DuPont Children's
A	Jessica Cronin, John Hopkins Children's	A	Tyler Morrissey, Colorado Children's
P	Jim Fehr, Stanford	A	Uma Parekh, Penn State Children's
A	Jina Sinskey, UCSF	P	Vikas O'Reilly-Shah, University of Washington
P	Joe Cravero, Boston Children's	A	Vivian Onyewuche, Henry Ford-Detroit
P	Jonathan Halem, Penn State Children's	A	Wenyu Bai, Michigan Medicine
A	Jorge Galvez, Children's Hospital of Philadelphia	A	Wilson Chimbira, Michigan Medicine
A	Julianna Mendoza, Stanford University	P	Nirav Shah, MPOG Associate Director
A	Jacques Scharoun, Weill-Cornell	P	Kate Buehler, MPOG Clinical Program Manager
A	Jurgen de Graaff, Erasmus MC-Netherlands	P	Meridith Bailey, MPOG QI Coordinator
A	Laura Gibbs, Michigan Medicine	P	Brooke Szymanski, MPOG QI Coordinator
P	Laura Downey, Emory University	P	Jackie Goatley, Michigan Medicine
A	Lianne Stephenson, University of Wisconsin		
P	Liem Pham, NYU Langone		

Agenda & Notes

- 1) **Roll Call**
- 2) **Thank you to all those who have joined this committee and continue to assist in moving this work forward!** Special thanks to Brad Taicher (Duke), Vikas O'Reilly-Shah (University of Washington), Bishr Haydar (Michigan Medicine), Shobha Malviya (Michigan Medicine), Lisa Vitale (Michigan Medicine) for helping lead this initiative.
- 3) **April 2020 Meeting Recap**
 - a) Meeting Minutes from April 2020 have been posted to the [website](#)
 - b) Established SPA Quality and Safety Measure Workgroup
 - i) Dr. Vikas O'Reilly-Shah and Dr. Brad Taicher to serve as MPOG liaisons
 - c) TEMP-04 Measure Discussion
 - i) Reached consensus on measuring hypothermia intraoperatively
 - ii) Addressed temperature artifact algorithm
 - iii) Exclude MAC/Sedation cases and those without documentation of a core temperature route
- 4) **Upcoming Events/Announcements**
 - a) MPOG Pediatric Subcommittee Meetings
 - i) October 2020: SPA is the weekend after ASA so should not be a conflict
 - ii) December 2020: Webex meeting
 - b) MPOG Quality Committee Meetings
 - i) August 24th 10am EST Webex
 - ii) October 26th 10am EST Webex
 - c) MPOG Annual Retreat: October 2nd, ASA Washington D.C.
 - d) Acute Kidney Injury Toolkit Released!
 - i) [Avoiding Kidney Injury](#) is the 4th toolkit released by MPOG
 - ii) Toolkit Components:
 - (1) [Recommendations for Perioperative Care: Pediatrics](#)
 - (2) [AKI Reference Guide](#)
 - iii) MPOG Measure: [AKI-01](#)
 - (1) Patients \leq 18 years old
 - (2) KDIGO Criterion used
 - (3) Exclusion criteria: baseline creatinine $<$ 0.2mg/dL
 - (4) Success criteria: The creatinine level does not go above 1.5x the baseline creatinine within 7 days post-op or does not increase by \geq 0.3 mg/dL within 48 hours after anesthesia end.
 - iv) Hope for sites to access via the MPOG website and share with their teams to assist with AKI prevention education. Please send feedback to the MPOG Coordinating Center (meridith@med.umich.edu) if additional references should be included or others removed. Thank you!
 - e) New MPOG Lab Concepts for Microbiology variables now available for sites to map
 - i) New Microbiology Category with prefix 'Micro'
 - (1) Culture type (aerobic, anaerobic, AFB etc.)

- (2) Specimen type (wound, CSF, fluid etc.)
- ii) Immunology – Antibody tests
- iii) COVID-19 Related Concepts available
 - (1) Micro – Virology – Coronavirus (SARS-CoV-2)
 - (2) Immunology – Antibody – COVID19 - IgG

5) Measure Performance Review

- a) Temperature Management (TEMP 04) Considerations
 - i) Nadir temp < 35C removed from success criteria
 - (1) Inaccurate temperature monitoring algorithm.
 - (2) Plan to refine year and add nadir temp back flag for TEMP-04 at a later date.
 - ii) Updated artifact algorithm:
 - (1) Exclude all Temperature values that are < 32C and > 40C
 - (2) Apply artifact to exclude minute-to-minute values ≥ 0.5 C difference in temperature.
 - (3) Exclude first 5 minutes of temperature monitoring to account for probe warming
 - (a) Minute-to-minute: exclude first 5 values
 - (b) 5 minute intervals: exclude the first value
 - iii) Outlier cases: Difficulty capturing general anesthetic patients who are transferred directly from MRI → OR
 - (1) Measure code is inaccurately excluding a few cases
 - (2) Working on a solution
 - iv) Additional information provided in case details
 - (1) Nadir temp
 - (2) Preop temperature
 - (3) Postop temperature
 - (4) Lowest temperature
 - (5) Total Time @ lowest temperature
 - (6) % Time temperature < 36C
 - (7) Time from Patient in Room to 1st temp value
 - v) Graph displaying TEMP 04 performance comparison of median temp >36 degrees Celsius for MPOG institutions shared with the subcommittee – see slide 10 from presentation
 - (1) *Vikas O'Reilly-Shah, University of Washington: Question about route of temperature- is it being included as a consideration for excluding cases?*
 - (a) *Bishr Haydar, Michigan Medicine: Core or near-core routes are included: esophageal, bladder, tympanic, rectal, temporal artery, nasopharyngeal, axillary, blood*
 - vi) Graph displaying TEMP 03 (outcome measure) performance comparison of first postop temp < 36 degrees Celsius for MPOG institutions shared with the subcommittee – see slide 11 from presentation
 - (1) *Vikas O'Reilly-Shah, University of Washington: Why is there a significant drop off from sites 76 to 40 for TEMP 03? Is this a known documentation issue or due to case volume?*
 - (a) *Lucy Everett, Massachusetts General Hospital: Mapping of temperature route could be an issue- took some time to find all of the locations within Epic where temp route was located and needed to be mapped for MPOG*

- (b) *Nirav Shah, MPOG Quality Director: Ask pediatric champions to review their data and investigate if cases are being captured appropriately, specifically temperature routes*
 - (2) *Vikas O'Reilly Shah, University of Washington: Are cases that don't have a route excluded?*
 - (a) *Nirav Shah, MPOG Quality Director: Yes- those are excluded which could be leading to over-exclusions. Need sites to validate this data.*
 - (b) *Kate Buehler, MPOG Clinical Program Manager: Meridith and I will look into why there is a drop from site 76 to 40 to see if it's due to low case volume for TEMP 03 or over-exclusion due to lack of route documentation.*
- b) **Opioid Equivalency: Tonsil and Adenoidectomy**
 - i) Average opioid administration measured in units of mg/kg/hr
 - ii) Opioid Equivalency - Informational Measure
 - (1) Opioid equivalents are calculated using conversions given between anesthesia start and anesthesia end for each case. This value is normalized to patient weight (kg) and case length of 1 hour.
 - (2) *Does not include Opioids given in PACU
 - iii) Case Cohort – Tonsillectomy and Adenoidectomy
 - (1) Patients < 18yo
 - (2) CPT: 00170, procedure text with 'tonsil' and/or 'adenoid'
 - iv) [Measure Specification](#)
 - v) Graph displaying average opioid administration across MPOG institutions shared with the committee – see slide 14 from presentation
 - vi) Graph displaying variation in practice seen across providers during tonsillectomy procedures shared with committee (blinded) – see slide 15 of presentation
 - (1) *Lucy Everett- Do we know the variability from surgeon to surgeon for this data?*
 - (a) *Nirav Shah, MPOG Quality Director: MPOG doesn't currently have surgeon data submitted for all sites yet. Limitation to the data.*
 - (2) *Nirav Shah- Would it make sense to add dexmedetomidine?*
 - (a) *Vikas-O'Reilly-Shah, University of Washington: Yes, that would make sense. Does MPOG have information on whether there was an anesthesia trainee was on the case?*
 - (i) *Nirav Shah, MPOG Quality Director- Yes, we do have all anesthesia staff roles. Can add that to the OME provider breakdown to allow QI champion to sort by role*
 - (ii) *Amber Franz, Seattle Children's: Yes add dexmedetomidine but also consider adding toradol*
 - vii) Graph displaying variation in opioid administration across age groups shared with the committee- see slide 16 of presentation
 - (1) Infant (0-1y)
 - (2) Toddler (1-3y)
 - (3) Child (4-7y)

- (4) Adolescent (8-12y)
 - (5) Teen (13-17y)
 - viii) Additional case details available on the OME dashboard for tonsillectomy procedures:
 - (1) Highest Pain Score in PACU (FLACC)
 - (2) Opioids given in PACU (yes/no)
 - (3) Average opioid equivalency administered in PACU
 - ix) Additional pediatric case cohorts to consider for opioid equivalency data sharing
 - (1) Spine (up next)
 - (2) Cardiac
 - (3) Thoracic Surgery
 - (4) Urology
 - (5) Maxillofacial surgery
 - (6) Others?
- 6) **Opioid Free Anesthesia: A QI Project**
- a) Implementation of an opioid-sparing protocol reduced perioperative opioid use by 90% in pediatric ambulatory surgical patients at Seattle Children’s Hospital
 - b) Reference: Franz et al. Anesthesia and Analgesia. 2020
 - c) Study Outcomes
 - i) Postoperative morphine administration reduced from 11 to 6%
 - ii) Cost savings in reduced administration of intraop opioids: \$73,000
 - iii) Maximum postoperative pain score (FLACC, FACES, or Visual Analog) and Postoperative morphine rescue rate
 - iv) Total PACU minutes, Anesthesia Duration and PONV rates remained stable
 - d) Challenges:
 - i) PACU nurse buy-in: Issues addressed in daily huddles which seemed to increase buy-in from nursing staff
 - e) *Shobha Malviya, Michigan Medicine - Is this protocol still used and has it been expanded to other procedures?*
 - i) *Amber Franz, Seattle Children’s: Bellevue (outpatient surgery center) still uses this protocol today and has implemented with other procedures. The Main OR has implemented for appendectomy procedures and it has been successful. Just starting to draft opioid sparing protocols for other orthopedic procedures.*
- 7) **Non-Opioid Adjunct Measure (PAIN 01)**
- a) Description: Percentage of patients < 18 years old who undergo a surgical or therapeutic procedure and receive a non-opioid adjunct preoperatively and/or intraoperatively.
 - b) Success Criteria: At least one non-opioid adjunct medication was administered to the patient during the preoperative or intraoperative period.
 - c) Measure Time Period: Preop Start → Anesthesia End
 - d) Exclusions
 - i) ASA 5 and 6; Patients transferred directly to ICU
 - ii) Organ Harvest (CPT: 01990); Cardiac Surgery (CPT: 00561, 00562, 00563, 00566, 00567, 00580); Obstetric Non-Operative Procedures (CPT: 01958, 01960, 01967)

- iii) Non-operative procedures; Radiology procedures
- e) Responsible Provider: Provider at the beginning of the case (prior to incision)
- f) Non-opioid adjuncts included (Reference: Zhu, Benzon, & Anderson, 2017):
 - i) Acetaminophen
 - ii) Aspirin
 - iii) Ibuprofen
 - iv) Naproxen
 - v) Celecoxib
 - vi) Ketorolac
 - vii) Ketamine
 - viii) Dexmedetomidine
 - ix) Dextromethorphan?

(1) *Bishr Haydar, Michigan Medicine- Any sites using this now? No response from the subcommittee. Assuming sites are not currently using this but if so, please contact the coordinating center, we can add it.*

- x) Gabapentin
- xi) Pregabalin
- xii) Clonidine
- xiii) Magnesium

i) Lidocaine (Infusion only)

ii) *Bishr Haydar, Michigan Medicine: Is this list appropriate for 'passing' a case for administering non-opioid adjuncts?*

(1) *Amber Franz, Seattle Children's: I think so- simply provides more information if we include more medications.*

(2) *Vikas O'Reilly-Shah, University of Washington: Regional may suppress the need for non-opioid adjuncts.*

(a) *Bishr Haydar, Michigan Medicine: Considered including regional for this measure but is difficult to capture with 100% accuracy with MPOG.*

(b) *Joe Cravero, Boston Children's: What is the outcome being measured?*

(i) *Bishr Haydar, Michigan Medicine: Simply just evaluating the use of these medications at this point.*

2) 2020 Plans - Next Steps

- a) Publish additional OME case cohort – Pediatric Spine
- b) Finalize specification for Non-Opioid Adjunct measure (PAIN-01)
 - i) Will post to the forum to gain feedback from the larger group so the coordinating center can move forward with measure build
- c) Send PAIN-01 specification to group and publish measure

Meeting adjourned at: 1158