Anesthesiology Performance Improvement and Reporting Exchange (ASPIRE)

Pediatric Subgroup Meeting Minutes – August 18, 2021

Attendance:

Andrew Zittleman, MPOG	Lora Gibbs, Michigan Medicine
Bishr Haydar, Michigan Medicine	Lori Reigger, Michigan Medicine
Brad Taicher, Duke University	Lucy Everett, Mass General Hospital
Bob Brustowicz, Boston Children's	Meridith Bailey, MPOG Pediatric Program Lead
Carolyn Kuschel, Mott Children's	Morgan Brown, Boston Children's
Charles Schrock, St. Louis Children's	Nirav Shah, MPOG Associate Director
Christy Crockett, Vanderbilt	Priti Dalal, Penn State University
David Waisel, Yale University	R.J. Ramamurthi, Stanford
Eva Lu-Boettcher, University of Wisconsin	Ryan Bradstreet, Bronson Health
James Xie, Stanford	Stephanie Kahntroff, University of Maryland
Jacques Schauron, Weill Cornell	Sydney Brown, Michigan Medicine
Jerri Heiter, St. Joseph Mercy Ann Arbor	Tiffany Malenfant, MPOG
Joe Cravero, Boston Children's	Tory Lacca, MPOG
Kim Strupp, Children's Colorado	Uma Parekh, Penn State University
Kate Buehler, MPOG	Vikas O'Reilly-Shah, Seattle Children's
Lisa Vitale, Michigan Medicine	Wes Templeton, Wake Forest

Meeting Summary

Announcements

- Upcoming Events
  - MPOG pediatric update will be presented at SPA Q&S meeting in October (virtual)
  - Winter Pediatric Subcommittee - December 15th, 1pm EST (virtual)
- New! MPOG Pediatric Subcommittee website

(3:20) **Measure Updates**

- PAIN-01-peds (Multimodal Analgesia)
  - Local anesthetic added as success criteria
  - Discussed adding provider attribution for this measure. Consensus among committee members was to keep PAIN-01 as an informational measure or notify all providers signed into the case. Offers an opportunity for practice reflection.
  - MPOG Quality Committee vote in progress. Will present results at the next pediatric subcommittee meeting.
- PONV-04-peds (PONV Prophylaxis)
  - Expected measure release: October 2021
  - Additional phenotypes built to improve accuracy of capturing risk factors and excluding cases properly.

        - Diagnostic Imaging (measure exclusion)
        - Adenotonsillectomy
            1. Adenoidectomy alone is not considered as risk factor
        - Tympanoplasty
- TRAN 01/02 (Blood Management)
    - Plan is to build separate TRAN 01/02 measures specific to pediatric patients in 2022

(10:30) **MPOG Pediatric Data Review**

- MPOG enables participants to view institutional comparison data on select measures at collaborative meetings. Discussed if the pediatric subcommittee would be interested in a performance review once per year
- (15:00) Majority of committee members are in favor of scheduling an MPOG peds data review. Plan to host a blinded review of this data due to the heterogeneity of subcommittee members.

Neuromuscular Blockade Measure Review

- (19:50) **Train of Four Monitoring (NMB-01)**
    - Reviewed current measure criteria and consensus was to continue measure as is. Some further discussion surrounding how often sites use acceleromyography in pediatric patients.
        - *Brad Taicher, Duke: Only in older kids. Hard to get our device to function well in younger cohort*
        - *Jacques Scharoun, Weill Cornell: Routine use*
        - *David Waisel, Yale: Do not use*
        - *Staphanie Kahntroff, University of Maryland: Do not use*
    - Subcommittee recommendation: No change.

- (23:30) **Reversal Administered (NMB-02)**
    - Measure excludes patients <12y who receive defasciculating doses of non-depolarizing NMB. This practice isn't typically used in pediatrics but some community hospitals around the country use defasciculating doses in adults despite limited evidence
    - Subcommittee recommendation: remove the time based reversal success criteria. Will present recommendations to the quality committee on September 27, 2021.
    - (28:35) **Performance Review/Discussion**:
        - High variability in NMB-01 performance across MPOG sites for cases with patients <18y.
        - Members expressed interest in the correlation of postoperative respiratory complications and NMB-01 performance.
        - Discussion surrounding other reasons for NMB-01 performance variability:
            1. TOF monitors may not be readily available in the OR at certain sites
            2. Acceleromyography values are automatically recorded in Epic where as TOF monitors require manual documentation
            3. Michigan Medicine has seen increased compliance in TOF documentation after focusing on NMB-01 as a department.
        - (33:50) Sugammadex vs. Neostigmine use across MPOG institutions in pediatric patients < 18yo.

(35:18) **Measure Proposal: NMB dosing in infants (NMB-03-peds)**

- Description: Percentage of infant cases that receive appropriate initial dosing of non-depolarizing neuromuscular blocking drugs (NMB) intraoperatively.
- Measure Type: Informational
- Measure Time Period: Anesthesia Start → Earliest Extubation
- Success Criteria: The first (induction) dose of neuromuscular blocker is less than the thresholds below, during the measure time period:
    - Cisatracurium: dose ≤ 0.2 mg/kg
    - Atracurium: dose ≤ 0.5 mg/kg
    - Rocuronium: dose ≤ 1 mg/kg
    - Pancuronium: dose ≤ 0.1 mg/kg
    - Vecuronium: dose ≤ 0.1 mg/kg
- (43:00) **Discussion**
    - Purpose of measure is to draw attention to the issue of rocuronium overdose
        - Consider measuring total dose normalized to case duration and patient weight to show where providers fall on the spectrum of rocuronium dosing in infants (*Sydney Brown, Michigan Medicine*).
    - Exclusion criteria considerations
        - Cardiac Surgery: routinely give large doses of rocuronium to avoid using inhalational anesthetics (*Morgan Brown, Boston Children's; Uma Parekh, Penn State*)
            - We have the ability to redose after the lines are place and alternatively could exclude patients who remain intubated postop (*Bishr Haydar, Michigan Medicine*)
        - Patients on seizure medications or other patient factors that may predispose providers to use more frequent muscle relaxation (*Priti Dalal, Penn State*)
    - Consider including a broad range of procedures initially and then narrow down if needed as MPOG develops additional procedure type phenotypes
    - Majority of subcommittee members in attendance support the development of an NMB dosing measure for infants.

Meeting Concluded @ 1:56pm