ASPIRE Obstetric Anesthesia Subcommittee Meeting
May 22, 2024

Agenda

- Announcements
- February Meeting Recap
- BP-04 and GA-03 Measure Revision Proposal
- BMI Data
- Azithromycin Proposed Measure Data and Vote
- Measure Review: TEMP-05

Announcements

- Future Meeting Dates:
  - MPOG OB Subcommittee
    - Sept 25, 2024 @1pm EST
    - December 4, 2024 @ 1pm EST- moving to four subcommittee meetings a year
  - MPOG Retreat
    - October 18th in Philadelphia, PA
- Vice-Chair to serve alongside Dr. Togioka on the MPOG OB Subcommittee.
  - If interested, please submit letter of interest to Dr. Togioka or Nicole.
- Patient pregnant phenotype- would like to start a workgroup to generate ideas to capture this population. Volunteers needed, please reach out to Dr. Togioka or Nicole if interested.

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February Meeting Recap

- Thank you to Drs. Melinda Mitchell and Sharon Abramovitz for leading the measure reviews of GA-01 and GA-02. Subcommittee voted to continue this measure as is (no changes).

- Dr. Brendan Carvalho joined the subcommittee to discuss the Society for Obstetric Anesthesia and Perinatology (SOAP) and the process to apply to become a Center of Excellence (COE).

PAEDIATRIC ANAESTHESIA

Behavioural disorders after prenatal exposure to anaesthesia for maternal surgery

Caleb Ing[1,2,*], Jeffrey H. Silber[3,4], Deven Lackraj[1], Mark Olfson[2,5], Caleb Miles[6], Joseph G. Reiter[3], Siddharth Jain[3], Stanford Chihuri[1], Ling Guo[1], Cynthia Gyamfi-Bannerman[7], Melanie Wall[5,6] and Guohua Li[1,2]

Background: Anesthetic medications cross the placenta prenatally during a period of brain vulnerability.
Objective: Determine if prenatal exposure to anesthesia is associated with a diagnosis of disruptive or internalizing behavioral disorder (DIBD).
Primary Endpoint: BIDB= ADHD, oppositional defiant disorder, bipolar, depression, anxiety
Population: Nationwide sample of pregnant Medicaid women with live birth infants who underwent appendectomy or cholecystectomy between 1999-2013.
Methods: Multivariate matching of each birthed child with 5 unexposed children.
Results: 34,271 prenatally exposed children were matched with 171,355 controls. Using a Cox proportional hazards model, prenatally exposed children were 31% more likely than unexposed children to receive a diagnosis of DIBD. Prenatally exposed children were more likely to exhibit disruptive (32%), internalizing (36%), AHDH (32%), language disorder (16%), and autism (31%).

BP-04 Request to add Provider Attribution

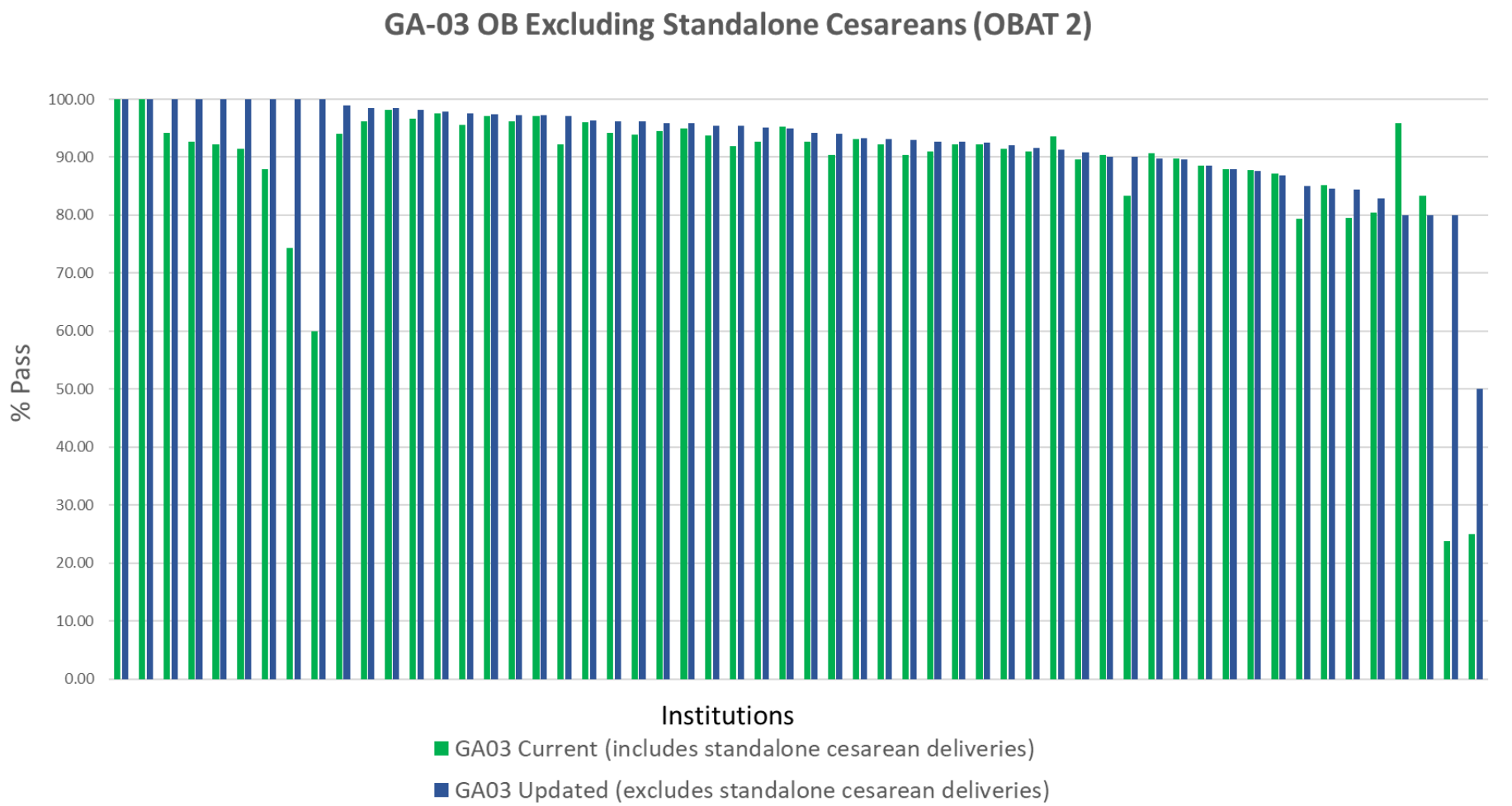
- BP-04: Percentage of cases with systolic blood pressure < 90 mmHg for ≤ 5 (cumulative) minutes.

- Currently this is a departmental only measure and is not available for provider feedback emails. Sites have requested for this measure to be available for provider feedback emails.

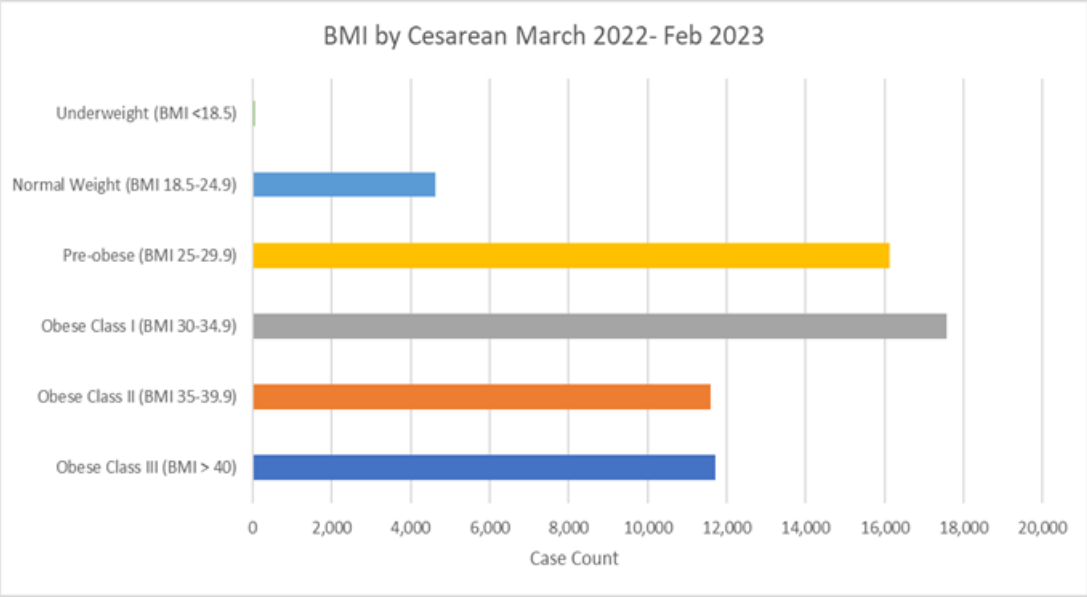
- Provider Attribution Discussion
  - Provider signed in for at least 5 min of hypotension? Propose all roles for attribution?

Revise GA-03 Measure

- Summary (voted to approve)
  - GA-01: All cesarean deliveries included
  - GA-02: All cesarean deliveries in which a neuraxial block is documented prior to incision
- Proposed revision: GA-03
  - Remove standalone cesarean deliveries (OBAT value = 2)
  - Goal: Assess for failure to convert labor epidural to surgical block
  - Numerator: Cesarean deliveries completed with epidural
  - Denominator: Intrapartum cesarean delivery with labor epidural
  - Flagged cases: Cesarean delivery completed under GETA
  - Include only cesarean deliveries in which an epidural is documented prior to incision
- Exclusions
  - Standalone cesarean delivery (OBAT value = 2)
  - Epidural placed within 1 hour of incision
  - Cesarean Hysterectomy


GA-03 OB Excluding Standalone Cesareans (OBAT 2)
100.00
90.00
80.00
70.00
60.00
50.00
40.00
30.00
20.00
10.00
0.00
% Pass
Institutions
GA03 Current (includes standalone cesarean deliveries)
GA03 Updated (excludes standalone cesarean deliveries)

Recap from Nov Meeting- BMI and Cesarean Deliveries



- According to the CDC, in 2020 31.8% of live births were cesarean deliveries
- Charting in EHR is often of woman's current gestational weight
- Subcommittee expressed interest in examining upper BMI >40 data

Ann Med Surg (Lond). 2018 Dec; 36: 129–134.
Published online 2018 Nov 2. doi: 10.1016/j.amsu.2018.10.023
PMCID: PMC6234280
PMID: 30455878

Anesthetic and obstetric outcomes in pregnant women undergoing cesarean delivery according to body mass index: Retrospective analysis of a single-center experience

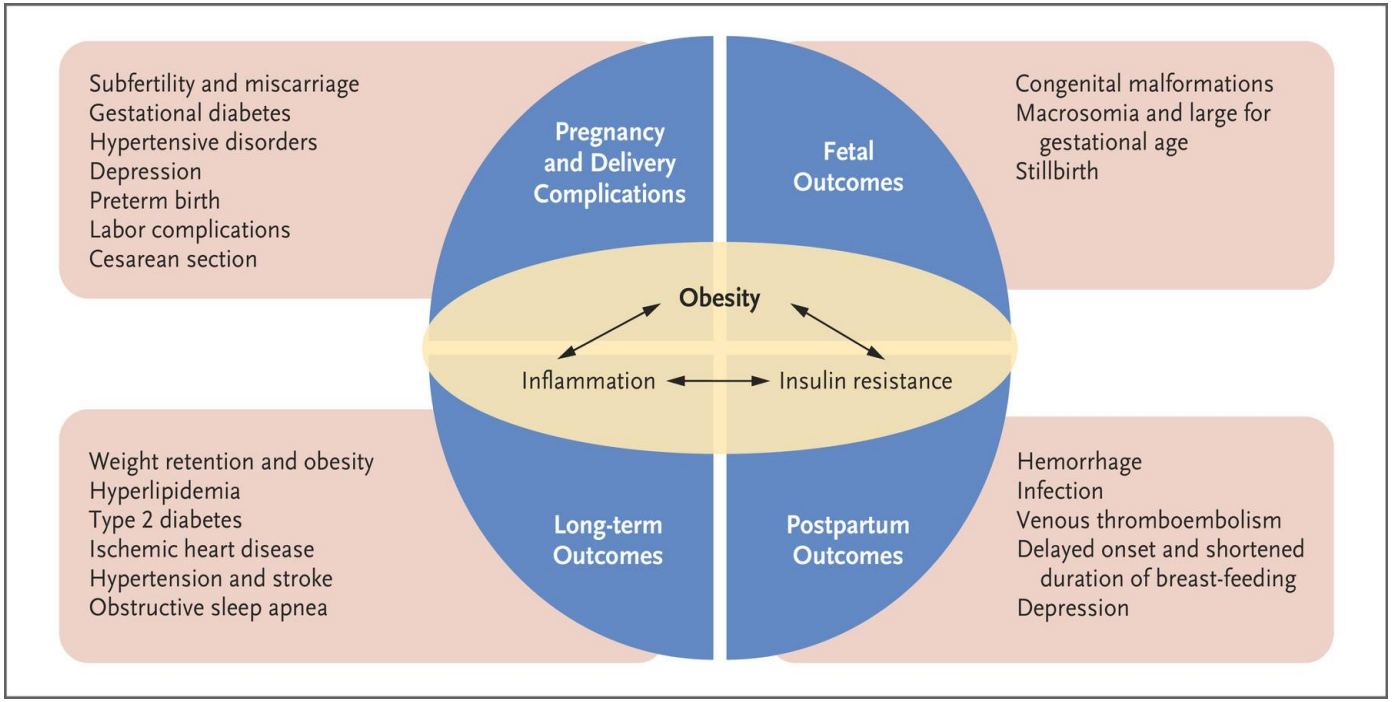
Efrain Riveros-Perez,[a,b,*] Jacob McClendon,[c] Jennifer Xiong,[d] Thomas Cheriyan,[e] and Alexander Rocuts[e]

- Retrospective analysis of 771 patients
- Found intraoperative blood loss was significantly higher in the morbidly obese category.
- Approximately 100 ml greater blood loss in morbidly obese.

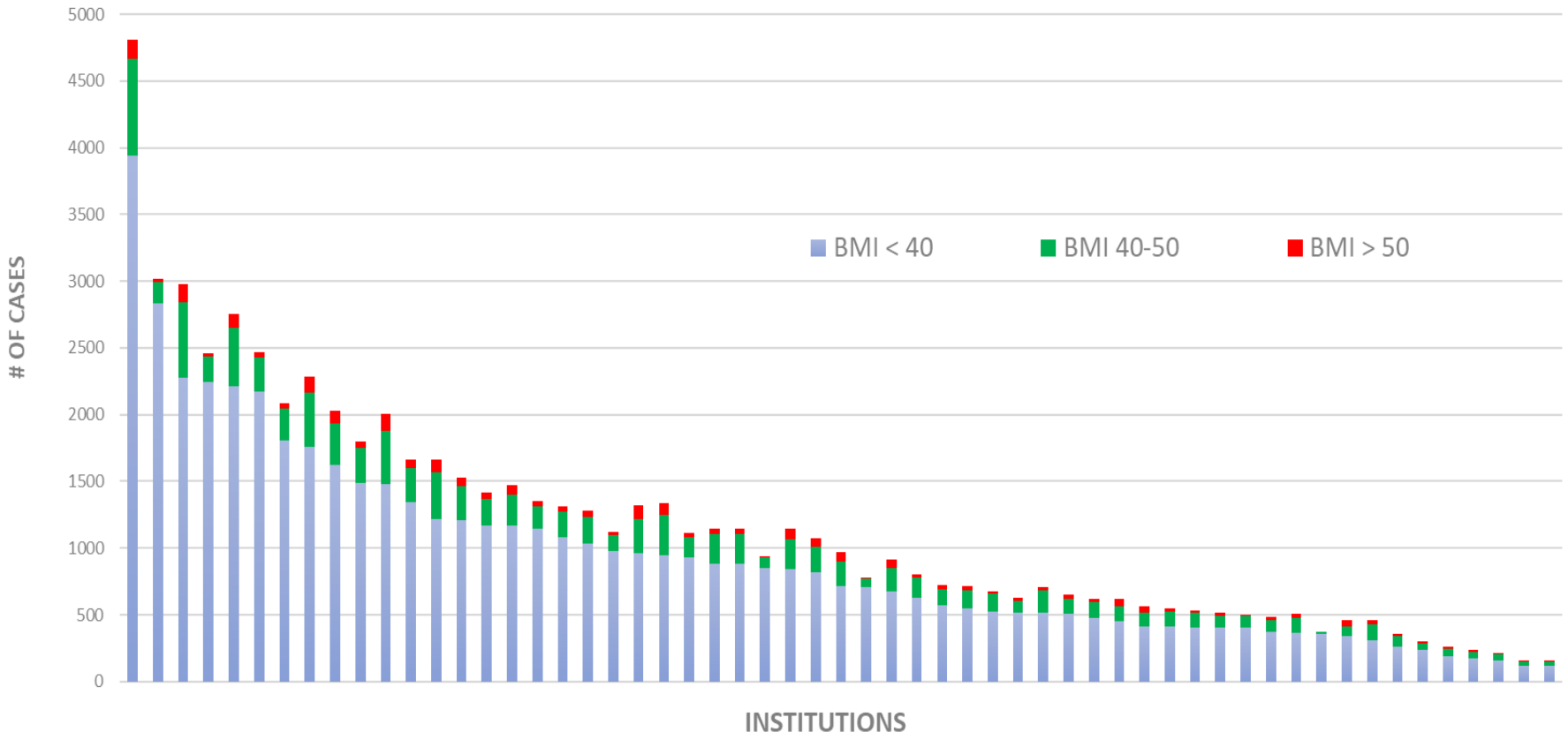
Demographic variables between normal, obese and morbidly obese patients.

Characteristics	Normal (n = 213)	Obese (n = 365)	Morbidly Obese (n = 193)	*P*-value
Age (years)				
Median ± SD	27.05 ± 6.1	27.98 ± 5.9	28.9 ± 5.1	**0.036**
Gestational age at delivery (weeks)				
Median ± SD	35.7 ± 4.0	37.1 ± 3.1	36.7 ± 3.9	.023
Race, n (%)				
Asian	9 (4.2)	12 (3.3)	1 (0.5)	**<.001**
Black	95 (44.6)	209 (57.3)	128 (66.3)	
Caucasian	96 (45.1)	115 (31.5)	56 (29)	
Hispanic	9 (4.2)	28 (7.7)	5 (2.6)	
Other	4 (1.9)	1 (0.3)	3 (1.6)	

Maternal Outcomes Associated with Obesity



Obesity in Pregnancy | NEJM


BMI by Institution - Cesareans Sections (OBAT 1,2,7)
*Excludes Hysterectomies (OBAT 4 and 8)
March 2023 - March 2024
5000
4500
4000
3500
3000
2500
2000
1500
1000
500
0
OF CASES
BMI < 40
BMI 40-50
BMI > 50
INSTITUTIONS

Additional Points of Interest for BMI

- Is the subcommittee interested in continuing to investigate this topic?
- Are there evidence-based interventions in the high BMI population that we should assess for measure creation?
  - Screening for obstructive sleep apnea?
  - Higher cefazolin dosage?
  - PACU glucose?
- Are there other data points that would be of interest?
- Any other topics you would like to discuss at OB Subcommittee meetings?
  - Send them to Nicole or Dr. Togioka throughout the year or post to basecamp.

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Reminders:

Per the terms and conditions outlined during the registration process:

• A culture of openness and trust are critical to the development of such a collaborative effort to improve quality; and **a commitment for confidentiality is required to further the goals of ASPIRE.**

• The following examples are to be considered privileged and confidential information and should be discussed only within the confines of the Obstetric Subcommittee Meeting.

- Any and all patient information.
- Any and all patient identifiers/information which are considered privileged and protected health information as defined by current HIPAA laws.
- Any specific MPOG QI registry case information.
- Any information discussed regarding a specific site outcome.
- Any reference to a specific MPOG site result or analysis.
- All anesthesiology data presented including but not limited to outcome reports.
- **Taking screenshots, pictures or videos of data slides is prohibited.**

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Site Participation

- All sites that perform >75 cesarean procedures annually are presented on the slides to follow
- This is a closed meeting: registration required to receive the Zoom link.
- Only those sites who have a participant on the obstetric subcommittee are unblinded
- Obstetric Anesthesia Champions were notified that unblinded data would be shared and were given the opportunity to opt out
- No sites emailed us to express a desire to be excluded from this review

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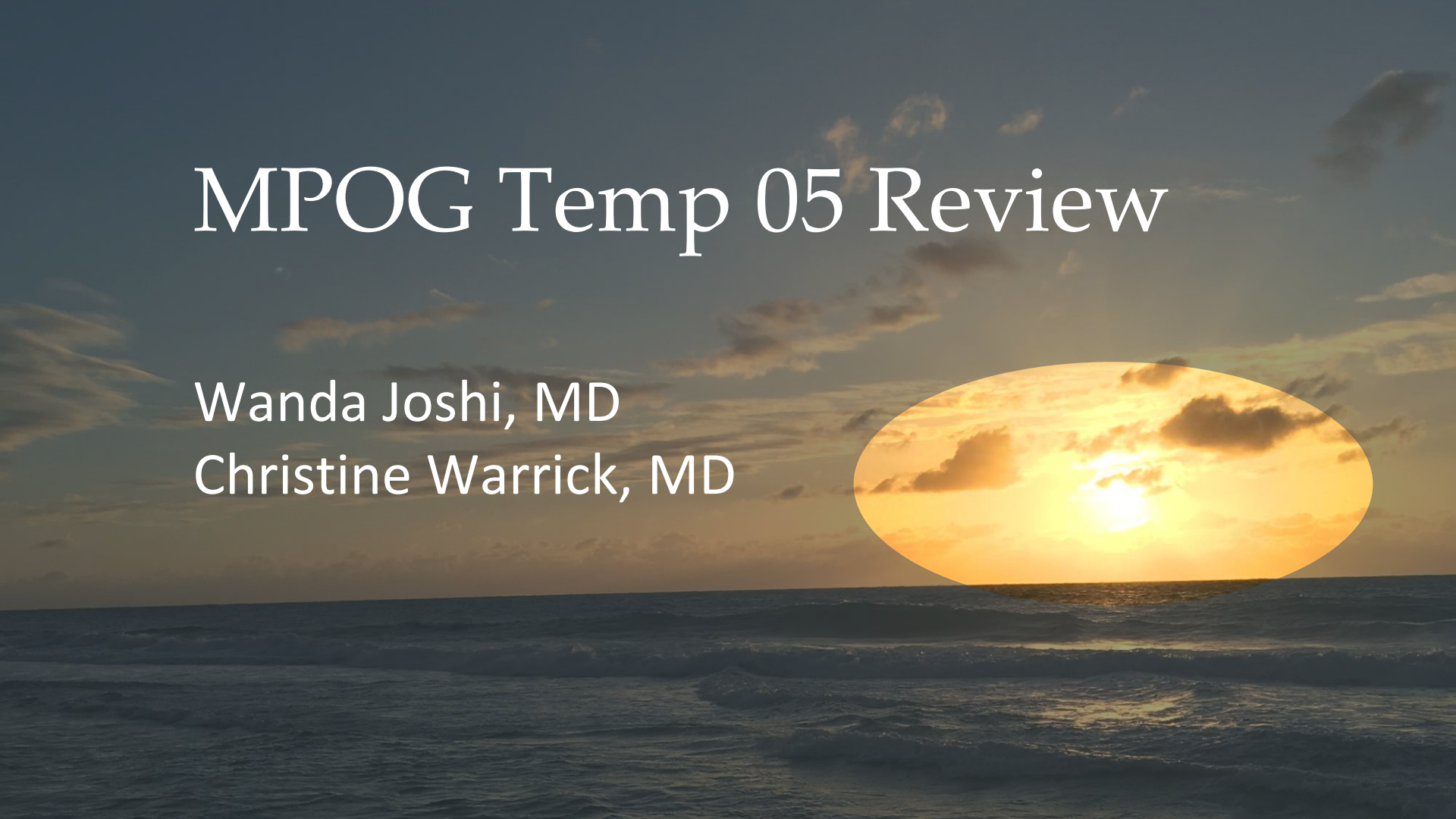
MPOG Temp 05 Review

Wanda Joshi, MD
Christine Warrick, MD



Background Perioperative Hypothermia

- Shivering
- Prolonged drug action
- Higher wound infection rates
- Increased hospital stay/costs
- Immune function suppression
- Low neonatal temp at birth
- Affects umbilical vein pH

Liu 1995, Leslie 1995, Kurz 1996, Beilin 1998, Mahoney 1999, Horn 2002

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TEMP-05 OB Measure Review

- **Description**: *Percentage of patients undergoing cesarean delivery without a body temperature greater than or equal to 36 degrees Celsius (or 96.8 F) documented within the 30 minutes immediately before or 15 minutes after anesthesia end.*
- **Measure Time Period**: 30 Minutes before Anesthesia end to 15 minutes after.
- **Inclusions**: Cesarean Delivery cases: Obstetric Anesthesia Type Phenotype 1, 2, 4, 7, 8
- **Exclusions**: All other procedure types, specifically deliveries performed without cesarean section.

***No temp within measure period will be marked as flagged.

***Temperature documented within the postoperative vital sign note in the anesthetic record or temperatures documented and mapped to the temperature physiologic concepts are acceptable sources for this measure.

- **Provider Attribution**: Provider present for longest duration of the case per staff role.
  - In the event that two or more providers in the same class are signed in for the same duration, all providers signed in for the longest duration will be attributed.

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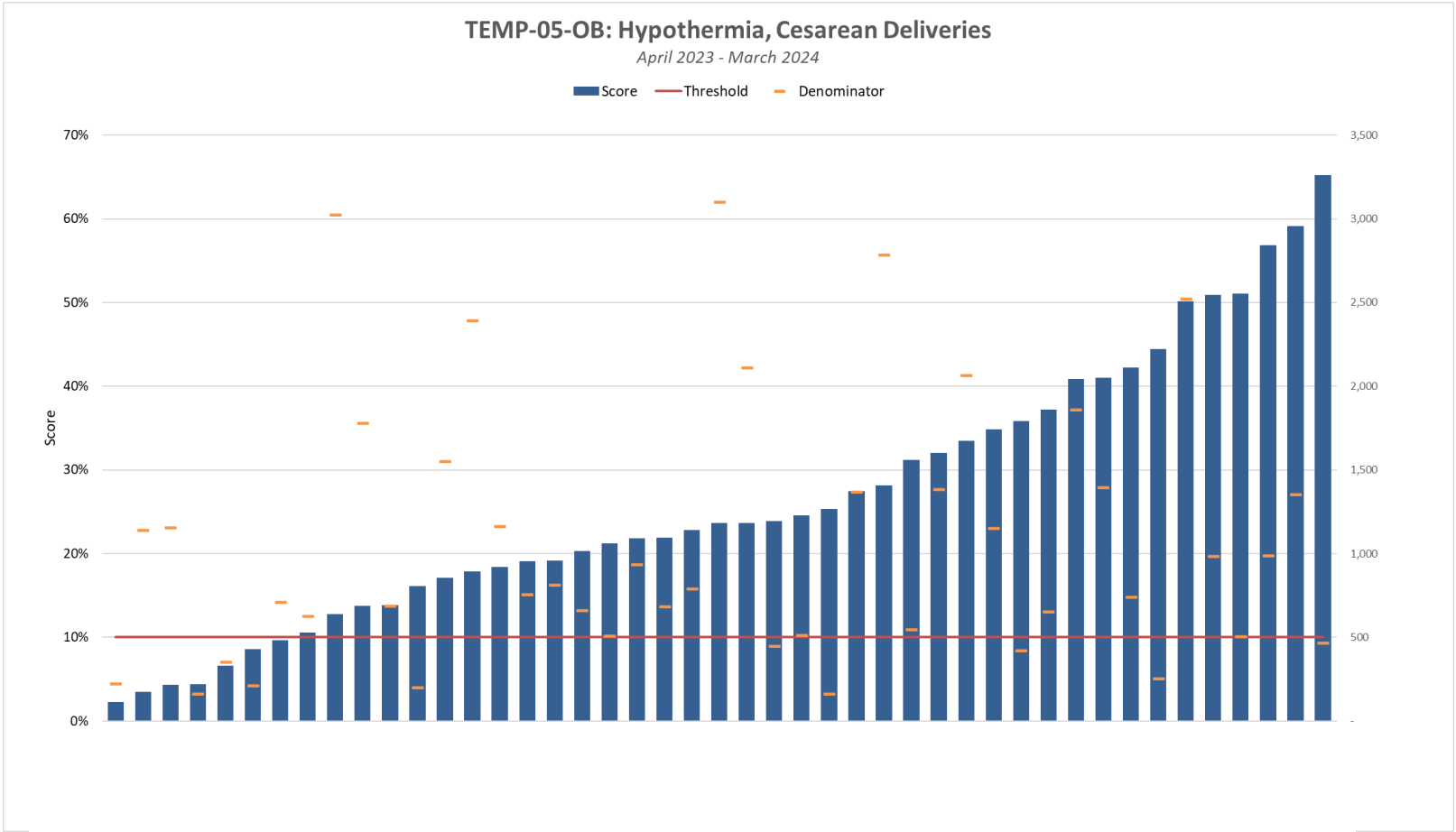
Current State of Temp 05



Cases

TEMP-05 OB- Total MPOG Sites March 2023- March 2024

Result	Reason	Case Count
Passed	Had Temperature ≥ 36.0 C	45,464
Flagged	No temperature values (between measure start and end)	13,546
Flagged	Had temp < 36.0 C	3,380
Excluded	Not Cesarean Delivery Case	3, 232, 570
Excluded	Invalid Case	24,638

Measure start: 30 minutes before Anesthesia End
Measure end: 15 min after Anesthesia End

Cases

TEMP-05 OB- Total MPOG Sites March 2023- March 2024

Result	Reason	Case Count
Passed	Had Temperature ≥ 36.0 C	45,464
Flagged	No temperature values (between measure start and end)	13,546
Flagged	Had temp < 36.0 C	3,380
Total included cases		62, 390

Measure start: 30 minutes before Anesthesia End
Measure end: 15 min after Anesthesia End

Cases

TEMP-05 OB- Total MPOG Sites March 2023- March 2024

Result	Reason	Case Count
Passed	Had Temperature ≥ 36.0 C	72.8%
Flagged	No temperature values (between measure start and end)	21.7%
Flagged	Had temp < 36.0 C	5.4%
Total included cases		62, 390

Measure start: 30 minutes before Anesthesia End
Measure end: 15 min after Anesthesia End

Survey Responses N= 15

Where do your patients go for recovery?	
Recovery Room	8
LD Room	4
Other (PACU, back to labor room, both)	3

How is temperature measured most frequently taken?	
Tympanic	1
Oral	5
Bladder	3
Skin	3
Other (Temporal)	3

What current measures are being used for active warming? *multiselect	
Warmed IV fluids	6
Pre-op forced air warmer	1
Upper body forced air warmer	3
Under body warming mattress	1
Underbody forced air warmer	6

Is temperature recorded in the anesthesia intraoperative record?	
Yes	9
No	6

Survey Responses

Is temperature recorded in the anesthesia intraoperative record?	
Yes	9
No	6

Where do your patients go for recovery?	
Recovery Room	8
LD Room	4
Other (PACU, back to labor room, both)	3

Effect of active and passive warming on preventing hypothermia and shivering during cesarean delivery: a systematic review and meta-analysis of randomized controlled trials

*Qing Zhuo1,2†, Jia-Bin Xu1,2†, Jing Zhang1 and Bin Ji3**

- 1241 participants
- 12 RCTs
- Active warming: forced-air warming, warmed IV fluid, conduction mattress warming
- Passive warming: cotton blankets, reflective blankets

Zhuo et al. BMC Pregnancy and Childbirth (2022) 22:720
https://doi.org/10.1186/s12884-022-05054-7

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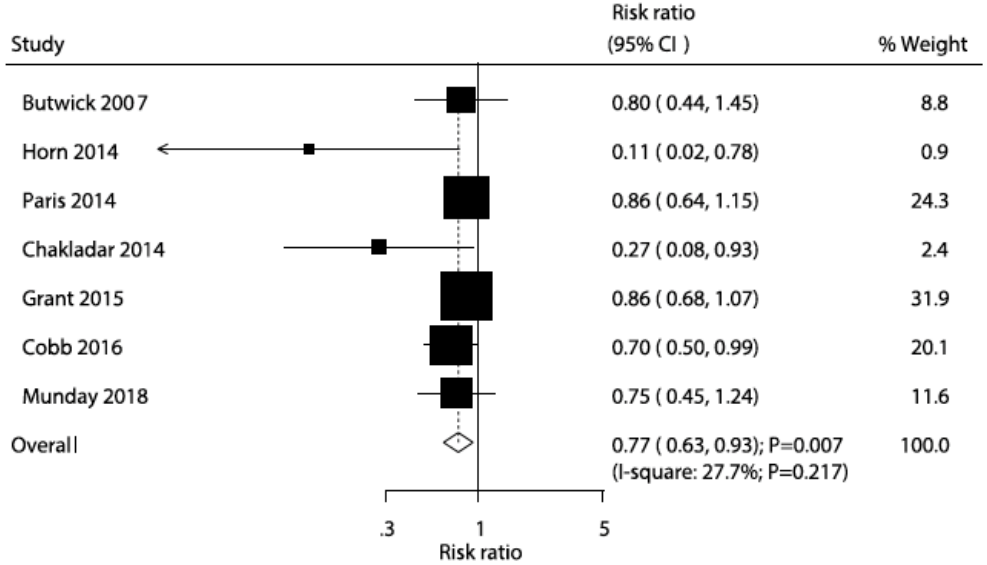

Fig. 3 Forest plot showing the comparison between active and passive warming on the risk of hypothermia in mothers

Zhuo et al. BMC Pregnancy and Childbirth (2022) 22:720
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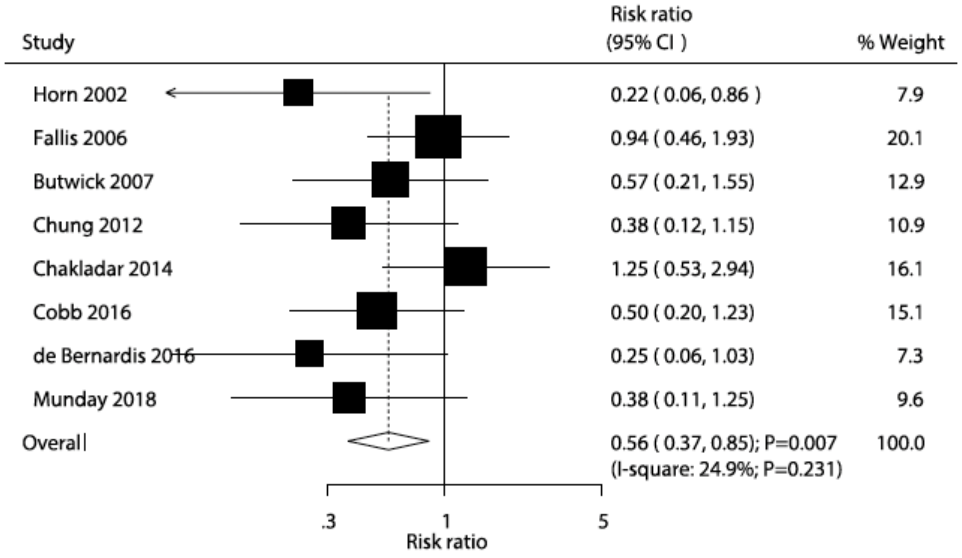


Fig. 4 Forest plot comparing the effects of active and passive warming on maternal shivering

Effect of active and passive warming on preventing hypothermia and shivering during cesarean delivery: a systematic review and meta-analysis of randomized controlled trials

*Qing Zhuo1,2†, Jia-Bin Xu1,2†, Jing Zhang1 and Bin Ji3**

- Active warming prevents maternal hypothermia and shivering better than passive warming

- Active warming has no significant effect on newborns

Zhuo et al. BMC Pregnancy and Childbirth (2022) 22:720
https://doi.org/10.1186/s12884-022-05054-7

ANESTHESIA & ANALGESIA

Preoperative Warming Versus no Preoperative Warming for Maintenance of Normothermia in Women Receiving Intrathecal Morphine for Cesarean Delivery: A Single-Blinded, Randomized Controlled Trial

Judy Munday, PhD,*† Sonya Osborne, PhD,‡ Patsy Yates, PhD,† David Sturgess, MBBS, PhD,*§ Lee Jones, AStat, BSc (Hons),‖ and Edward Gosden, MSc‖

Table 2. Temperature Change (°C): Baseline-End of Procedure and Hypothermic Patients at Each Time Point

	Temperature Change °C (Baseline—End of Procedure): Mean (SD) Number		
	Intervention	**Control**	***P* Value**
Intention-to-treat	0.5 (SD 0.32) (n = 25)	0.7 (SD 0.57) (n = 25)	.28
	Hypothermic Patients (by Group) at Each Time Point		
	Intervention (n = 25)	**Control (n = 25)**	
Baseline	3 (12%)	1 (4%)	
Prespinal	0	0	
Postspinal	0	0	
OR 15 minutes	4 (16.7%)	6 (25%)	
OR 30 minutes	6 (24%)	9 (36%)	
OR end procedure	11 (44%)	12 (48%)	
PACU arrival	12 (48%)	16 (64%)	

Hypothermia: defined as a temperature of <36°C.
Abbreviations: OR, operating room; PACU, postanesthesia care unit.

Anesth Analg 2018 Vol. 126 Issue 1 Pages 183-189

ANESTHESIA & ANALGESIA

Intraoperative Forced Air-Warming During Cesarean Delivery Under Spinal Anesthesia Does Not Prevent Maternal Hypothermia

Alexander J. Butwick, MBBS, FRCA, Steven S. Lipman, MD,
Brendan Carvalho, MBBCh, FRCA

	Forced air-warming (n=15)	Control (n=15)
Shivering score >=1	4 (27%)	7 (47%)
Thermal comfort	51 +- 7	49 +- 6
Hypothermia	8 (53%)	10 (66%)

Anesth Analg 2007 Vol. 105 Issue 5 Pages 1413-9, table of contents

Proposal

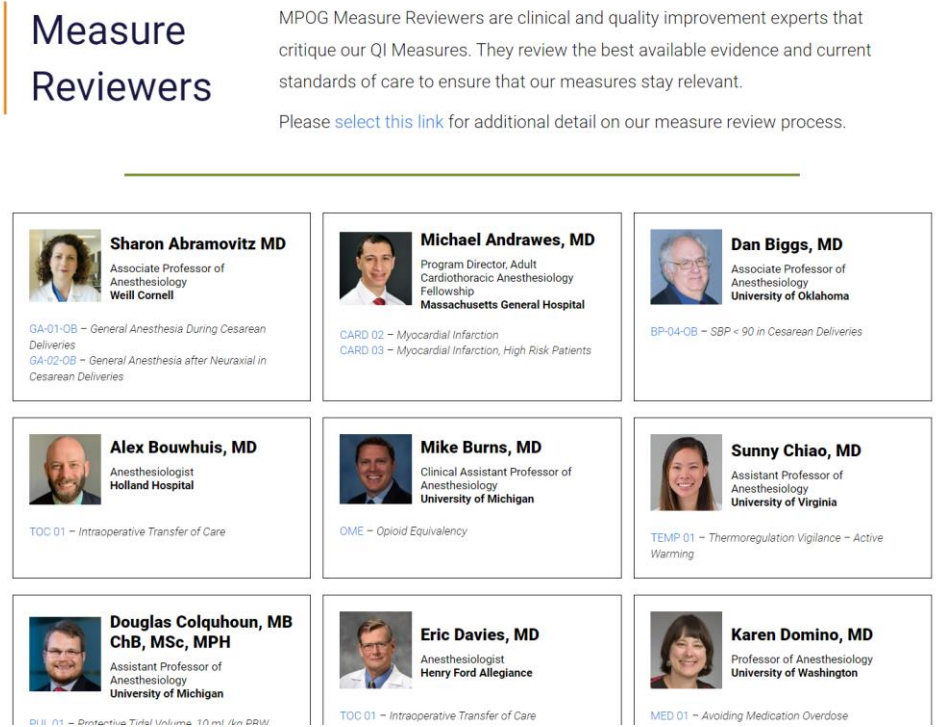
- Increase capture time duration to 30 minutes post anesthesia stop
- Recommend use of at least one active warming method

TEMP-05 OB: Hypothermia in Cesarean Deliveries

- 1 vote/ site
- Continue as is/ modify/ retire
- Need > 50% to retire measure
- Coordinating center will review all votes after meeting to ensure no duplication

Thank you to all the measure reviewers who helped review our OB measures over the past year. Please visit the measure reviewer page to see all provides who have reviewed our MPOG measures in the past.

Our next measure review will be GA-03 in 2026.



THANK YOU!

Brandon Togioka, MD

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MPOG
MULTICENTER PERIOPERATIVE OUTCOMES GROUP