ASPIRE Obstetric Anesthesia Subcommittee Meeting
July 15, 2020

Agenda

- Announcements
- March 2020 meeting recap
- AKI 01: Pre-eclampsia exclusions
- Review ABX 01- Antibiotic Timing for Cesarean Delivery
- BP 04: Prolonged Hypotension for Cesarean Delivery
- Next Measure?

Roll Call

Sharon Abramovitz, Weill Cornell	Angel Martino, Sparrow Health System
Ami Attali, Henry Ford- Detroit	Arvind Palanisamy, Washington University
Dan Biggs, University of Oklahoma	Carlo Pancaro, Michigan Medicine
David Swastek, St. Joseph Mercy Ann Arbor	Mohamed Tiouririne, University of Virginia
Eric Davies, Henry Ford Allegiance Health	Brandon Togioka, Oregon Health Science University
Ghislaine Echevarria, NYU Langone	Joshua Younger, Henry Ford, Detroit
Ronald George, University of California- San Francisco	Marie-Louise Meng, Duke
Jenifer Henderson, St. Joseph Oakland	Ashraf Habib, Duke
Rachel Kacmar, University of Colorado	Nirav Shah, MPOG Associate Director
Joanna Kountanis, Michigan Medicine	Kate Buehler, MPOG Clinical Program Manager
Carlos Delgado Upegui, University of Washington	Meridith Bailey, MPOG QI Coordinator
Tom Klumpner, Michigan Medicine	Brooke Szymanski, MPOG QI Coordinator
Stephanie Lim, University of California- San Francisco	

Will post slides to the MPOG website for those who could not attend.

Thank you!

- Thank you to Dr. Rachel Kacmar (University of Colorado) and Dr. Dan Biggs (University of Oklahoma) for serving as leaders of the OB Anesthesia subcommittee!

March 2020 Meeting Recap

- ABX 01-OB: Antibiotic Timing for Cesarean Delivery Specification Review
  - Committee agreed on including emergent cases, but with a more forgiving timeframe for passing
  - Committee agreed on adjusting appropriate timeframe for azithromycin (60 min before incision through anes end) and clindamycin (within 60 minutes before surgical incision). All other antibiotics must be administered 'within 60 minutes before incision' (except vanco, which is 120 minutes) to 'pass' the measure
- Antibiotic selection measure
  - Determined to be lower priority, may be useful to develop later in collaboration with surgical colleagues
- Prolonged Hypotension Measure Specification Review
  - Discussed timeframe and applicable BP cutoffs for specific populations
  - Committee agreed on lack of standardization, this measure will remain informational only
  - Committee agreed on separate measures for pre-eclampsia and non pre-eclampsia patients

AKI Toolkit

- MPOG is happy to announce the release of its 4th toolkit: Avoiding Kidney Injury. This toolkit reviews the pathophysiology and definitions of kidney injury as well as recommendations for perioperative care.
- This toolkit includes a one-pager summary and slide presentations
  - Overview, Pathophysiology & Definitions of Kidney injury
  - Recommendations to prevent Kidney injury: Adult Surgical Patients
  - Pediatrics
  - Cardiac
  - **Obstetrics**
- https://mpog.org/akitoolkit/

New OB Concepts Available for Mapping

- Fetal heart rate- Decelerations (50238)
- Fetal heart rate – Accelerations (50239)
- Fetal heart rate category (3166)

Epic OB Variables

- MPOG is working with Epic to include the following variables in the MPOG extract if used at your site

- Baby A Delivery Time
- Baby B Delivery Time
- Baby C Delivery Time
- Baby Delivered
- Birth 1
- Birth 2
- Born by Cesarean section
- Born by vaginal delivery
- Cord Clamp Removed
- C-section
- C-Section Priority
- C-Section-59515/01961
- Delivery Date - Baby A
- Delivery Date - Baby B
- Delivery of Placenta Date
- Delivery of Placenta Time
- Delivery Time - Baby A
- Delivery Time - Baby B
- Epidural to C-section
- Epidural to emergent C-Section
- Epidural/Vaginal Delivery-62319/01967
- Forceps Assisted Delivery
- Incision
- Labor
- Labor Analgesia is Transferred to C-Section
- Labor Epidural to C-Section
- Placenta
- Placenta Delivered
- Placenta delivery method
- Placenta Out
- Post Delivery Procedure End
- Procedure Start
- Procedure Start Time
- Regional block to C-Section
- Repeat C-section
- Surgical Incision
- Surgical/Procedure Incision
- Umbilical cord
- Umbilical Cord, Infant
- Unscheduled C-Section Decision Date
- Unscheduled C-Section Decision Time
- Uterine Contractions
- Uterine Incision
- Uterine Incision Time (C/Section)
- Vaginal Delivery (Time)
- Vaginal Delivery in OR-59409/01960

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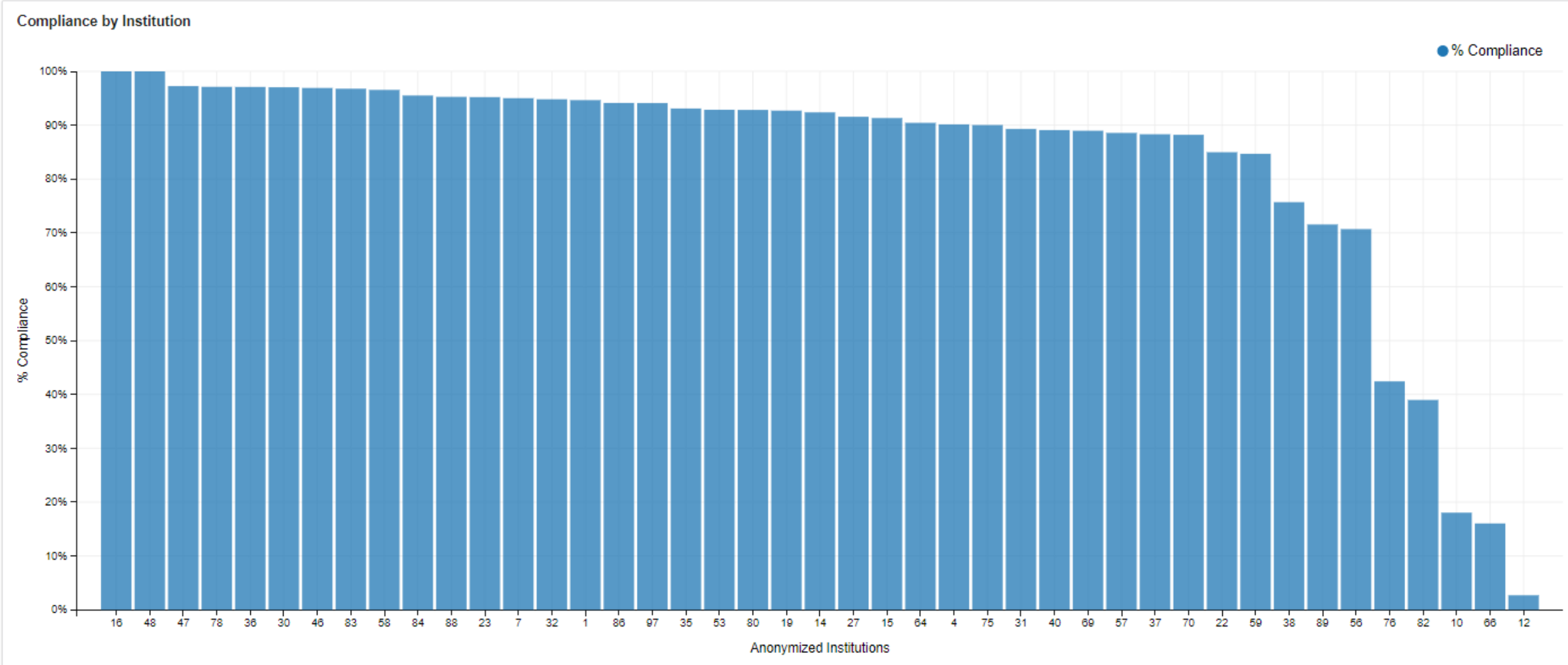
AKI 01

- AKI 01 measures the percentage of cases where the baseline creatinine does not increase more than 1.5 times within 7 postoperative days or the baseline creatinine level does not increase by = 0.3 mg/dL within 48 hours postoperatively.
- Currently includes pre-eclampsia patients who undergo cesarean delivery
  - AKI 01 excludes non-operative procedures including labor epidurals currently
  - Cesarean deliveries with pre-eclampsia are included
- Should AKI 01 exclude pre-eclampsia patients?
- References:

  - Van Hook JW: Acute kidney injury during pregnancy. Clin Obstet Gynecol 2014; 57:851–61
  - Huang C, Chen S: Acute kidney injury during pregnancy and puerperium: a retrospective study in a single center. BMC Nephrol 2017; 18:146
  - Arulkumaran N, Lightstone L: Severe pre-eclampsia and hypertensive crises. Best Pract Res Clin Obstet Gynaecol 2013; 27:877–84

ABX 01-OB: Percentage of cesarean deliveries with documentation of antibiotic administration initiated within one hour before surgical incision



BP 04-OB: Hypotension During Cesarean Delivery Spec Review

Current Draft

- **Description:** Total cumulative minutes of hypotension after spinal placement for patients with and without pre-eclampsia.

Discussion

- Should this be displayed as mean or median minutes of hypotension?
- Or display as ‘cases below a cumulative minute threshold?’ What should this threshold be?

BP 04-OB Spec Review

Current Draft

- Total cumulative minutes of hypotension will be resulted for two time periods: spinal placement to delivery and delivery through anesthesia end.
  - For patients with pre-eclampsia, hypotension is defined as >20% decline from baseline systolic blood pressure.
  - For patients without pre-eclampsia, hypotension is defined as SBP<90mmHg.

Discussion

- Based on prelim data from 7/1/19-4/30-20
  - **37,739 Total C-sections** (scheduled or conversion from vaginal delivery)
  - **3,800 (1%)** of the total c-sections were identified as having **pre-eclampsia** using our phenotype
    - **914 (24%)** have a **baseline BP** in MPOG.
  - Given the low # of pts identified to have preeclampsia and the low % with baseline BP, should preeclampsia patients be excluded from this measure? Or included but noted to have pre-eclampsia?

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BP 04-OB Spec Review

- **Inclusions:** All cesarean deliveries (as determined using the MPOG Obstetric Anesthesia Type phenotype) with neuraxial anesthesia only (as determined by the Anesthesia Technique-Neuraxial MPOG Phenotype)

- **Exclusions:**
  - Cesarean delivery patients undergoing general anesthesia- determined using Anesthesia Technique-Neuraxial MPOG phenotype
  - Patients undergoing cesarean section with hysterectomy (CPT: 01969)
  - Emergency cesarean delivery with diagnosis of placental abruption (ICD-10: O45*)
  - Rupture of uterus (spontaneous) before onset of labor (ICD-10: O71.0)
  - Newborn affected by intrauterine blood loss from ruptured cord (ICD-10: P50.1)
  - Abnormal uterine or vaginal bleeding, unspecified (ICD-10: N93.9)
  - Placenta previa with hemorrhage, third trimester (ICD-10: O44.13)
  - Hemorrhage from placenta previa, antepartum condition or complication (ICD-10: 641.13)
  - Hemorrhage from placenta previa, delivered, with or without mention of antepartum condition (ICD-10: 641.11)
  - HELLP syndrome, unspecified trimester (ICD-10: O14.20)
  - HELLP syndrome, second trimester (ICD-10: O14.22)
  - HELLP syndrome, third trimester (ICD-10: O14.23)
  - HELLP syndrome, complicating childbirth (ICD-10: O14.24)
  - HELLP syndrome, complicating the puerperium (ICD-10: O14.25)**

**Should patients with HELLP syndrome be excluded or treated as pre-eclampsia patients?

BP 04-OB Spec Review

Current Spec Draft

- **Measure Time Periods (2):**
  - 1. Spinal placement time to delivery of neonate
  - 2. Delivery of neonate to anesthesia end

Discussion

- When ‘neonate delivered’ is not documented
  - Will only result one time period
  - Option: Spinal placement to anesthesia end?

BP 04-OB Spec Review

- Measure time period 1 Details
  - **Start Time:**
    - Scheduled cesarean delivery cases -determined using ‘Obstetric neuraxial start time phenotype’

      -Considers a large subset of neuraxial related concepts (such as ‘Labor epidural start’ and ‘Neuraxial- Spinal needle approach’) as well as medications given via the intrathecal route and gives the earliest of the associated times as the ‘Neuraxial start’ time
    - Conversion from labor epidural cases - determined using the ‘Cesarean Delivery Start Time for Conversions’ phenotype
      1. ’Patient in Room’ if within 60 minutes before ‘Procedure Start’, if not available then
      2. The earliest of concept Obstetrics-Labor Continued as C-Section and ‘Procedure Start’, if not available then
      3. Time of Peinduction-Patient transported to OR by anesthesia team’
  - **End Time:**
    - Delivery of Neonate 2, if not available then Delivery of Neonate

BP 04-OB Spec Review

Measure Reporting Groups

- Patients will further be categorized as scheduled cesarean delivery or labor epidural converted to cesarean delivery- results will be separated for each of these groups:
  - Scheduled Cesarean Delivery
    - *Pre-eclampsia Patients:* >20% decline from baseline systolic blood pressure
      - Cumulative minutes of hypotension from spinal placement to delivery
      - Cumulative minutes of hypotension from delivery to anesthesia end
    - *Non pre-eclampsia Patients:* SBP<90mmHg
      - Cumulative minutes of hypotension from spinal placement to delivery
      - Cumulative minutes of hypotension from delivery to anesthesia end
  - Labor epidural converted to Cesarean Delivery
    - *Pre-eclampsia Patients:* >20% decline from baseline systolic blood pressure
      - Cumulative minutes of hypotension from cesarean delivery start time to delivery (see algorithm above for how cesarean delivery start time is determined)
      - Cumulative minutes of hypotension from delivery to anesthesia end
    - *Non pre-eclampsia Patients:* SBP<90mmHg
      - Cumulative minutes of hypotension from cesarean delivery start time to delivery (see algorithm above for how cesarean delivery start time is determined)
      - Cumulative minutes of hypotension from delivery to anesthesia end

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BP 04-OB Spec Review

Measure Reporting Groups – Discussion

- Currently breaking out scheduled cesarean deliveries from labor epidurals converted to cesarean deliveries
- Of the 37,739 cesarean deliveries in the prelim data, 8,092 were identified as conversions (21.4%)
  - Phenotype limitation: only identifies cases where the labor epidural and cesarean are part of the same case
    - Will not find cases where the labor epidural portion was stopped and a new case started for cesarean deliveries
- Should scheduled and conversion cases be treated the same for BP 04?

BP 04-OB Spec Review

- **Success:** Not applicable- informational measure only
- **Responsible Provider:** Not applicable- informational measure only
- **Threshold:** Not applicable- informational measure only

BP 04-OB Spec Review

- **Multiple blood pressures:** Instances where there are two blood pressure monitoring methods, the higher MAP will be used to determine measure compliance.
- **Artifact:** Artifact readings will be identified and removed from final measurement calculation. Artifact processing: if systolic and diastolic blood pressures are present, the values must be at least 5 mmHg apart; otherwise the values will be excluded. MAP values less than 10 are excluded.
- Each incidence of hypotension will count for a max of 5 minutes if there is a gap in blood pressure measurement
- Average cumulative minutes of hypotension from spinal placement to delivery of the last neonate (if more than one) will be resulted as one number for the institution. Individual cases will show the total cumulative minutes of hypotension for this time period.
- Average cumulative minutes of hypotension from delivery to anesthesia end will be resulted as a second number for the institution. Individual cases will show the total cumulative minutes of hypotension for this time period.

Call for Measure Survey Results

- Review Call for Measure Survey Results
  - **#1: Prolonged hypotension before cesarean delivery: 4.38/5.00**
  - #2: General Anesthesia Rate for Cesarean Delivery: 3.63/5.00
  - #3: Non-opioid adjunct used for post cesarean delivery pain: 3.38/5.00
  - **#4: Antibiotic Timing for cesarean delivery: 3.25/5.00**
    - **Opted to add Antibiotic Selection Measure to assess azithromycin use**
  - #5: First temperature in PACU for cesarean delivery: 3.13/5.00
  - #6: PONV in PACU for cesarean delivery: 3.13/5.00
- Next measure: General Anesthesia Rate for Cesarean Delivery?

THANK YOU!

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