ASPIRE Obstetric Anesthesia Subcommittee Meeting
March 17, 2020
<table>
<thead>
<tr>
<th>Time</th>
<th>Item</th>
<th>Participants</th>
</tr>
</thead>
<tbody>
<tr>
<td>5 Min</td>
<td>Roll Call</td>
<td>All</td>
</tr>
<tr>
<td>5 Min</td>
<td>OB Anesthesia Subcommittee Leadership</td>
<td>All</td>
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<tr>
<td>10 Min</td>
<td>Recap 12/2019 Meeting 2020 Selected Measures for Cesarean Delivery</td>
<td>All</td>
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<tr>
<td></td>
<td>- Antibiotic Timing</td>
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<td>- Antibiotic Selection</td>
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<td></td>
<td>- Prolonged Hypotension</td>
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<tr>
<td>20 Min</td>
<td>Antibiotic Timing Specification Review</td>
<td>All</td>
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<tr>
<td>10 Min</td>
<td>Antibiotic Selection Measure- Proceed?</td>
<td>All</td>
</tr>
<tr>
<td>10 Min</td>
<td>Prolonged Hypotension Measure Specification Review</td>
<td>All</td>
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<td>10 Min</td>
<td>Next Steps</td>
<td>All</td>
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## Roll Call

<table>
<thead>
<tr>
<th>Name</th>
<th>Institution</th>
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<tbody>
<tr>
<td>Sharon Abramovitz, Weill Cornell</td>
<td>Angel Martino, Sparrow Health System</td>
</tr>
<tr>
<td>Ami Attali, Henry Ford- Detroit</td>
<td>Arvind Palanisamy, Washington University</td>
</tr>
<tr>
<td>Melissa Bauer, Michigan Medicine</td>
<td>Carlo Pancaro, Michigan Medicine</td>
</tr>
<tr>
<td>Dan Biggs, University of Oklahoma</td>
<td>Mohamed Tiouririne, University of Virginia</td>
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<tr>
<td>David Swastek, St. Joseph Mercy Ann Arbor</td>
<td>Brandon Togioka, Oregon Health Science University</td>
</tr>
<tr>
<td>Eric Davies, St. Joseph Mercy Oakland</td>
<td>Joshua Younger, Henry Ford, Detroit</td>
</tr>
<tr>
<td>Ghislaine Echevarria, NYU Langone</td>
<td>Marie-Louise Meng, Duke</td>
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<tr>
<td>Ronald George, University of California- San Francisco</td>
<td>Ashraf Habib, Duke</td>
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<tr>
<td>Jenifer Henderson, St. Joseph Oakland</td>
<td>Nirav Shah, MPOG Associate Director</td>
</tr>
<tr>
<td>Rachel Kacmar, University of Colorado</td>
<td>Katie Buehler, MPOG Clinical Program Manager</td>
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<tr>
<td>Joanna Kountanis, Michigan Medicine</td>
<td>Meridith Bailey, MPOG QI Coordinator</td>
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<tr>
<td>Carlos Delgado Upegui, University of Washington</td>
<td>Brooke Szymanski, MPOG QI Coordinator</td>
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<tr>
<td>Stephanie Lim, University of California- San Francisco</td>
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Will post slides to the MPOG website for those who could not attend.
Opportunity!

• Seeking one of you or your obstetric anesthesia colleagues to help lead this committee
• Work with MPOG team (faculty/programmers/nurses) to create measures
• Need someone practicing OB anesthesia to advise on measures and future direction
• Contact Nirav (nirshah@med.umich.edu) or Kate (kjbucrek@med.umich.edu) if interested!
December 2019 Meeting Recap

• Reviewed 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

• Coordinating Center to create ‘phenotype’ to identify labor epidural cases that converted to cesarean delivery: done

• Coordinating Center to assess the use of ICD 9/10 codes for capturing outcomes, specifically SSIs: In progress
OB_ABX 01: Antibiotic Timing for Cesarean Delivery

**Description:** Percentage of cesarean deliveries with documentation of antibiotic administration initiated within one hour before surgical incision

**Measure Time Period:** 60 minutes prior to Surgical Incision through Surgical Incision

**Inclusions:**

- Elective, urgent, or emergent cesarean delivery*
- Patients undergoing cesarean section with hysterectomy (CPT: 01969)

*MPOG has created a ‘phenotype’ to sort cases based on procedure text, CPT codes, and note documentation to identify cesarean delivery cases. CPT codes alone do not seem to be reliable in determining case type.
Obstetric Anesthesia Algorithm for determining Case Type

- **Case Type Categories:**
  - Labor Epidural
  - Cesarean Delivery
  - Labor Epidural converted to Cesarean
  - Unable to determine

- All cases with actual or predicted CPT codes 01961, 01967, and/or 01968 will be processed through the algorithm to determine denominator for cesarean delivery measures

- Antibiotic Timing measure also includes cesarean delivery with hysterectomy (CPT: 01969)
Obstetric Anesthesia Algorithm for determining Case Type

OB Anesthesia Type

Start: Case has 01961, 01967, and/or 01968 (predicted or actual)

Does case include any of the following between Anesthesia Start (50002) and Anesthesia End (50009): Gases/Flows >10 min (see Page 2) Uterine Incision (50357) Aacd Procedure Start (50006) Aacd Procedure Finish (50007) Paralytics Given (see Page 2)

Was Neonate Delivered (50358) before Procedure Start (50006) or Uterine Incision (50357)?

Case is surgical

Case is not surgical

Is Procedure Text on included list? (see Page 2)

Decision: Unable to Determine

Is anesthesia duration >240 minutes (4 hours)?

Does the case have: Included procedure text or included OB concepts (see Page 2)

Decision: Labor Epidural

Does case have included OB concepts AND labor epidural medications? (see Page 2)
Obstetric Anesthesia Algorithm for determining Case Type: Part 2

Decision: Unable to Determine

Is anesthesia duration > 240 minutes (4 hours)?

Yes

Decision: Labor Epidural

No

Does the case have: Included procedure text or included OB concepts (see Page 2)?

Yes

Decision: Labor Epidural

No

Decision: Unable to Determine

Does case have included OB concepts AND labor epidural medications? (See Page 2)

Yes

Decision: Unable to Determine

No

Decision: Labor Epidural

Decision: Unable to Determine

Decision: Labor Epidural

Obstetrics-Labor Continued as C-Section (50596) within 30 minutes of Anes. Start (50002)?

Yes

Is Obstetrics-Labor Continued as C-Section (50596) before the start of any criteria in first decision box?

Yes

Decision: Labor Epidural Converted to C-Section

No

Decision: C-Section

N/A

Is Anes. Start (50002) > 120 minutes before Procedure Start (50006), or if not avail > 150 min before Uterine Incision (50357)?

Yes

Decision: Labor Epidural Converted to C-Section

No

Decision: Labor Epidural Converted to C-Section

No

Decision: Labor Epidural Converted to C-Section

Yes

Decision: Labor Epidural

No

Decision: C-Section
Obstetric Anesthesia Algorithm for determining Case Type: Part 3

OB Specific Concepts

50050  Obstetrics - Labor epidural start
50051  Obstetrics - Labor epidural end
50189  Obstetrics - Delivery of Neonate 2
50359  Obstetrics - Apgar score checked at 1 minute note
50360  Obstetrics - Apgar score 1 minute detail

50361  Obstetrics - Vaginal Delivery note
50362  Obstetrics - Vaginal Delivery in / out of OR detail
50369  Obstetrics - Delivery of Placenta
50373  Obstetrics - Apgar score checked at 5 minute note
50374  Obstetrics - Apgar score at 5 minute detail

Procedure Text

Includes any part of the following:

• Cesarean Section
• C section
• C-section
• Labor
• Delivery
• IOL
• Cesarean section after vaginal attempt
• Uterus-cesarean section
• Birth
Antibiotic Timing for Cesarean Delivery – Measure Specification

Exclusions:

• Obstetric Non-Operative Procedures*

• Cesarean delivery with documentation of infection prior to incision and mapped to one of the following MPOG concepts*  
  – 50181 Compliance- Prophylactic Antibiotic Variance Note  
  – 50182 Compliance- Prophylactic Antibiotic Variance Note Detail  
  * Will only check for one of these notes if an antibiotic is not administered.

• If ‘Patient on scheduled antibiotic/documentined infection’ - exclude

* Determined using MPOG Obstetric Anesthesia phenotype
Antibiotic Timing for Cesarean Delivery – Measure Specification

**Measure Start Time:** 60 minutes before procedure start (For Vancomycin, 120 minutes before procedure start)

**Measure End Time:** Surgical Incision Time (50235), if not available then AACD Procedure Start Date/Time (50006)

**Success:** Documentation of at least one antibiotic administration within one hour of surgical incision. See ‘Other Measure Build Details’ for emergency cases and antibiotic timing exceptions.

**Responsible Provider:** All anesthesia providers signed in at the time of incision. If surgical incision time is not documented then providers signed in at the procedure start time will be attributed.

**Exceptions:**
- If not ordered/not indicated - flag/fail
- If ‘Prophylactic antibiotic administered (not documented on MAR)’ – flag/fail
Antibiotic Timing for Cesarean Delivery – Measure Specification

• For emergency cases, success is determined by documentation of any of the following antibiotics initiated between anesthesia start and anesthesia end.

• Any of these antibiotics administered within the timeframe will result in success for this measure focused on antibiotic timing, rather than selection.

Acceptable Antibiotics/Timing:

<table>
<thead>
<tr>
<th>Antibiotic</th>
<th>MPOG Concept</th>
<th>Appropriate Start Time</th>
</tr>
</thead>
<tbody>
<tr>
<td>Azithromycin</td>
<td>10048</td>
<td>Between Anesthesia Start and Anesthesia End</td>
</tr>
<tr>
<td>Cefazolin</td>
<td>10107</td>
<td>Within 60 minutes before incision</td>
</tr>
<tr>
<td>Cefepime</td>
<td>10108</td>
<td>Within 60 minutes before incision</td>
</tr>
<tr>
<td>Cefotaxime</td>
<td>10109</td>
<td>Within 60 minutes before incision</td>
</tr>
<tr>
<td>Cefotetan</td>
<td>10110</td>
<td>Within 60 minutes before incision</td>
</tr>
<tr>
<td>Cefoxitin</td>
<td>10111</td>
<td>Within 60 minutes before incision</td>
</tr>
<tr>
<td>Ceftriaxone</td>
<td>10114</td>
<td>Within 60 minutes before incision</td>
</tr>
<tr>
<td>Cefuroxime</td>
<td>10115</td>
<td>Within 60 minutes before incision</td>
</tr>
<tr>
<td>Clindamycin</td>
<td>10131</td>
<td>After delivery of neonate before anesthesia end</td>
</tr>
<tr>
<td>Gentamicin</td>
<td>10202</td>
<td>Within 60 minutes before incision</td>
</tr>
<tr>
<td>Vancomycin</td>
<td>1044</td>
<td>Within 120 minutes before incision</td>
</tr>
</tbody>
</table>
Antibiotic Selection for Cesarean Delivery

• Institutional level measure (no attribution)

• Surgeon orders antimicrobial prophylaxis – may be helpful for organization but not an anesthesia-specific measure

• Feedback:
  – OB can order without anesthesia input
  – Required to administer as ordered, but can give suggestions
  – Each surgical site infection is already reviewed at each institution, including abx choice and timing

• Does this group wish to focus on this?

Specification Draft

<table>
<thead>
<tr>
<th>Cefazolin</th>
<th>Cefazolin &amp; Azithromycin</th>
<th>Ceftriaxone</th>
<th>Ceftriaxone &amp; Azithromycin</th>
<th>Cefoxitin</th>
<th>Cefoxitin &amp; Azithromycin</th>
<th>Cefuroxime</th>
<th>Cefuroxime &amp; Azithromycin</th>
<th>Azithromycin Only</th>
</tr>
</thead>
<tbody>
<tr>
<td>75.01%</td>
<td>9.01%</td>
<td>0.08%</td>
<td>0.01%</td>
<td>1.15%</td>
<td>0.20%</td>
<td>0.00%</td>
<td>0.00%</td>
<td>1.04%</td>
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Prolonged Hypotension before Cesarean Delivery

Measure Time Period:
• Spinal placement time to delivery of neonate

Hypotension Definition:
• SBP <80% baseline (>20% decrease from baseline) OR
• SBP < 90mmHg or <100mmHg
• 12/2019 Discussion: Consider MAP value in addition to SBP as it has become common practice to ignore DBP and is not necessarily best practice. Considerations are different in women with pre-eclampsia vs. non-hypertensive women.
  – A Cochrane review revealed numerous ways to define hypotension but the majority of studies refer to SBP- see Table 1: https://www.cochranelibrary.com/cdsr/doi/10.1002/14651858.CD002251.pub3/full
• Assess if hypotension that was treated instead/also?
Definition of Hypotension: SBP <80% baseline seems supported in literature
Prolonged Hypotension before Cesarean Delivery

• Prolonged:
  – 5 or 10 minutes?

• Inclusions:
  – Elective, urgent, or emergent cesarean delivery*
  – Patients undergoing cesarean section with hysterectomy (CPT: 01969)

  **Note**: Includes epidural, spinal, combined spinal epidural, & general anesthesia cases for cesarean section delivery

* MPOG has created a ‘phenotype’ to sort cases based on procedure text, CPT codes, and note documentation to identify cesarean delivery cases. CPT codes alone do not seem to be reliable in determining case type.

• Exclusions:
  – Emergency c-sections with diagnosis of placental abruption (O45*), Rupture of uterus (spontaneous) before onset of labor (O71.0), Newborn affected by intrauterine blood loss from ruptured cord (P50.1), Abnormal uterine or vaginal bleeding, unspecified (N93.9), Placenta previa with hemorrhage, third trimester (O44.13), Hemorrhage from placenta previa, antepartum condition or complication (641.13), Hemorrhage from placenta previa, delivered, with or without mention of antepartum condition (641.11)

• Provider Attribution- Anesthesia providers signed in at:
  1. Neuraxial- Spinal performed (50680), if not available then
  2. AACD Procedure Start Date/Time (50006), if not available then
  3. Obstetrics- Uterine Incision (50357), if not available then
  4. Obstetrics- Delivery of Neonate (50358).
THANK YOU!

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