ASPIRE Obstetric Anesthesia Subcommittee Meeting
March 17, 2020

Agenda

5 Minutes	Roll Call	All
5 Minutes	OB Anesthesia Subcommittee Leadership	All

10 Minutes	Recap 12/2019 Meeting
	2020 Selected Measures for Cesarean Delivery
	  ○ Antibiotic Timing
	  ○ Antibiotic Selection
	  ○ Prolonged Hypotension
		All

20 Minutes	Antibiotic Timing Specification Review	All
10 Minutes	Antibiotic Selection Measure- Proceed?	All
10 Minutes	Prolonged Hypotension Measure Specification Review	All
10 Minutes	Next Steps	All

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Roll Call

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

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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!

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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

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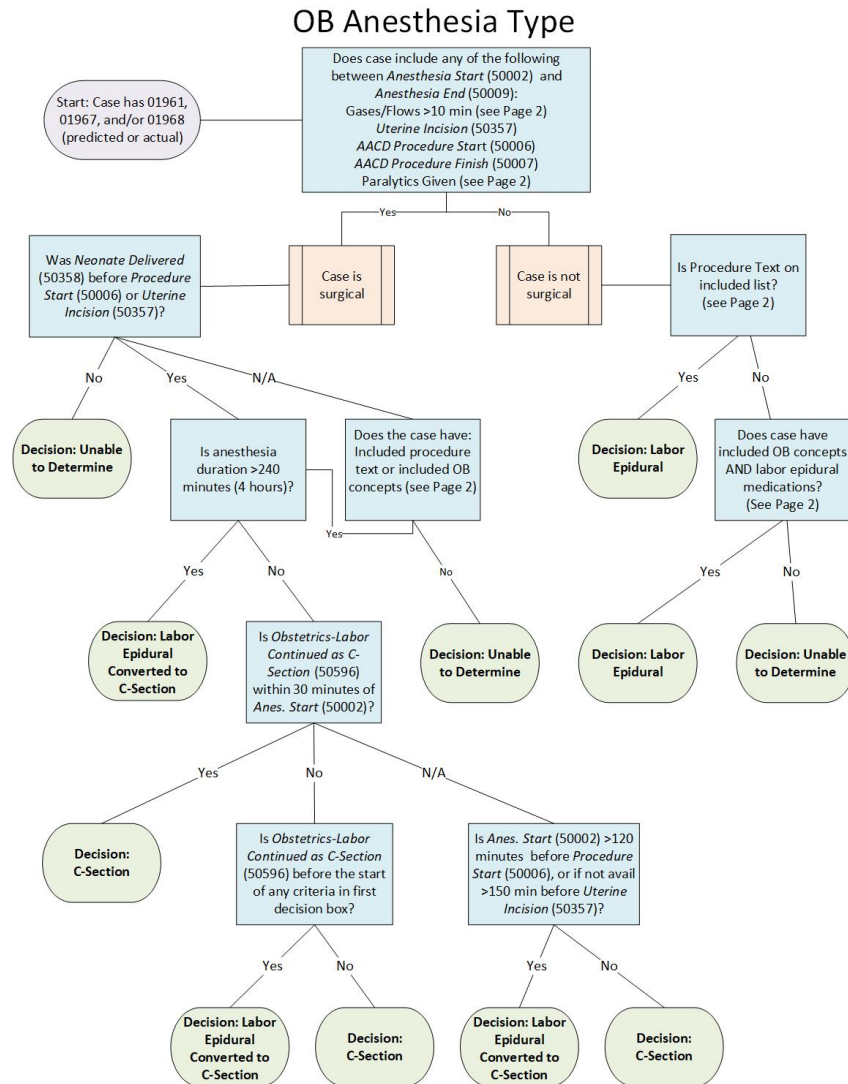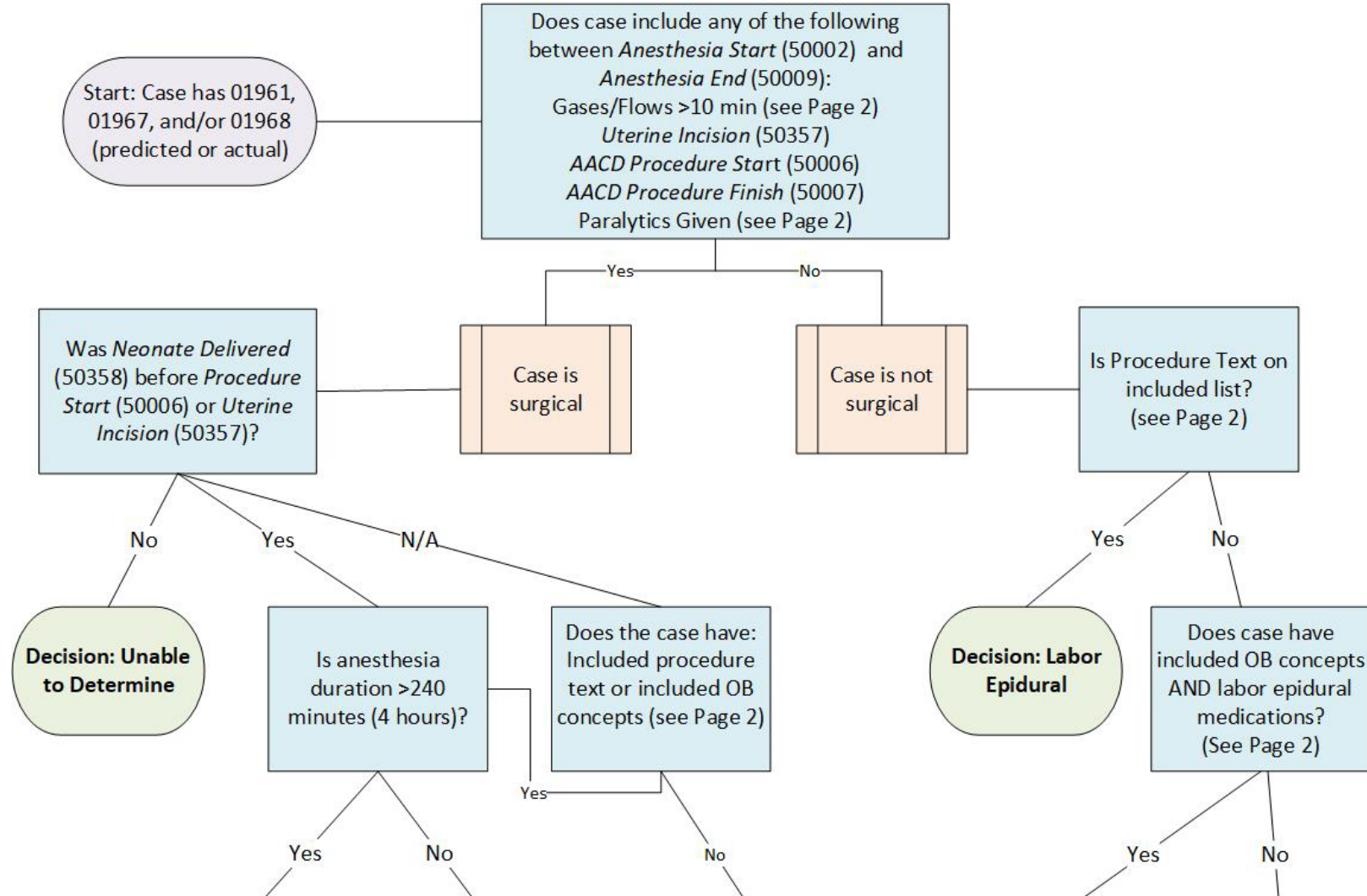
- Case Type Categories:
  - Labor Epidural
  - Cesarean Delivery
  - Labor Epidural converted to Cesarean
  - Unable to determine

- 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
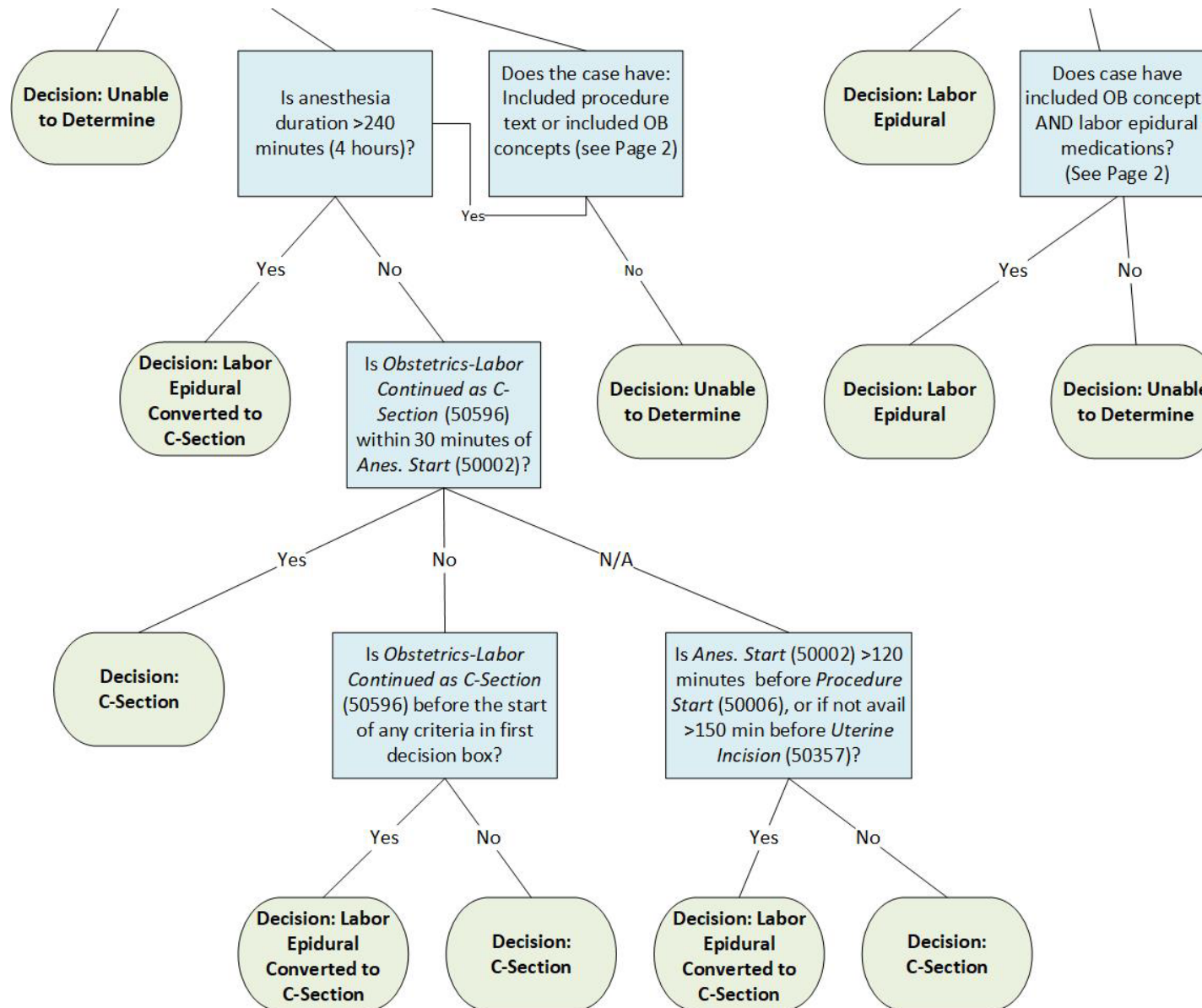
- Antibiotic Timing measure also includes cesarean delivery with hysterectomy (CPT: 01969)

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)

— Yes — No —

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)

No   Yes   N/A

Yes   No

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)

Yes   No   Yes — No   Yes   No

Obstetric Anesthesia Algorithm for determining Case Type: Part 2

Obstetric Anesthesia Algorithm for determining Case Type: Part 3

OB Specific Concepts

50050 Obstetrics - Labor epidural start	50361 Obstetrics - Vaginal Delivery note
50051 Obstetrics - Labor epidural end	50362 Obstetrics - Vaginal Delivery in / out of OR detail
50189 Obstetrics - Delivery of Neonate 2	50369 Obstetrics - Delivery of Placenta
50359 Obstetrics - Apgar score checked at 1 minute note	50373 Obstetrics - Apgar score checked at 5 minute note
50360 Obstetrics - Apgar score 1 minute detail	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/documented 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)

**For cases without a documented surgical incision time or procedure start time, the case will be flagged for review.

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

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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.

<u>Acceptable Antibiotics/Timing:</u>

Antibiotic	MPOG Concept	Appropriate Start Time
Azithromycin	10048	Between Anesthesia Start and Anesthesia End
Cefazolin	10107	Within 60 minutes before incision
Cefepime	10108	Within 60 minutes before incision
Cefotaxime	10109	Within 60 minutes before incision
Cefotetan	10110	Within 60 minutes before incision
Cefoxitin	10111	Within 60 minutes before incision
Ceftriaxone	10114	Within 60 minutes before incision
Cefuroxime	10115	Within 60 minutes before incision
Clindamycin	10131	After delivery of neonate before anesthesia end
Gentamicin	10202	Within 60 minutes before incision
Vancomycin	10444	Within 120 minutes before incision

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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

Cefazolin	Cefazolin & Azithromycin	Ceftriaxone	Ceftriaxone & Azithromycin	Cefoxitin	Cefoxitin & Azithromycin	Cefuroxime	Cefuroxime & Azithromycin	Azithromycin Only
75.01%	9.01%	0.08%	0.01%	1.15%	0.20%	0.00%	0.00%	1.04%

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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

Prevention of Hypotension during Spinal Anesthesia for Cesarean Delivery: An Effective Technique Using Combination Phenylephrine Infusion and Crystalloid Cohydration

Warwick D. Ngan Kee, M.B.Ch.B., M.D., F.A.N.Z.C.A., F.H.K.A.M.; Kim S. Khaw, M.B.B.S., F.R.C.A., F.H.K.A.M.; Floria F. Ng, R.N., B.A.Sc.

+ Author Affiliations & Notes

BMC Anesthesiology

RESEARCH ARTICLE   **Open Access**

Influence of the timing of administration of crystalloid on maternal hypotension during spinal anesthesia for cesarean delivery: preload versus coload

Ah-Young Oh[1,2], Jung-Won Hwang[1,2]*, In-Ae Song[2], Mi-Hyun Kim[3], Jung-Hee Ryu[1,2], Hee-Pyoung Park[1], Yeong-Tae Jeon[1,2] and Sang-Hwan Do[1,2]

Prophylactic Norepinephrine Infusion for Preventing Hypotension During Spinal Anesthesia for Cesarean Delivery

Ngan Kee, Warwick D. MD, FANZCA, FHKCA*; Lee, Shara W. Y. PhD[†]; Ng, Floria F. RN, BASc*; Khaw, Kim S. MD, FRCA, FHKCA* **Author Information** ⊘

FREE

Norepinephrine Infusion for Preventing Postspinal Anesthesia Hypotension during Cesarean Delivery: A Randomized Dose-finding Trial

Ahmed M. Hasanin, M.D., D.E.S.A.; Sarah M. Amin, M.D.; Nora A. Agiza, M.Sc.; Mohamed K. Elsayed, M.B.B.Ch.; Sherin Refaat, M.D.; et al

+ Author Notes

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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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