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Improving Outcomes for Pregnant Women with Severe Hypertension

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Improving Maternal Outcomes
Severe Maternal Hypertension

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Perinatal Care Standards

• Effective January 2021, two new standards to improve the quality and safety of Perinatal Care
• Require organizations to look at processes and procedures surrounding care of women experiencing hemorrhage and severe hypertension/preeclampsia
• Two new standards and 13 EP’s
PC.06.03.01

• Reduce the likelihood of harm related to maternal severe hypertension/preeclampsia
  – Develop written EBP procedures for measuring and re-measuring blood pressure
  – Develop EBP procedures for managing patients including
    • Use of emergency response medications
    • Use of seizure prophylaxis
    • Consult of experts of transfer to higher level of care
  – Provide role specific education to all staff and providers. At a minimum, education occurs at orientation, with changes, or every 2 years
  – Conduct drills annually
  – Review severe hypertension cases
  – Provide printed education to families
Prevalence
Initiative Overview

Partnership with the ACOG, Alliance for Innovation on Maternal Health (AIM) program

Original launch March 2019

Redesign February 2020 after support from Illinois PQC
By March 31, 2021, the PQC will decrease the statewide rate of severe maternal morbidity among cases of preeclampsia by 20% (from 9.9% to 7.9%)

**Primary Drivers**

**Get Ready:** Standardize protocols and train staff

**Respond:** Execute new protocols and processes

**Review:** Establish systems for learning from severe events

**Spread and Support:** Expand to other departments and provide support

**Secondary Drivers**

1. Develop standard order sets, protocols
2. Ensure rapid access to hypertensive agents
3. Train providers and RN’s on recognizing and responding to severe HTN

1. Execute protocols for treatment of HTN <60 minutes
2. Execute protocols for appropriate follow-up
3. Execute protocols for patient education

1. System for regular debriefs of cases with severe HTN
2. Process for multi-disciplinary review of severe events

1. Systems to identify and respond in all departments
2. Systems and resources to support staff, patients, and families following a severe event
State Methods

- Implementation plan with monthly bundle topics
- Monthly virtual facility team and data meetings
- Quarterly webinars
- Monthly data submission
- State analysis and reporting of quarterly outcome measures
Data collection and submission…

- AIM Data Center for quarterly measures
- Excel spreadsheets for monthly measures
Local Efforts

• Standardized order set with hypertensive medications
• Maternal Early Warning Trigger (MEWT)
• Hypertension Toolkit integrated into Electronic Medical Record (EMR)
• Rapid access to hypertensive medications
• Training of nurses through online Relias education modules
• In situ simulations
• Standard of work for blood pressure measurement including documenting the circumference of the upper arm
Local Efforts

• Review of patient education materials and discharge instructions
• Monthly review of all cases of severe range blood pressures
• Incorporated hypertension performance goal into nursing yearly evaluations
MEWT

**Provider Notification Parameters**
(Does not trigger MEWT)
Follow notification guidelines outlined in EPIC/standard

**Step 1: Maternal Assessment**
- Temp, Pulse Ox, HR, RR, BP

**MEWT**

**Step 2:**
- **Cardiopulmonary:**
  - HR > 110, MAP < 65, O2 Sat ≤ 90%, RR > 24
  - Severe Hypertension in Pregnancy
    - SBP > 160 or DBP > 110
      - Follow OB hemorrhage protocol for defined parameters

- **Infection/Sepsis:**
  - Maternal labs & 2 more triggers
  - Consider the following:
    - CBC and blood cultures (prior to antibiotic administration)
    - Total leukocytes, neutrophils
    - Lactate level (normal range)
    - MAP < 65

- **Severe Hypertension:**
  - Follow OB hemorrhage protocol for defined parameters

- **Severe Hypertension:**
  - MAP < 65
  - Follow OB hemorrhage protocol for defined parameters

**Other:**
- Nurse clinically uncomfortable with patient

**Follow OB hemorrhage protocol and applicable Epic order sets**

**Normal Assessment**
(No abnormal triggers)
- STOP here and continue to monitor

**Step 1:**
- Abnormal
- Normal

**MEWT**

**2 Moderate Triggers Present**
- Temperature ≤ 36.0
- O2 Saturation 90-94%
- Maternal HR 130-139 or 40-49
- Respiratory Rate 24-30
- Systolic BP > 140 or < 90
- Diastolic BP > 110 or < 45
- Fetal Heart Rate > 160

**1 Severe Trigger Present**
- Temperature > 39.0
- O2 Saturation < 90%
- Maternal HR < 130 or > 40
- Respiratory Rate > 30 or < 15
- Infection pathway only

**Hemorrhage**
- Follow OB hemorrhage protocol for defined parameters
Case Review

- Critical Event Debrief
- UOR
- Serious Safety Event and Sentinel Event Reviews
- Maternal Morbidity Review Quarterly
Timely Treatment

• New onset severe hypertension (Systolic $\geq$160 OR Diastolic $\geq$110) on two consecutive occasions at least 15 minutes apart
  – A single elevated severe range blood pressure, does not meet the inclusion criteria
• Treating women identified with new onset severe hypertension with first line medications (IV labetalol or hydralazine or po Nifedipine if IV access has not been established) within 60 min after elevated BP is identified
Timely Treatment

- February 20: 100%
- March 20: 80%
- April 20: 86%
- May 20: 71%
- June 20: 69%
- July 20: 79%
- August 20: 75%
- September 20: 78%
- October 20: 51%
- November 20: 75%
- December 20: 78%

Hospitals Reporting

- Providence Alaska Medical Medical Center

# Hospitals Reporting

- Collaborative Rate
- TCHAP
- AKPQC Goal (80%)
Severe Maternal Morbidity among Hypertension Cases – Alaska
Severe Maternal Outcomes

- Excludes cases with blood transfusion
- 2019 rate was 8.4%
- 2020 rate was 6.9% (Goal 6.72%)
What We Did Well

- No maternal death
- Timely escalations of care
- Collaboration with MFM and other specialists
- Support of the family
- Hospitalists
Lessons learned…

- Collaboration is key!
- Data collection is difficult—engage IT early on
- Monthly data submission and review is essential for QI
- Expect the unexpected (e.g. a global pandemic!)