Maternal Hypertension Initiative

April Action Period Call - Drills, Simulations and Debriefs
July 23, 2021
Welcome!

- Please type your name and institution you represent in the chat box and send to “Everyone”.
- Please also do for all those in the room with you viewing the webinar.
Welcome!

- Attendees are automatically muted to reduce background noise.
- You may enter questions/comments in the “chat” box during the presentation. We will have Q&A session at the end.
- Slides will be available via email and at www.alpqc.org
- We are now recording
<table>
<thead>
<tr>
<th>Event</th>
<th>Time</th>
</tr>
</thead>
<tbody>
<tr>
<td>Welcome &amp; Maternal HTN Updates</td>
<td>12:00 – 12:05</td>
</tr>
<tr>
<td>Baseline Data Review</td>
<td>12:05 – 12:10</td>
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<tr>
<td>Recognition and Prevention: Drills, Simulations &amp; Debriefs</td>
<td>12:10 – 12:25</td>
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<tr>
<td>Team Talk, Q&amp;A</td>
<td>12:25 – 12:55</td>
</tr>
<tr>
<td>Next Steps</td>
<td>12:55 – 1:00</td>
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</tbody>
</table>
HTN Updates

➢ New resources on our website:
  ➢ How to use random number generator

➢ Maternal Hypertension Learning Session 2
  ➢ Agenda details will follow shortly

https://www.alpqc.org/initiatives/htn/
Maternal Hypertension
Baseline Data Review
Percent of Cases with Persistent Severe Hypertension Treated Within 60 Minutes
All Hospitals | March - May 2021

Baseline (n=214)
March (n=070)
April (n=053)
May (n=057)

PERCENT OF CASES TREATED
Percent of Patients with Follow-up Appointment Scheduled Within 7-14 Days
All Hospitals | March - May 2021

<table>
<thead>
<tr>
<th>TIME PERIOD</th>
<th>PERCENT OF PATIENTS WITH APPOINTMENTS</th>
</tr>
</thead>
<tbody>
<tr>
<td>March (n=70)</td>
<td>80%</td>
</tr>
<tr>
<td>April (n=53)</td>
<td>75%</td>
</tr>
<tr>
<td>May (n=57)</td>
<td>85%</td>
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</tbody>
</table>

MONTHLY PROPORTION | AVERAGE PROPORTION | CONTROL LIMITS
Percent of Patients Who Received Education at Discharge
All Hospitals | March - May 2021

PERCENT OF PATIENTS WITH APPOINTMENTS

TIME PERIOD

- Monthly proportion
- Average proportion
- Control Limits
Percentage of Providers Who Completed Education Program on Severe Hypertension/Preeclampsia
All Reporting Hospitals | Jan - March 2021

Average: 44%
Percentage of Nurses Who Completed Education Program on Severe Hypertension/Preeclampsia
All Reporting Hospitals | Jan - March 2021

Average: 70%
Number of OB drills Performed in Unit
All Reporting Hospitals | Jan - March 2021

Average: 3.4
Recognition & Prevention: Drills, Simulations & Debriefs

Laura Money, RN, MSN
Nurse Manager, Labor & Delivery
Department of Obstetrics and Gynecology
UAB Medicine
### Maternal Hypertension Driver Diagram

**Aim:** Reduce by 30% severe maternal morbidity in pregnant and postpartum patients with preeclampsia/eclampsia by April 2022.

**Key goals:**
- Increase timely treatment of severe hypertension
- Increase proportion of patients receiving discharge education on preeclampsia & follow-up appointments
- Narrow the Black-White iniquity gap in severe maternal morbidity in patients with preeclampsia/eclampsia

#### Primary Drivers

- **Readiness**
  - Develop & implement standard processes for optimal care
- **Recognition & Prevention**
  - Educate, identify, assess
  - Educate staff on best practices and unit protocols
- **Respond**
  - Timely treatment of severe hypertension
  - Treat within 60 minutes every pregnant and postpartum patient with severe hypertension
  - Educate and support patients and staff after severe maternal event
- **Change Systems**
  - Foster a culture of safety and improvement

#### Secondary Drivers

- Develop standards for maternal early warning signs, monitoring, treatment
- Develop and implement protocols for timely triage, evaluation, management, escalation and transport
- Rapid access to medications
- Educate staff on best practices and unit protocols
- Conduct drills of protocols
- Identify and assess for severe HTN

#### Change Ideas

- Develop standard order sets, protocols, checklists, algorithms for early warning signs, diagnostic criteria, timely triage, monitoring and treatment of severe HTN. Integrate into EHR
- Identify champions for timely triage in OB, ED and outpatient areas. Develop and pilot process for timely triage
- Ensure rapid access to IV and PO anti-hypertensive medications with guide for administration and dosage (e.g., standing orders, medication kit, rapid response team). Simulate medication procurement with pharmacy representative
- Develop and implement system plan for escalation and transport with appropriate consultation. Pilot process
- Educate OB, ED, and anesthesia providers and nurse on recognition and diagnosis of severe HTN
- Perform regular simulation drills of protocols with debriefs
- Implement system to identify pregnant/postpartum patients in all hospital departments
- Execute protocol for measurement, assessment, and monitoring of BP and urine protein for all patients
- Develop standards for patient-centered education meeting health literacy, language needs. Test education tools
- Execute protocol for appropriate management in 60 mins
- Ensure understanding of communication & escalation procedures (e.g., implementing rapid response team)
- Provide patient-centered discharge education
- Implement protocol for patient follow-up in 7-14 days for all severe HTN patients
- Establish systems to accurately document patient self-identified race/ethnicity, primary language
- Provide staff-wide education on implicit bias with focus on timely and impactful clinical response
- Develop process to support partnership and interaction in patient education (i.e., “teach-back” method)
- Establish huddles to prepare for high risk patients, regular debriefs after all severe hypertension cases
- Establish process for multidisciplinary systems reviews on all severe maternal hypertension cases admitted to the ICU

#### Outcome

- Respectful Care
  - Huddles, debriefs, multi-disciplinary reviews
Regularly scheduled simulations for OB emergency training:

Challenges:
• Scheduling interdisciplinary team
• Opportunities to schedule the Sim center
• Preparation time
• # of staff to plan and implement each simulation- ie actors, supplies

Overall each simulation was wonderful and made us want more!
Focused survey with the team

• Able to do this during work hours
• On the unit
• Education/ feedback in real time
• An environment that allowed mistakes
• Collaborative scenarios that had a place for all members of the team
• Focused on clinical aspects but also –communication, family members, supply management and location
• Some focus on anticipation of the event as well as the event itself
Selected OB Emergencies to focus on:
1. PPH
2. Shoulder Dystocia
3. STAT C/S
4. PreE/ Eclampsia
5. Fetal Monitoring

Developed a consistent format for SRDs:
1. Scenario
2. Risk Factors (for the pt as well as the condition)
3. Next steps/ Additional information
4. Statistics
5. Interventions table for all members of the team
6. Debrief
Scenario

Patient description: 32 yo, PARA 3012, at 41 weeks gestation. SROM clear fluid, DM Class C, EFW 4000gm. Patient weighs 285# and is 5' tall with a history of shoulder dystocia in a previous pregnancy. Stools are at bedside for preparation of a possible dystocia. FHT’s category II and patient has been pushing for 3 hours. Patient states “I’m tired! I can’t do this anymore!” The head finally delivers after 2 more pushes. MD notes “turtle’s neck” sign
What risk factors does this patient have for shoulder dystocia?

Risk Factors:
- Late-term pregnancy
- Diabetes
- Obesity
- Prolonged 2nd stage
- History of a previous shoulder
- Short stature
- Macrosomia
- Excessive weight gain
- Protrative active phase dilatation
- Arrest of dilatation
- Failed, protracted, or arrest of descent
- Long second stage
- Precipitous second stage
- Instrument delivery
Immediate interventions

- Broadcast Peds Delivery- notify of shoulder Dystocia drill/ location
- Instruct the patient to Stop Pushing
- Labor nurse marks the clock
- Upon team arrival SL/ANM designate roles- time keeper, 2 RNs McRoberts, 1 RN suprapubic pressure, family management ST, MDs- lead
- Lower HOB- use CPR release
- Position legs in McRoberts Maneuver-knees pulled towards ears, legs pushed inward, use 2 RNs
- Clearly state patient is in McRoberts position
- Suprapubic pressure- SL/ANM/ experienced RN- ask MD specific position of baby (ie which way to push-specific words towards the window/towards the door)) using CPR hand not fist-There should never be fundal pressure
- Communication between the RN providing the suprapubic pressure and the MD should be clear – MD requests SP pressure, RN responds- doing suprapubic now (indicates you are in the correct position)
- Designated time keeper -Call out the time in 1 minute increments
- MDs call out each maneuver as it is initiated
- MDs will use axial traction to deliver the fetus not downward traction.
Next Steps/Additional Information

- **Next Steps if McRoberts and Super Pubic pressure do not result in a delivery:**
- Rubin or posterior pressure on the **anterior shoulder**, which would bring the baby into an oblique position with head somewhat towards the vagina
- Wood’s Screw maneuver **turning the anterior shoulder to the posterior and vice versa**
- Delivery of the **posterior arm** first, in which the forearm and hand are identified in the birth canal, and gently pulled.
- Repeat above maneuvers – *Time Keeper should anticipate PAST maneuver and retrieve nasal cannula tubing from cart*
- Posterior Axillary Sling (PAST)- **traction applied to the sling to deliver the posterior shoulder**
- **What are ‘Last Resort’ maneuvers? Associated with significant maternal/fetal mortality and morbidity**
- Zavanelli maneuver: Head placed back in vaginal canal followed by cesarean section
- Note- Correct Suprapubic Pressure is imperative- CPR hand position to downward thrust and then roll shoulder in the direction that fetal face is presenting.
Statistics

• What percentage of shoulder Dystocia’s are relieved with?
  McRoberts- 39-42%

• Combined McRoberts/ Suprapubic pressure- 54-59% as high as 90%
<table>
<thead>
<tr>
<th>RN INTERVENTIONS</th>
<th>MD INTERVENTIONS</th>
<th>ANESTHESIA</th>
</tr>
</thead>
<tbody>
<tr>
<td>Educate and Confirm patient is not pushing</td>
<td>Communicate each maneuvers with the team</td>
<td>Prepare for possible transport to OR</td>
</tr>
<tr>
<td>Monitor FHT</td>
<td>Ensure upper level/ attending present</td>
<td>Premed orders</td>
</tr>
<tr>
<td>Call out time in 1 minute intervals up to 5 minutes</td>
<td>Escalation as necessary</td>
<td></td>
</tr>
<tr>
<td>Support family- dedicate 1 person to manage any family in the room-</td>
<td>Communicate with patient</td>
<td></td>
</tr>
<tr>
<td>support and educate</td>
<td>Stay aware of elapsed time</td>
<td></td>
</tr>
<tr>
<td>Dedicated 1 person to support and educate the patient (this should not be the</td>
<td></td>
<td></td>
</tr>
<tr>
<td>person participating in the maneuvers)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Prepare lines for possible transport to OR</td>
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<td></td>
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</tbody>
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Staff Readiness Drills (SRDs)
Target Audience: OB and Anesthesia Residents, Medical Students and Nursing Staff

Post-partum Hemorrhage (Uterine Atony)

Patient description: Brittany Smith, 28 yo P4004 @ 38.5 weeks gestation. She was admitted for spontaneous labor from MEU, had a prior postpartum hemorrhage 2 years ago, and is obese. Labor Course: Epidural for pain management. Patient with spontaneous vaginal delivery of a 4,300 gram male. Placenta delivered without complications. Patient currently in stirrups while intern OB resident is performing assessment of perineum. Current blood loss noted at time of delivery in vdrap is 200cc. VSS. Infant is skin to skin with DCT at BS for admission. Baseline Lab values: Labs WNL except Hct 24 on admission. Please tell me 3 risk factors this patient has:

- Prior PP hemorrhage
- Obesity
- Starting HCT <30

Patient complained of feeling “shaky”, staff noticed pallor skin tone and a large gush of blood from perineum. What are immediate actions required by the team?

- Fundal massage
- Extraction of clots
- Call for upper level OB resident and additional nursing staff as needed
- Medications given if ordered (Methergine, hemabate).
- Vital Signs

Vital Signs are pulse 100, BP 100/76, Resp Rate 22, Ox Sat 93%. The patient now has 750 cc in the V drape and the resident has requested for more laps to be opened. What immediate actions are required next?

- Broadcast to OB Rapid Response
- Help to room including Hemorrhage cart

What other interventions would you expect from the interdisciplinary team?
Obstetric Team Debriefing Form

Remember: Debriefing is meant to be a learning experience and a way to address both human factors and systems issues to improve the response for next time. There is to be no blaming/finger-pointing.

Type of event: ___________________________  Date of event: ___________________________
Location of event: ___________________________

Members of team present: (check all that apply)
☐ Primary RN  ☐ Primary MD
☐ Anesthesia personnel  ☐ Neonatology personnel
☐ Nurse Manager  ☐ OB/Surgical tech
☐ Charge RN  ☐ MFM leader
☐ Unit Clerk  ☐ Resident(s)
☐ Patient Safety Officer  ☐ Other RNs

Thinking about how the obstetric emergency was managed,

<table>
<thead>
<tr>
<th>Identify what went well: (Check if yes)</th>
<th>Identify opportunities for improvement: “human factors” (Check if yes)</th>
<th>Identify opportunities for Improvement: “Systems issue” (Check if yes)</th>
</tr>
</thead>
<tbody>
<tr>
<td>☐ communication</td>
<td>☐ communication</td>
<td>☐ Equipment</td>
</tr>
<tr>
<td>☐ Role clarity (leader/supporting roles identified and assigned)</td>
<td>☐ Role clarity (leader/supporting roles identified and assigned)</td>
<td>☐ Medication</td>
</tr>
<tr>
<td>☐ Teamwork</td>
<td>☐ Teamwork</td>
<td>☐ Blood product availability</td>
</tr>
<tr>
<td>☐ Situational awareness</td>
<td>☐ Situational awareness</td>
<td>☐ Inadequate support (in unit or other areas of the hospital)</td>
</tr>
<tr>
<td>☐ Decision-making</td>
<td>☐ Decision-making</td>
<td>☐ Delays in transporting the patient (within hospital or to another facility)</td>
</tr>
<tr>
<td>☐ Other: ___________________________</td>
<td>☐ Other: ___________________________</td>
<td>☐ Other: ___________________________</td>
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Safe Motherhood Initiative
1.9% PPH rate
ALPQC-HTN

UAB ALPQC HTN Data

ALPQC HTN Process Measures*

<table>
<thead>
<tr>
<th>Month</th>
<th>P1 - Time to Treatment of severe HTN within 60 min</th>
<th>P2 - FU appt scheduled within 7-14 days for women with persistent severe HTN</th>
<th>BP Appt kept</th>
<th>P3 - Written education provided to pt/family on S&amp;S HTN/PreE at DC</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dec-20</td>
<td>72%</td>
<td>27%</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Jan-21</td>
<td>67%</td>
<td>20%</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Feb-21</td>
<td>63%</td>
<td>40%</td>
<td></td>
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</tr>
<tr>
<td>Mar-21</td>
<td>50%</td>
<td>60%</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Apr-21</td>
<td>50%</td>
<td>40%</td>
<td></td>
<td></td>
</tr>
<tr>
<td>May-21</td>
<td>50%</td>
<td>50%</td>
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</table>

*Process measures based on review of 10 charts per month of mom delivery or PP admission with severe HTN.
Post SRD survey comments

+ staff engagement and learning opportunity
Interdisciplinary and collaborative - great to see all members of team involved
Positive mentoring for new team members
Hands on, love the informal simulations - really got a lot out of the session
Team diversity
Non punitive
Fun learning environment
Level playing field - everyone has a "say"
The importance of everyone’s role is apparent
Felt comfortable asking a question
Learned a lot about what the ST does – would have never known
Really hardwired our process - made things easy to remember
Need more often
Ensure that staff get to participate in all the different clinical of scenarios
Hypertension Scenario

Patient description: Destiny Jones is a 41 year old African American, PARA 0000 at 37.0. She presents to MEU with a new onset headache. She is an IVF patient who used an egg donor. Patient has a history of CHTN and weighs 285 lbs. You place the patient on continuous fetal monitoring and obtain vital signs. Initial Vital signs are 144/98, HR 77, Resp 21.

What risk factors does this patient have for PreEclampsia?
- >40 yo
- Ethnicity
- 1st pregnancy
- Use of Egg donor
- CHTN
- Obesity

What are immediate actions with a patient presenting with high BPs?
- Keep room and patient calm for more accurate reading
- Obtain repeat BP after 5 minutes with correct positioning and cuff
- Follow notification parameters
- Dip urine
- Anticipate starting IV/or obtaining labs

Patient Reassessment: Repeat BP after 5 minutes is 162/112

Next steps:
- Notify Provider of all BP measurements
- Start IV and draw labs
- Prepare for antihypertension medication administration
- Discuss delivery decision
- Move patient to L&D
- Educate patient re magnesium sulfate administration and prepare to administer
- Review patient safety for seizures

Statistics related to PreE
- According to the World Health Organization, among women who have had preeclampsia, about 20% to 40% of their daughters and 11% to 37% of their sisters also will get the disorder
- There are around 3 million cases of PreEclampsia each year in the US
- 1/200 women with Severe PreEclampsia will become Eclamptic

Risk Factors for PreEclampsia
- Chronic high blood pressure or kidney disease before pregnancy
- High blood pressure or preeclampsia in an earlier pregnancy
- Obesity. Overweight or obese women are also more likely to have preeclampsia in more than one pregnancy
- Age. Women older than 40 are at higher risk.
- Multiple gestation (being pregnant with more than one fetus)

UAB Drug Recommendations

1st line
Hydralazine
5 mg as a slow bolus dose given intravenously, and repeated every 20 min until the desired effect is achieved or up to a maximum of 4 doses (20 mg) If BP increase is unresolved give 10mg as slow IV bolus give intravenously every 20 minutes until desired effect is achieved or up to maximum of 2 doses (20mg) The maximum dosage is 40mg in 2 hours.

Move to Labetalol if hydralazine is ineffective, not available, or if marked maternal tachycardia supervenes (>135-140 bpm)

2nd line
Labetalol
10 mg intravenous bolus dose followed 20 minutes later by an additional 10mg dose, followed by 20 mg if not effective after 20 min, followed by 40 mg every 20 min up to a maximum dose of 270 mg (8 doses)

Nursing Implications
*RN's may administer all doses noted above, VS should be obtained as ordered (but BPs at least q 5 minutes). MDs should be informed of VS prior to each subsequent administration

Medications:
- Magnesium bolus 4-6 gms per pump - 2 mini bag =4 grams- these may be given as a bolus over 10 minutes
- Magnesium maintenance 2gm/hr IV or rate determined by Serum level
- Ativan: 4 mg
- IV Diazepam: 5-10 mg
- IV Dilantin 10 to 15mg/kg IV slowly not to exceed rate of 50mg/min
- Dilantin maintenance 100 mg IV q8h

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<th>RN INTERVENTIONS</th>
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<th>ANESTHESIA</th>
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<tbody>
<tr>
<td>Begin O2 - start pulse Oximetry</td>
<td>Continuous VS Monitoring</td>
<td>Prepare for possible transport to OR</td>
</tr>
<tr>
<td>IV #2</td>
<td>Supplemental O2</td>
<td>Anticipate Airway support</td>
</tr>
<tr>
<td>Lab-PIH, Chem ID</td>
<td>Indwelling Foley catheter</td>
<td></td>
</tr>
<tr>
<td>Notify attending</td>
<td>Asure adequate IV access</td>
<td></td>
</tr>
<tr>
<td>Notify anesthesia</td>
<td>Turned LLD/Suction</td>
<td></td>
</tr>
<tr>
<td>Monitor V/S, LOC</td>
<td>Tx for seizures see medication</td>
<td></td>
</tr>
<tr>
<td>Apply EKG monitor</td>
<td>Tx for B/P-see medication</td>
<td></td>
</tr>
<tr>
<td>Medications:</td>
<td>See list for common OB</td>
<td></td>
</tr>
<tr>
<td>See list for common OB</td>
<td>medication managements</td>
<td></td>
</tr>
</tbody>
</table>
Team Talks - Breakouts

- You will be automatically assigned to a breakout
- Breakout will end after 15 mins
- We will have brief report outs at the end
- Tips
  - Lag when you go from main room to breakout.
  - May have to wait a few seconds for others to join that breakout room.
  - If your computer/phone does not have a microphone you can enter in the chat your comments

Discussion topics:
- Challenges submitting data/submitting by due date
- Barriers/opportunities communicating with clinical leads and team regarding your team’s data
- Drills and Debriefs: barriers/opportunities with implementation
Q&A

• Please feel free to **unmute** and ask questions
• You may also enter comments or questions in the "chat" box
Next Steps

✓ Data submissions due July 31
  ➢ Monthly (June) data
  ➢ Quarterly process data (April-June 2021)
  ➢ Remember monthly-self-assessment

➢ If have not done so already, please also submit:
  ➢ Baseline data
  ➢ Previous month’s data
  ➢ Quarterly Process data for Jan–Mar 2021

➢ Meet with your team to review data, PDSAs & plan next steps

➢ Run PDSAs!
  ➢ Samples and template on our website under “Key Documents”
Quarterly Process Measures

Find data forms, including latest data collection form for quarterly process data, on our website at www.alpqc.org/initiatives/htn/ under the “Data Resources” menu.
Thank You

Next Call: Friday, August 27 at 12:00 PM