SARASOTA MEMORIAL HOSPITAL
NURSING PROCEDURE

☒ **Sarasota Memorial Hospital – Sarasota**

☒ **Sarasota Memorial Hospital – Venice**

TITLE: Severe Hypertension/Preeclampsia in Pregnancy and Postpartum	**PROCEDURE NUMBER:** Obs41
	EFFECTIVE DATE: 12/2020 SMH-Sarasota
	EFFECTIVE DATE: 11/2021 SMH-Venice
	REVIEWED/REVISED DATE: 10/2023
	PAGES: 1 of 4
ISSUED FOR: Nursing	**RESPONSIBILITY:** RN-OB ECC, L&D, MBU, Pediatric and Women's Med-Surg Unit

PURPOSE

To facilitate accurate recognition and treatment of the pregnant or postpartum patient that presents with, or begins showing, signs of severe hypertension/preeclampsia.

DEFINITIONS

- **Severe Hypertension in Pregnancy:** Systolic BP>160mmHg and/or Diastolic BP>100mmHg on two occasions (5 minutes apart or non-consecutive within one hour, initiate the severe hypertension protocol).
- **Appropriately Sized Blood Pressure Cuff:** Cuff length should be 1.5 times upper arm circumference or a cuff with a bladder that encircles 80% or more of the arm.
- **Appropriate Positioning for Blood Pressure:** Sitting up or semi-fowlers positions are most accurate for blood pressure when possible with these patients.

KNOWLEDGE BASE

The objectives of treating severe hypertension are to prevent congestive heart failure, myocardial ischemia, renal injury or failure, and ischemic or hemorrhagic stroke. Antihypertensive treatment should be initiated expeditiously for acute-onset severe hypertension that is confirmed as persistent. For example: 2 severe range BP's within an hour. Antihypertensive agents should be administered as soon as reasonably possible after the criteria are met with a goal of within 30-60 minutes.

PROCEDURE

1. Initiate nursing protocol upon recognition of initial blood pressure in severe range.
2. Confirm accurate blood pressure with appropriately sized cuff, positioning and educate patient/support person on findings and plan for continued assessment.
3. Repeat blood pressure in 5 minutes to confirm severe range.
4. Activate the OB Hypertension Severe Order Set, per the Severe Hypertension Protocol, if severe hypertension is established. Administer PO antihypertensive medication while obtaining IV access and notify the patient's physician within 20 minutes of medication administration. Nursing can consult the OB hospitalist if immediate assistance is needed from a provider. *Nursing staff on Pediatrics and Women's Unit cannot activate this protocol unless an OB provider is consulted on the patient. Please contact attending provider to request OB consult for hypertensive concerns.
5. Notify charge RN of patient with severe hypertension. Charge RN will allocate extra staff when needed to stabilize patient. Charge RN will notify anesthesia and OB Hospitalist. Sarasota campus - Notify Perinatology (maternal fetal medicine) as needed.
6. Initiate IV access, if not already present, and draw protocol labs: CBC, Type and Screen, Coags, Chem 12.

7. Initiate continuous fetal monitoring if patient is pregnant.
8. Educate patient and support person on severe hypertension, plan of care, medications and side effects when administered.
9. Administer antihypertensive medication per protocol in collaboration with the Provider. See protocol: Appendix A.
10. Check the patient's blood pressure (BP) every 10 minutes during administration of antihypertensive medicines.
11. Goal is to achieve a Systolic BP <160mmHg and a Diastolic BP <100mmHg.
12. Assess BP as follows once goal BP is achieved:
    a. Every 5 minutes x4
    b. Every 15 minutes for 1 hour
    c. Every 4 hours once stable

    *Antihypertensive therapy should be titrated to stabilize maternal blood pressures before discharge.
13. If ordered by provider, initiate seizure precautions and begin Magnesium Sulfate Infusion. Refer to Magnesium Sulfate procedure obs03 and OB Mag for Pre-Eclampsia order set. If patient is on Pediatric and Women's Med-Surg and is to receive Magnesium Sulfate Infusion, they should be transferred to MBU or LD.

EXCEPTIONS

Patients that do not meet criteria for hypertensive crisis.

EXPECTED OUTCOME

Treatment of blood pressure to stabilize patient and avoid eclampsia.

REFERENCES

American College of Obstetricians and Gynecologists. (2019). Severe Hypertension Bundle: *Safe Motherhood Initiative.*

American College of Obstetricians and Gynecologists. (2020). ACOG practice bulletin number 222: *Gestational Hypertension and Preeclampsia*

CMQCC Obstetric Preeclampsia Tool Kit, 2021. www.cmqcc.org

FPQC Hypertension in Pregnancy, 2017. www.fpqc.org

Sarasota Memorial Healthcare System Procedure. Magnesium Sulfate Administration Procedure. (OBS03), SMH: Author.

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APPROVAL

N/A

ATTACHMENT (S)

Appendix A: Guidelines for Severe Hypertensive Emergency

Guidelines for Severe Hypertensive Emergency

Goal for Treatment: Within 30-60 min.

Systolic BP ≥ 160mmHg *and/or* Diastolic BP ≥ 100mmHg

Labs to consider: UPCR, H&H, Chem 12 and Coags

Any 2 severe BPs within the hour, not necessarily consecutive, initiate the protocol. Protocol lasts 4 hours. If BPs become within severe range again, after 4 hours have lapsed, reinitiate the protocol.

First Line Agent → **Oral Nifedepine: STAT** → **Nifedepine Every 20 minutes**
Initial: 10mg PO
Second: 20 mg PO
Third: 20mg PO

Use with caution: **Oral Nifedepine**
- Heart rate >100bpm
- Severe aortic stenosis
- Recent MI, Cardiogenic Shock

- Preferred agent with Maternal Bradycardia or Oliguria

Check Blood Pressure *every 10 minutes* during administration of Antihypertensive
Continue if SBP >/= 160 or DBP >/= 100mmHg

A phone call should be made to the physician *within 20 minutes* of initiating any BP meds.
Continue to update provider during treatment.

Second Line Agent → **IV Labetalol** (Pt needs to be on cardiac monitor) → **Labetalol IV Every 10 minutes**
Initial: 20mg IV over 2 minutes
Second: 40 mg IV over 2 minutes
Third: 80mg IV over 2 minutes

Use with caution: **Labetalol IV**
- Heart rate <60
- CHF, AV Heart Block (ECG Monitor)
- Contraindicated in Asthma

- Preferred agent with Maternal Tachycardia

Third Line Agent → **IV Hydralazine** → **Hydralazine IV Every 20 minutes**
Initial: 5 mg IV over 2 minutes
Second: 10 mg IV over 2 minutes

Use with caution: **Hydralazine (Apresoline)**
- Heart rate >100 bpm
- Recent Stroke
- Severe Mitral Valve Disease

- Preferred agent with Maternal Bradycardia

Magnesium Sulfate Seizure Prophylaxis

Mag Bolus: 4gm or 6gm
Mag Maintenance: 2gm/hr

Continued Seizures: Additional 2gm bolus

Continued Seizures after 2nd Bolus: Treat with anti-seizure medication—Lorazepam, Diazepam, Phenytoin, Midazolam

Labetalol and Hydralazine Dosing

Labetalol Dosing: 100mg/20ml (Use 10-20ml syringe)		Hydralazine (Apresoline) Dosing: 20mg/1ml (Use TB syringe)	
20mg	4ml	5mg	0.25ml
40mg	8ml	10mg	0.5ml
80mg	16ml		
Max Dose:	300mg/24 hr	Max Dose:	30mg/24 hr

Source: Florida Perinatal Quality Collaborative (2016). Hypertension in Pregnancy Collaborative. 12/2021