Case 1: Preeclampsia with Severe Features in the Outpatient Setting

## Learning Objectives:

* Recognize risk factors for preeclampsia
* Identify severe hypertension as an early warning sign for preeclampsia
* Identify preeclampsia with severe features and treat with appropriate medication(s)
* Identify pathways for escalation to a higher level of care
* Demonstrate teamwork and communication skills during a simulated hypertensive emergency

## Planned Completion Points:

 In order to successfully complete this scenario, the care team should do the following:

* Recognize severe hypertension
* Diagnose preeclampsia with severe features
* Administer antihypertensive medications correctly and in a timely manner
* Activate the referral process to a higher level of care
* Counsel the patient regarding the diagnosis of preeclampsia with severe features, potential complications, and need to escalate care

## OR

* If 10 minutes have elapsed since the recognition of severe hypertension and the team has not initiated anti-hypertensive medications
* If 10 minutes have elapsed and the team does not escalate to a higher level of care

## Expected Duration of Exercise

Approximately 30 minutes (10 minutes for simulation / 20 minutes for debriefing)

# Simulation Setup:

* + - Simulators to be used: The simulator to be used will depend on what is available at your institution. Options for this may include a high-fidelity birthing simulator, a staff member playing the role of the patient, a wearable simulator or other props may be used to simulate a gravid abdomen.
		- Necessary personnel: (Total number needed 1-3)
			* Mannequin Simulator or trained actor/staff member to portray the standardized patient
			* Trained faculty/staff member can serve as the Simulation Proctor
			* Trained actor/staff member to portray the family member (optional role but encouraged if using a mannequin simulator)
		- Room Setup: The patient room should be stocked and in the same condition it would be for actual patients at your institution.
		- Simulator Setup: The simulator / standardized patient should be in a patient seated in the room ready for assessment. The patient should have a gravid appearing abdomen. A family member, if included in the simulation, should be seated near the simulator/standardized patient. A blood pressure cuff should be on the patient/simulator’s arm.
		- Vital Signs: If your simulator has the ability to show maternal vital signs on a monitor, you can use this during the scenario. If not, you can use the provided vital signs cards to report the values during the case.
		- Simulation Pre-Brief: Gather the care team together and perform the Pre-Simulation Briefing/Orientation.

# Pre-Simulation Briefing/Orientation**:**

## Prior to the simulation, you should brief the team on the drill. Begin by orienting them to the simulator and its capabilities and limitations. Then, explain the following:

* + - Emphasize that the drill is meant for training and it is not a test.
		- Treat the simulator/standardized patient as they would a real patient.
		- If the team needs additional supplies or instruments, they should go and obtain them.
		- Call for assistance and other providers as they would in a real emergency.
		- Medications, if needed, should be obtained in the normal manner, but not opened or used during the drill.
		- All simulation staff and participants should follow expected infection control measures per protocol for routine patient care at your institution.

# Basic Scenario Management and Tips:

## Beginning the Simulation Scenario:

* + - After you have conducted your pre-simulation briefing/orientation, have the participant who will

be the primary care team member (OB nurse or Medical Assistant) come with you to the simulated patient’s room.

* + - To begin the scenario, read the scenario to primary OB nurse and then have them enter the room. At this point, the actor person playing the role of patient or family member should tell the nurse about the patient’s complaint of a headache.
		- Patient’s blood pressure will remain elevated in the severe range until escalation to higher level of care is identified. Once the team recognizes that serial blood pressure measurements are needed, you may display a new blood pressure every time it is measured. (Ideally at 15 minutes increments). Allow time for team to discuss initiating anti-hypertensive therapy and answer patient/family questions.
		- Once an antihypertensive medication is given, the faculty proctor will need to do the following:
1. State that “20 minutes have elapsed”
2. Display a new blood pressure in order to prompt additional discussion by the team and at that time they should order consider next steps in the algorithm for escalation.
	* + The scenario should end when the team has done the following:
			- Recognized severe hypertension as an early sign of pre-eclampsia and notify provider
			- Treat the hypertensive emergency in a timely fashion with at least two doses of an appropriate antihypertensive medication
			- Activate escalation process to have patient seen at a higher level of care
			- Counsel the patient regarding preeclampsia and provide recommendations to be seen at a higher level of care

OR

* + - * If the team does not correct the hypertension or fails to recognize preeclampsia with severe features and initiate outpatient hypertension algorithm.

# Case Scenario:

## CASE:

Patient:

Patient Information:

* + - The patient is a 27y/o G2P1001 37wks.
		- Her first pregnancy was complicated by preeclampsia at 36wks gestation
		- She has had an uncomplicated prenatal course and has no known drug allergies
		- She presents to scheduled prenatal visit with c/o HA that did not go away with Tylenol.
		- She describes headache as frontal headache and rates it 7/10 in severity
		- BMI: 32.5

## Laboratory Data

* + - Not available

## Clinical Information includes:

* + - The patient has just been roomed.

## Family Member/Patient Instructions:

* Standardized Patient: The headache woke you from your sleep around midnight. It is frontal in location, constant, and different from prior headaches with regard to character and intensity (7 out of 10). Prior headaches respond well to acetaminophen, but the current headache did not improve after taking this today. You have a history of preeclampsia and are worried about recurrent diagnosis. Your blood pressures were previously normal in the office. You were provided with a home blood pressure cuff because of your history of preeclampsia. You have not been using the cuff regularly and you were not sure if the blood pressures were accurate.
* You are anxious and worry if anxiety or your position in the bed can affect your blood pressure reading.

* Family Member (optional): The family member may pretend to be the patient’s partner, mother,

relative or friend. This person may ask questions during the scenario including things like:

* + “Why is her blood pressure so high?”
	+ “Can we just wait to see if her blood pressure gets better instead of going to the hospital?”
	+ “I think she is just worried and you are making her nervous, can you give her something for anxiety?”
	+ “Why didn’t her blood pressure improve after the medication you gave her?”
	+ “Can we just start BP medicine now, go home and see if it works?”

Answers to frequent questions that come up:

* + The patient has a history of preeclampsia in her first pregnancy
	+ The patient does not have asthma
	+ If asked additional questions, try to re-direct and not answer specifics so as to avoid topics that might complicate the scenario (i.e., do not say that the patient has migraines)

# 5.0 Case Flow/Algorithm with branch point and completion criteria:

Simulation facilitator will introduce the scenario to the team outside the room and then bring the participant who will be the initial nurse/CMA

 into the patient’s room. The nurse/CMA will go through the steps to determine correct fit/size of BP cuff and technique of BP assessment. The patient’s support person will tell nurse/CMA that the patient has a headache. The initial BP is 188/115.

**↓**

The nurse/CMA will assess the patient and follow steps to obtain a repeat blood pressure within 15 minutes or call for assistance.

The proctor will produce the repeat blood pressure (180/110)

The OB nurse should identify severe hypertension and call for assistance.

**↓**

OB Provider/team as called enters room and is briefed by nurse/CMA. The patient continues to complain of a headache.

**↓**

The patient should be examined by the provider and an antihypertensive should be ordered. The provider should explain that further prompt evaluation is needed at a higher level of care. The patient or family member should have questions about the medication and about the plan of care.

After the first dose of an antihypertensive is given. The proctor will:

* Inform the team that 20 minutes have elapsed\*



* Display a new blood pressure (BP 175/110).

**↓**

Team should recognize continued severe range hypertension and administer a second dose of antihypertensive medication.

**↓**

After the second dose antihypertensive is given. The proctor will display a new blood pressure (BP 145/95).

**↓**

Prompt the team to discuss diagnosis of preeclampsia with severe features to the patient and confirm a plan of care.

Scenario ends when the team has done the following:

Recognized and treated severe hypertension with two doses of an appropriate antihypertensive medication

Diagnose preeclampsia with severe features and administration of antihypertensive medication.

Counsel the patient regarding preeclampsia and need to escalate to higher level of care.

OR

If the team does not correct the hypertension or fails to recognize preeclampsia with severe features and initiate antihypertensive within 10 minutes

At the end of the scenario, clearly state the simulation is over and then gather the team for the review and debriefing.