



HYPERTENSION TOOL KIT

January 2021



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Hypertensive disorders in pregnancy continues to be a growing concern for maternal mortality and morbidity. According to the pregnancy Mortality Surveillance System, 2007-2016, hypertensive pregnancy disorders count for 7.8% of pregnancy-related deaths.

Purpose:

The Indiana Perinatal Quality Improvement Collaborative (IPQIC) has partnered with The Alliance for Innovation on Maternal Health (AIM), a national data-driven maternal safety and quality improvement initiative¹, to improve perinatal outcomes. The Hypertension Toolkit is the second in a series of toolkits, developed by Indiana perinatal practitioners, that addresses a major issue in the care of pregnant women and is designed to establish protocols to be implemented statewide that are designed to standardize care and reduce variability. We have provided tools, algorithms, and checklists to facilitate recognition, rapid treatment, and escalation when needed. It is our goal to reduce the incidence of maternal mortality from preventable hypertensive disease and improve the health of women in Indiana.

Definitions:

Disorder	Definitions
Chronic hypertension	Hypertension diagnosed or present before pregnancy or before 20 weeks of gestation; or hypertension that is diagnosed for the first-time during pregnancy and that does not resolve in the postpartum period. Systolic blood pressure ≥ 140 mmHg, diastolic blood pressure ≥ 90 mmHg or both
Gestational hypertension	Systolic blood pressure ≥ 140 mm Hg or diastolic BP ≥ 90 mm Hg, or both, measured on two occasions at least 4 hours apart after 20 weeks of gestation in a woman with a previously normal blood pressure. No other symptoms

¹ www.savehealthcareforeveryone.org

Disorder	Definitions
Preeclampsia	<p data-bbox="621 268 1336 422">New onset of Systolic blood pressure of 140 mm Hg or more or diastolic blood pressure of 90 mm Hg or more on two occasions at least 4 hours apart after 20 weeks of gestation in a woman with a previously normal blood pressure</p> <p data-bbox="621 459 672 485">And</p> <p data-bbox="621 527 764 552">Proteinuria:</p> <ul data-bbox="621 594 1336 789" style="list-style-type: none"> <li data-bbox="621 594 1336 663">• 300 mg or more per 24-hour urine collection (or this amount extrapolated from a timed collection) or <li data-bbox="621 678 1154 703">• Protein/creatinine ratio of 0.3 or more or <li data-bbox="621 718 1336 789">• Dipstick reading of 2+ (used only if other quantitative methods not available) <p data-bbox="621 842 1336 911">In the absence of proteinuria, new onset hypertension with the new onset of any of the following:</p> <ul data-bbox="621 926 1336 1205" style="list-style-type: none"> <li data-bbox="621 926 894 951">• Thrombocytopenia <li data-bbox="621 966 889 991">• Renal insufficiency <li data-bbox="621 1005 938 1031">• Impaired liver function <li data-bbox="621 1045 886 1071">• Pulmonary edema <li data-bbox="621 1085 1336 1205">• New-onset headache unresponsive to medication and not accounted for by alternative diagnoses or visual symptoms
Preeclampsia with Severe Features	<p data-bbox="621 1222 1336 1417">Systolic blood pressure \geq160 mm Hg or diastolic BP \geq110 mm Hg, or both, measured on two occasions at least 4 hours apart (severe hypertension can be confirmed within a short interval (minutes) to facilitate timely antihypertensive therapy)</p> <ul data-bbox="621 1455 1336 1776" style="list-style-type: none"> <li data-bbox="621 1455 894 1480">• Thrombocytopenia <li data-bbox="621 1495 1336 1564">• Impaired liver function not accounted for by alternative diagnoses <li data-bbox="621 1579 889 1604">• Renal insufficiency <li data-bbox="621 1619 886 1644">• Pulmonary edema <li data-bbox="621 1659 1336 1728">• New-onset headache unresponsive to medication and not accounted for by alternative diagnoses <li data-bbox="621 1743 894 1768">• Visual disturbances

Disorder	Definitions
Eclampsia	In a patient with preeclampsia, new-onset tonic-clonic, focal, or multifocal seizures in the absence of other causative conditions such as epilepsy, cerebral arterial ischemia and infarction, intracranial hemorrhage, or drug use.
Chronic hypertension with superimposed preeclampsia	Preeclampsia in a woman with a history of hypertension before pregnancy or before 20 weeks of gestation
Chronic hypertension with superimposed preeclampsia with severe features	<p>Preeclampsia in a woman with a history of hypertension before pregnancy or before 20 weeks of gestation and superimposed preeclampsia and...</p> <p>Systolic blood pressure ≥ 160 mm Hg or diastolic BP ≥ 110 mm Hg, or both, measured on two occasions at least 4 hours apart</p> <ul style="list-style-type: none"> • Thrombocytopenia • Impaired liver function not accounted for by alternative diagnoses • Renal insufficiency • Pulmonary edema • New-onset headache unresponsive to medication and not accounted for by alternative diagnoses • Visual disturbances
HELLP	Presence of HELLP syndrome in a pregnant woman, hypertension may be present and is considered a variant of preeclampsia

Source: American College of Obstetricians and Gynecologists Practice Bulletin #203 and #222

A printable chart provided by UpToDate can be found at:

[Definitions for the hypertensive disorders of pregnancy - UpToDate](#)

Overview

Currently, the United States has a maternal mortality rate of 17.4 per 100,000 births. The Indiana Maternal Mortality Review Committee (MMRC) found that the rate of pregnancy-associated

death in Indiana was 77.2 per 100,000 live births, and the specific rate of pregnancy-related deaths was 12.2 per 100,000 live births.

Pregnancy-associated mortality is the death of a woman while pregnant or within one year of the end of pregnancy, regardless of the cause of death. Pregnancy-related mortality is specifically the death of a woman during pregnancy or within one year of the end of pregnancy from a pregnancy complication, a chain of events initiated by pregnancy, or the aggravation of an unrelated condition by the physiological effects of pregnancy. Maternal mortality is a key indicator for maternal health quality in Indiana. Each maternal death represents not just the loss of a woman's life, but also, the impact of that loss on her family and community. Instances of severe maternal morbidity can also be associated with poor pregnancy outcomes, which in turn can result in higher fetal and infant mortality rates. Overall, the United States maternal health has shown great improvement, however, the increase in pregnancy-related and pregnancy-associated deaths in Indiana shows the need for an efficient improvement plan for mothers and pregnant women.

Two of the top causes of pregnancy-related deaths are hemorrhage and hypertensive disorders such as preeclampsia. Indiana's MMRC found that mortality from these conditions may often be preventable with timely recognition and aggressive treatment. The Indiana MMRC found in 2018 that 87% of pregnancy associated deaths were preventable. Chronic conditions that exist before pregnancy can worsen during pregnancy, especially if not managed.

According to the data available from the Centers for Disease Control and Prevention (CDC), hypertension/preeclampsia contributes to this higher maternal mortality rate in the United States including Indiana (ISDH 2020). The California Maternal Quality Care Collaborative identified major themes among preeclampsia deaths, including delay in diagnosis, medical evaluation, treatment, and transfer difficulties (CMQCC Preeclampsia Toolkit Preeclampsia Care Guidelines, 12/20/2013). Pregnant women may present to the physician office, Inpatient Obstetric Units, and Emergency Departments (ED's) with signs and symptoms of a hypertensive emergency. Data from the California Maternal Mortality review from 2002-2004 confirms the importance of timely treatment of severe hypertension as it relates to death from stroke in the setting of preeclampsia.

When pregnancy hypertension guidelines were instituted in the United Kingdom, care of maternity patients with preeclampsia or eclampsia improved significantly, and maternal mortality rates decreased because of a reduction in cerebral and respiratory complications. The American College of Obstetricians and Gynecologists recommends that individuals and institutions should have mechanisms in place to initiate the prompt administration of medication when a patient presents with a hypertensive emergency (ACOG CO 767).

Therefore, there is need to facilitate standardized, evidence-based clinical guidelines for the management of patients with preeclampsia and eclampsia that have been demonstrated to reduce the incidence of adverse maternal outcomes in all these settings.

Emergency Departments in the United States treat approximately 750,000 patients annually for chief complaints related to gynecology and obstetrics. Therefore, emergency setting providers are expected to provide competent care and manage some emergent obstetrical situations, particularly the presentation of symptoms and/or signs of hypertension/preeclampsia (<https://www.ena.org/docs/default-source/resource>). The Emergency Department may be a first opportunity to implement standard protocols related to hypertension in pregnancy and postpartum and to reduce morbidity and mortality. However, Emergency Department healthcare providers might not possess adequate resources and personnel to care for obstetrical patients or may not have policies and procedures in place to facilitate quick access and the appropriate management of this patient population. (ENA 2020)

Ambulatory settings may be the first place a woman presents with severe hypertension or preeclampsia, especially during the postpartum period. The staff may identify severe hypertension but may not have standardized protocols in place to expedite transfer of the patient to an obstetrical unit for prompt treatment. Women in hypertensive crisis have better outcomes if intravenous medications are initiated 30-60 minutes after recognition of severe range blood pressures (Bernstein et al 2017).

Inpatient Obstetrical units may recognize the signs and symptoms for severe hypertension or preeclampsia, but staff may not have appropriate protocols to implement immediate interventions. Checklists and protocols that include immediate bedside evaluation by a provider and allow for immediate implementation of medication and treatment should be in place. Every unit should have a coordinated and practiced response to this event. Simulation training that involves all who participate in the care of the patient (MDs, RNs, CNMWs, Pharmacists) should be conducted, at a minimum, on an annual basis. This would promote teamwork and protocol adherence while improving outcomes.

Patients play an important part in improving outcomes in severe hypertensive crises. Patients need to be provided information and education regarding warning signs they need to be alert for. They need access to monitor their blood pressure if resources are available. Patients also need information on when to seek medical care appropriately during the antepartum and postpartum periods. Providing patient education is important for all patients, not just patients in high-risk populations or those with a history of hypertensive diseases. Utilizing an educational handout that is at an appropriate reading level for the public with the opportunity to discuss the material, so the patient can ask questions can ensure that the patient comprehends the education provided.

Clinical Risk Assessment for Preeclampsia and Risk Reduction Strategy with Low Dose Aspirin Therapy

Low-dose aspirin has been used during pregnancy, most commonly to prevent or delay the onset of preeclampsia. The American College of Obstetricians and Gynecologists (ACOG) issued the Hypertension in Pregnancy Task Force Report recommending daily low-dose aspirin beginning in the late first trimester for women with a history of:

- Early-onset preeclampsia and preterm delivery at less than 34 0/7 weeks of gestation; or
- More than one prior pregnancy complicated by eclampsia.

The US Preventive Services Task Force published a similar guideline although the list of indications for low-dose aspirin use was more expansive. Daily low-dose aspirin use in pregnancy is considered safe and is associated with a low likelihood of serious maternal or fetal complications or both related to use. ACOG and the Society of Maternal-Fetal Medicine support the US Preventive Services Task Force guideline criteria for prevention of preeclampsia.

Low-dose aspirin (81mg/day) prophylaxis is recommended for women at high risk for preeclampsia and should be initiated between 12- and 28-weeks' gestation (optimally before 16 weeks) and continued daily until delivery. Low-dose aspirin prophylaxis should also be considered for women with more than one of several moderate risk factors for preeclampsia.

Women at risk of preeclampsia are defined based on the presence of one or more high-risk factors (history of preeclampsia, multifetal gestation, renal disease, autoimmune disease, type 1 or 2 diabetes, and chronic hypertension) or more than one of several moderate risk factors (first pregnancy, maternal age of 35 years or older, a body mass index greater than 30, family history of preeclampsia, sociodemographic characteristics, and personal history factors). In the absence of high-risk factors for preeclampsia, current evidence does not support the use of prophylactic low-dose aspirin for the prevention of early pregnancy loss, fetal growth restriction, stillbirth, or preterm birth.

The following table is from the ACOG Committee Opinion (Number 743) titled *Low-Dose Aspirin Use During Pregnancy*²

Table 1. Clinical Risk Assessment for Preeclampsia*

² ACOG Committee Opinion (Number 743) Low-Dose Aspirin Use During Pregnancy

Risk Level	Risk Factors	Recommendation
High [†]	<ul style="list-style-type: none"> • History of preeclampsia, especially when accompanied by an adverse outcome • Multifetal gestation • Chronic hypertension • Type 1 or 2 diabetes • Renal disease • Autoimmune disease (systemic lupus erythematosus) 	Recommend low-dose aspirin if the patient has one or more of these high-risk factors
Moderate [‡]	<ul style="list-style-type: none"> • Nulliparity • Obesity (body mass index greater than 30) • Family history of preeclampsia (mother or sister) • Sociodemographic characteristics (African American, low socioeconomic status) • Age 35 years or older • Personal history factors (e.g., Low birthweight or small for gestational age, previous adverse pregnancy outcome, more than 10-year pregnancy interval) 	Consider low-dose aspirin if the patient has more than one of these moderate risk factors [§]
Low	Previous uncomplicated full-term delivery	Do not recommend low-dose aspirin

*Includes only risk factors that can be obtained from the patient’s medical history. Clinical measures such as uterine artery doppler ultrasonography are not included.

[†]Single risk factors that are consistently associated with the greatest risk of preeclampsia. The preeclampsia incidence rate would be approximately 8% or more in a pregnant woman with one or more of these risk factors.

[‡]A combination of multiple moderate risk factors may be used by clinicians to identify women at high risk of preeclampsia. These risk factors are independently associated with moderate risk of preeclampsia, some more consistently than others.

[§]Moderate risk factors vary in the in their association with increased risk of preeclampsia.

Equity Issues in Hypertensive Disorders

Hypertensive disorders in pregnancy continue to be a leading cause of maternal mortality and morbidity. According to the Healthcare Cost Utilization Project (HCUP), African American/ Black women are 60% more commonly affected by preeclampsia during pregnancy (2017).

Cardiomyopathy, thrombotic pulmonary embolism, and hypertensive pregnancy disorders contribute to a significantly higher proportion of pregnancy-related deaths among African American/Black women than among white women. (Peterson, et al., 2019)

Many studies reveal that being an African American/Black female increases the risk of developing hypertensive disorders in pregnancy. Many of the risk factors tend to impact black

women at a greater incidence than any other race. In a large, nationwide, contemporary cohort study from 2014 with a diverse racial/ethnic obstetrical population, non-Hispanic black women were more likely to begin pregnancy with chronic hypertension and to develop mild, severe, or superimposed preeclampsia, while Hispanic women and Asians/Pacific Islanders were more likely to remain normotensive during pregnancy, compared with non-Hispanic white women. The racial/ethnic variation in patterns of severe preeclampsia and superimposed preeclampsia mirrored cardiovascular disease risks later in life, where studies have generally found higher odds of cardiovascular diseases in non-Hispanic black women and lower odds in Asian and Hispanic women (Ghosh, G., Grewal, J., Männistö, T., Mendola, P., Chen, Z., Xie, Y., & Laughon, S. K., 2014).

“Preeclampsia is estimated to complicate 3 percent to 6 percent of all pregnancies. The rate of Preeclampsia in the U.S. has increased 25 percent in the past two decades, according to the American College of Obstetricians and Gynecologists” (Norton Healthcare, 2018). According to the Preeclampsia Foundation (2020), 5-8% of pregnant women diagnosed with preeclampsia had no known risk factors. Although some women have no known risk factors, there are factors which increase the risk of developing preeclampsia:

- Previous diagnosis of preeclampsia,
- Being pregnant with multiples,
- History of chronic high blood pressure, diabetes, kidney disease or organ transplant,
- First pregnancy,
- Obesity, particularly with Body Mass Index (BMI) of 30 or greater,
- Over 35 or under 20 years of age,
- Family history of preeclampsia,
- Polycystic ovarian syndrome,
- Lupus or other autoimmune disorders, including rheumatoid arthritis, sarcoidosis, and multiple sclerosis,
- In-vitro fertilization, and
- Sickle cell disease (Preeclampsia Foundation, 2020).

Women with twin pregnancies have a three-to-fourfold chance of developing Preeclampsia during pregnancy compared to a singleton pregnancy (Laine, Murzakanova, Sole, Pay, Heradstveit, and Raisanen, 2019). Per the University of Rochester Medical Center (2020), African American/Black women are more likely to have twins than any other race.

Women who have Sickle Cell Disease are susceptible to developing hypertensive disorders, as previously identified in Postpartum Hemorrhage data. Sickle cell disease is more prevalent

among African American/Black women compared to white women. Pulmonary arterial hypertension (PAH) is one of the main complications of Sickle Cell Disease and increases significantly maternal risk during pregnancy (Karimi, 2020). Even though there is no new advanced therapy to minimize the risks, early diagnosis in pregnant patients with a diagnosis of sickle cell anemia is essential (Karimi, 2020).

Systemic lupus erythematosus (SLE) and polycystic ovarian syndrome (PCOS) are two common disorders that impact many women, especially African American/Black women. African American/Black females are three times more likely to develop lupus than white women, and one in 10 women of color are affected by PCOS (Basile, 2020) (Center for Disease Control and Prevention, 2018). Women who have rheumatoid arthritis, seizures, and high blood pressure are at greater risk of developing lupus due to the medication. Women with SLE or PCOS are at a greater risk of developing heart disease, type 2 diabetes, dyslipidemia, and hypertension (Pan, Chen, Tsao, and Chen, 2020).

Per the U.S. Department of Health and Human Services Office of Minority Health, 2020, “African American women have the highest rates of obesity or being overweight compared to other groups in the United States. About 4 out of 5 African American women are overweight or obese.” Having an increased BMI can contribute to the development of preeclampsia during pregnancy. Many women tend to gain weight during pregnancy progression, which further impacts maternal and neonate health.

CDC announced Sept 5, 2019 that reducing disparities will require the participation of multiple systems to address the factors affecting these disparities. Hospitals and healthcare systems can implement standardized protocols in quality improvement initiatives, especially among facilities that serve disproportionately affected communities. CDC urges systems to identify and address implicit bias in healthcare that would likely improve patient-provider interactions, health communication, and health outcomes.³

Many continue to view overall maternal health as a contributing factor to maternal mortality and morbidity. Unfortunately, the numerous studies show the racial/ethnic disparities impacting the pregnancy-related mortality (Petersen et al., 2019). The public continues to cry out for change. Initiatives such as the HEAR HER campaign by the Center for Disease Control and Prevention (CDC) and Speak Up initiative by the Institute for Perinatal Quality Improvement are offering training to help combat this outrage. Even with the mentioned initiatives, change is slow to come

³ <https://www.cdc.gov/media/releases/2019/p0905-racial-ethnic-disparities-pregnancy-deaths.html>

for our Black Mamas, but why? Many people struggle with their own implicit and explicit biases without even being aware. We can no longer turn our heads from the data, or the information presented to us. We must acknowledge the information presented to us and work to make changes for those depending on us for safe care.

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Toolkit Framework

The Indiana Hypertension Toolkit provides information on hypertension in four domains following the AIM Patient Safety Bundle on Hypertension: **READINESS, RECOGNITION AND PREVENTION, RESPONSE, REPORTING/SYSTEMS LEARNING**. While standardized protocols have been included in this toolkit, protocols may be individualized for each delivering facility based on available resources. The AIM framework is included at the end of this section.

READINESS

<https://in.gov/laboroflove/files/Readiness%20Bundle.pdf>

The [Readiness](#) section provides strategies to improve readiness to treat severe hypertension in pregnancy or postpartum to prevent delays in identifying and treating severe hypertension in every unit. The goal is to implement critical clinical pathways on every unit, and have early warning signs, diagnostic criteria, monitoring and rapid access to treatment of severe preeclampsia and eclampsia.

Key elements in readiness include the identification of early warning signs, diagnostic criteria, monitoring, and treatment including order sets and algorithms.

Early warning signs establish when a patient will be evaluated by a provider at the bedside. We will provide a standard for Early Warning, diagnostic criteria for severe hypertension, and preeclampsia, and algorithms for monitoring and treatment. Second is team training, drills and debriefs. Thirdly, a process for timely triage and evaluation of pregnant and postpartum women in the ED or urgent care center. Fourth, establish rapid access to medication used for severe hypertension, preeclampsia, and eclampsia. And finally, all units should have a system plan for escalation, obtaining consultation, and maternal transport when needed.

- Ambulatory Readiness Assessment
- Emergency Department Readiness Assessment
- Inpatient Readiness Assessment

- Manual Blood Pressure Competency Checklist

RECOGNITION AND PREVENTION

<https://in.gov/laboroflove/files/recognition-and-prevention-bundle.pdf>

The [Recognition and Prevention](#) section includes documents that address a standard protocol for the measurement and assessment of BP and urine protein for all pregnancy and postpartum women. It establishes a standard response to maternal early warning signs, including listening to, and investigating patient symptoms and labs. This section provides facility wide standards for educating prenatal and postpartum women on signs and symptoms of hypertension.

- Inpatient
 - Differential Diagnosis
- Emergency
 - HELLP Syndrome Chart
 - Management of Pregnant/Postpartum Patients in the ED
- Ambulatory
 - Ambulatory Preeclampsia Checklist
 - Preeclampsia Patient Education Checklist

RESPONSE

<https://in.gov/laboroflove/files/response-bundle.pdf>

The [Response](#) section documents include facility wide standard protocols with checklists and escalation policies for management and treatment of severe hypertension, eclampsia, postpartum severe hypertension, and timeliness of follow up after discharge from the postpartum unit.

Risk Appropriate Care Considerations for Intrapartum Inpatient Settings

- Risk Appropriate Care Considerations for Post-Discharge and Outpatient Settings
- Nursing Acuity Assessment
- Management of Pregnant/Postpartum Patients in the ED
- Postpartum Preeclampsia Checklist
- CMQCC Eclampsia Algorithm
- Hypertension Pre-Transport Checklist
- Maternal-Fetal GO-No-Go Transport Algorithm
- Sample Medication Toolbox (CMQCC)

- Badge Buddy Labor and Delivery
- Badge Buddy Postpartum

REPORTING AND SYSTEMS LEARNING

<https://in.gov/laboroflove/files/reporting-and-systems-learning-bundle.pdf>

The Reporting and Systems Learning documents establish a culture of huddles for high-risk patients and post-event debriefs to identify successes and opportunities. If patients are admitted to ICU there should be a multidisciplinary review. Outcomes and process metrics to be monitored, such as time to treatment of severe BP < 60 minutes, and adherence to protocols for acute management.

- Charge Nurse Communication Unit Huddle Sheet
- Nurse to Nurse
- Severe Maternal Hypertension Debriefing
- Hot Debriefing Form
- Root Cause Analysis in Response to Patient Event
- Simulation Scenario Files
- Postpartum Procardia Simulation
- ICD 10 Codes for Hypertension

READINESS

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- Ambulatory Readiness Assessment
[Ambulatory Readiness Assessment.pdf](#)
- Emergency Department Readiness Assessment
[Emergency Department Readiness Assessment.pdf](#)
- Inpatient Readiness Assessment
[Inpatient Readiness Assessment.pdf](#)
- Manual Blood Pressure Competency Checklist
[Blood pressure competency checklist \(in.gov\)](#)



Hypertension in Pregnancy-Ambulatory Readiness Assessment

Requirements-Every Unit	In Place-Consistently Executed	In Place-Not Working	Not In Place	Comments
Standards for early warning signs, diagnostic criteria, monitoring of preeclampsia.				
Office team education reinforced by regular office drills/scenario.				
Process for a timely triage and evaluation of pregnant and postpartum women with hypertension outpatient areas.				
Rapid access to inpatient/OB triage unit for treatment.				
System plan for escalation, obtaining appropriate consultation and maternal transport, as needed.				

For each requirement that is not in place and consistently executed, complete an Action Plan

Fast Five Triage for Ambulatory:

- How have you been feeling sense your last prenatal appointment?
- Any visual changes, unexplained weight gain, HA not relieved by acetaminophen, swelling not relieved by elevation...etc.?
- Any new condition onsets that concern you?
- Are you currently on blood pressure medication? If so, what medication, dosage, and the last time you have taken the medication?
- Do you have a log of your blood pressures?

Hypertension in Pregnancy-Emergency Department Readiness Assessment

Requirements-Every Unit	In Place-Consistently Executed	In Place-Not Working	Not In Place	Comments
Standards for early warning signs, diagnostic criteria, monitoring and treatment of severe preeclampsia/eclampsia (include order sets and algorithms).				
Unit team education, reinforced by regular multi-department (L&D and PP) drills with debriefing.				
Process for a timely triage and evaluation of pregnant and postpartum women with hypertension upon arrival to Emergency Department.				
Rapid access to medications used for severe hypertension/eclampsia: Medications should be stocked and immediately available in the ED. Include brief guide for administration and dosage.				
System plan for escalation and maternal transport to appropriate setting for further evaluation and treatment.				

For each requirement that is not in place and consistently executed, complete an Action Plan

Fast Five Triage for ED:

- Are you pregnant?
- Have you had a baby within the last six (6) months?
- Any complications with previous/during current pregnancy?
- What symptoms brought her to ER? (headache, shortness of breath, chest pain, distorted vision)
- Do you have a history of elevated blood pressure?

Hypertension in Pregnancy-Inpatient Readiness Assessment

Requirements-Every Unit	In Place- Consistently Executed	In Place- Not Working	Not In Place	Comments
Standards for early warning signs, diagnostic criteria, monitoring and treatment of severe preeclampsia/ eclampsia (include order sets and algorithms).				
Unit team education, reinforced by regular unit-based drills with debriefs.				
Process for a timely triage and evaluation of pregnant and postpartum women with hypertension.				
Rapid access to medications used for severe hypertension/eclampsia: Medications should be stocked and immediately available on L&D and in other areas where patients may be treated. Include brief guide for administration and dosage.				
System plan for escalation, obtaining appropriate consultation and maternal transport, as needed.				

For each requirement that is not in place and consistently executed, complete an Action Plan

Fast Five Triage for Inpatient:

- How far along in this pregnancy are you or have you recently delivered within the last six (6) months?
- Any visual changes, unexplained weight gain, HA not relieved by acetaminophen, swelling not relieved by elevation...etc.?
- Are you currently on blood pressure medication? If so, what medication, dosage, and the last time you have taken the medication?
- Any recent labs drawn in prenatal office related to your blood pressures?
- Any additional history of blood pressure complications outside of pregnancy, during this pregnancy, or in previous pregnancies?

BLOOD PRESSURE COMPETENCY CHECKLIST

DATE: _____

Attempt: 1 2 3

Competency: Obtains both systolic and diastolic blood pressure readings.

- Behaviors:**
1. Chooses correct size blood pressure cuff.
 2. Demonstrates correct procedure for obtaining accurate blood pressure measurement.

Classification: RN

Steps:

1. Identify patient.
2. Assist patient to Semi-Fowler’s or sitting position with back supported and allow to rest for 5 minutes prior to obtaining blood pressure.
3. If sitting, patient’s feet should be flat, not dangling from exam table or bed, and her legs uncrossed.
4. Assess for any consumption of caffeine or nicotine within previous 30 minutes.
5. Instruct patient on need to obtain blood pressure.
6. Position patient with back supported and arm at heart level with palm turned up.
7. Bare upper arm of any restrictive clothing.
8. Select appropriate size cuff (width of bladder 40% of circumference and encircle 80% of arm).
9. Palpate brachial artery
10. Position cuff 1” above site of brachial pulsation (antecubital space). Center bladder of cuff above artery.
11. Assess for proper fit of blood pressure cuff.
12. Verbalizes that if proper fit is not obtained may use forearm for B/P measurement.
13. Instruct patient not to talk during B/P measurement
14. Obtain blood pressure reading using automated or manual method
15. Document B/P, patient position, and arm in which taken.
16. Verbalizes that if B/P in severe range ($\geq 160/110$), recheck B/P in 15 minutes

RATING SCALE	
MEETS	DOES NOT MEET
TOTAL SCORE	
REQUIRED TO MEET	80%

* Essential Elements

MEETS DOES NOT MEET

Verifier Signature_____

Employee Signature_____

The [Recognition and Prevention](#) section includes documents that address a standard protocol for the measurement and assessment of BP and urine protein for all pregnancy and postpartum women. It establishes a standard response to maternal early warning signs, including listening to, and investigating patient symptoms and labs. This section provides facility wide standards for educating prenatal and postpartum women on signs and symptoms of hypertension.

- Inpatient
 - Differential Diagnosis
[Differential diagnosis chart \(in.gov\)](#)
- Emergency
 - HELLP Syndrome Chart
[hella syndrome \(in.gov\)](#)
 - Management of Pregnant/Postpartum Patients in the ED
[Management of Pregnant/Postpartum patient in ED](#)
- Ambulatory
 - Ambulatory Preeclampsia Checklist
[Ambulatory Preeclampsia checklist \(in.gov\)](#)
 - Preeclampsia Patient Education Checklist
[Preeclampsia Patient Education Tool.pdf \(in.gov\)](#)



DIFFERENTIAL DIAGNOSIS CHART

On-set of hypertension or worsening of chronic blood pressure in pregnancy can generally be safely assumed to be preeclampsia alone or superimposed even if the clinical picture shows unfulfilled diagnostic criteria since preeclampsia may progress quickly. However, because several other disorders can manifest some or many of the signs and symptoms of preeclampsia, it is essential to consider common differential diagnoses. Additional causes of hypertension that are unrelated to pregnancy include chronic hypertension, chronic renal disease, pheochromocytoma, neurologic disorders, some endocrine disorders (i.e., hyperthyroidism), and use/withdrawal of some drugs.

Diagnosis	Clinical Presentation	Lab Values	Key Differentials
HELLP syndrome - preeclampsia subtype or variant	Hemolysis, elevated liver enzymes, and low platelets with or without hypertension or proteinuria	↑RBC destruction ↑LDH (>600 IU/L) ↑Bilirubin (>1.2 mg/dl) Burr cells and schistocytes ↑ LFTs (AST > 70IU/L) ↓Platelets (< 150 K)	
Acute fatty liver of pregnancy (AFLP) - hepatic microvesicular fat deposition	Nausea, vomiting, anorexia, abdominal pain, malaise, CNS disturbances (confusion, restlessness, disorientation, seizures), edema, headache, hypertension with or without proteinuria, hemolysis, liver failure jaundice, ascites, disseminated intravascular coagulopathy (over 50% of all cases), and hypoglycemia.	↑ WBCs (20-30K) Anemia ↓Clotting factors & fibrinogen ↑PT, PTT, FSP ↑BUN & creatinine ↓ Creatinine clearance ↓ Albumin Schistocytes ↑ Liver enzymes ↑Alkaline phosphatase ↑ Bilirubin ↑Amylase, Lipase, Ammonia levels ↓Serum glucose	DIC due to liver dysfunction and failure; renal failure; profound hypoglycemia; sepsis; pancreatitis

DIFFERENTIAL DIAGNOSIS CHART

Diagnosis	Clinical Presentation	Lab Values	Key Differentials
Thrombotic microangiopathies (TMA) - Thrombotic thrombocytopenic purpura (TTP) and Hemolytic-Uremic syndrome (HUS)	Pathologic abnormalities in the vessel walls of arterioles and capillaries that lead to microvascular thrombosis and thrombocytopenia due to platelet destruction, peripheral blood smears with fragmented red blood cells (schistocytes), polychromasia, and anemia.	TTP - ↓ ADAMTS-13 activity levels (<10%) HUS - TMA +renal injury that is caused by either shiga toxin from an <i>Escherichia coli</i> infection or from a defective regulation of the alternative complement pathway triggered by pregnancy.	Thrombocytopenia. Microangiopathic hemolytic anemia, renal dysfunction
Systemic lupus erythematosus (SLE)	Malar rash, Discoid rash, photosensitivity, oral ulcers, serositis, CNS (seizures, psychosis), anemia, thrombocytopenia, hypertension, swelling (joints), flushing, and renal impairment (proteinuria and RBCs in urine)	↓ RBCs +Antinuclear antibody (ANA) test + aPLs (antiphospholipid antibodies - lupus anticoagulant, IgG and IgM anticardiolipin antibodies, IgG and IgM anti-beta2-glycoprotein 1 antibodies +Anti-Ro/SSA and anti-La/SSB antibodies	Positive antibodies
Antiphospholipid syndrome (APS)	Arterial and venous thrombosis, autoimmune thrombocytopenia, hx pregnancy loss	+ aPLs (antiphospholipid antibodies - lupus anticoagulant, and IgG & IgM anticardiolipin antibodies, IgG and IgM anti-beta2-glycoprotein 1 antibodies)	Hx of pregnancy losses/ IUFD Thrombosis, IUGR, Preterm delivery due to preeclampsia/ eclampsia or uteroplacental insufficiency

HELLP SYNDROME

Definition: It is a syndrome described as **Hemolysis, Elevated Liver Enzymes and Low Platelets**. It can be seen as a variant of preeclampsia, but it can also be seen as a separate entity. It is believed to be due to abnormal vascular tone. There is believed to be an insult leading to microvascular endothelial damage and intravascular platelet activation. The purpose of this chart is to help nursing staff recognize patient and fetal risk factors, recognize signs and symptoms and to understand treatment and management.

Risk Factors	<ul style="list-style-type: none"> • Multiparous, • Age greater than 25, • White race, • History of poor - pregnancy outcome • Prior pregnancy with HELLP • Presence of eclampsia/preeclampsia 		
Clinical Presentation	<ul style="list-style-type: none"> • Typically occurs in the third trimester or sometimes after childbirth • Malaise • Epigastric pain • Right upper quadrant abdominal tenderness • Hypertension- Defined as greater than 140> or equal to 140/90 • Proteinuria- can be mild • Nausea/vomiting 	<p style="text-align: center;"><u>Least common symptoms:</u></p> <ul style="list-style-type: none"> • Headache • Visual changes • Jaundice • Ascites 	<p style="text-align: center;"><u>Maternal Complications:</u></p> <ul style="list-style-type: none"> • Abruptio placenta • Disseminated intravascular coagulation (DIC) • Severe postpartum bleeding • Stroke, cerebral hemorrhage • Renal failure • Increased risk of HELLP in future pregnancies • Maternal Death <p style="text-align: center;"><u>Fetal Complications:</u></p> <ul style="list-style-type: none"> • Prematurity • Placental insufficiency • Intrauterine growth restriction • Neonatal intraventricular hemorrhage • Fetal demise

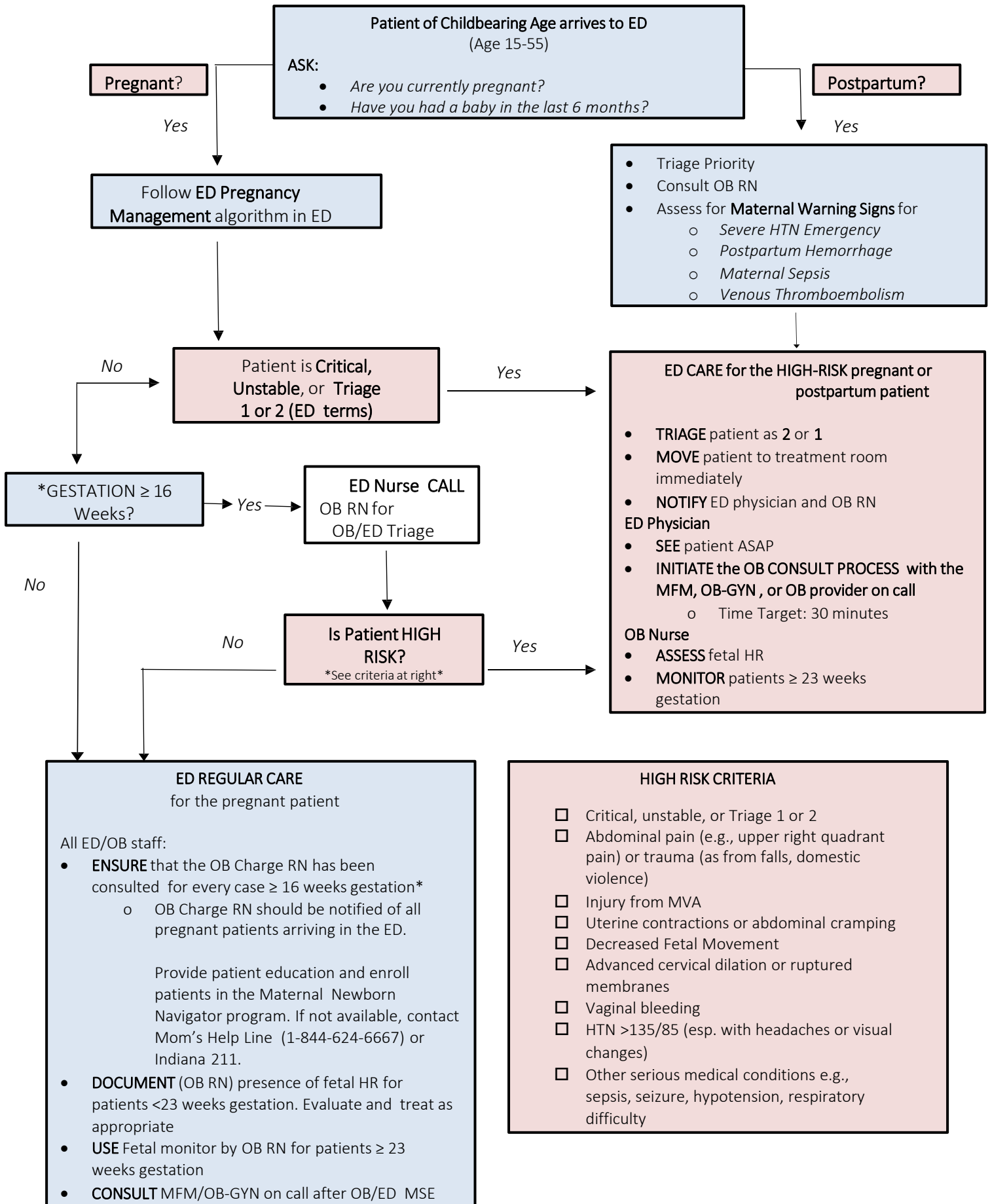
HELLP SYNDROME

<p>Diagnosis/Lab Values: Think HELLP</p>	<p>↑RBC destruction ↑LDH (>600 IU/L) ↑Bilirubin (>1.2 mg/dl) Burr cells and schistocytes ↑ LFTs (AST > 70IU/L) ↓Platelets (< 150 K)</p>	<p><u>Thrombocytopenia Classifications:</u></p> <p>Class I: Platelet count ≤50,000 cells/microL plus LDH >600 IU/L and AST or ALT ≥70 IU/L</p> <p>Class II: Platelet count >50,000 but ≤100,000 cells/microL plus LDH >600 IU/L and AST or ALT ≥70 IU/L</p> <p>Class III: Platelet count >100,000 but ≤150,000 cells/microL plus LDH >600 IU/L and AST or ALT ≥40 IU/L</p>	
<p>Differential Diagnosis</p>	<ul style="list-style-type: none"> • Acute fatty liver of pregnancy • Thrombotic thrombocytopenic • Hemolytic uremic anemia • Gestational Thrombocytopenia • Systemic lupus erythematosus (SLE) 		
<p>Treatment Need 3ml, 10ml, and 20ml syringes, appropriate needles and tubing sets</p>	<ul style="list-style-type: none"> • Stabilize mom • Consult MFM for pregnancies ≤ 34 weeks gestation • May start anti-hypertensive agent • Initiate Magnesium Sulfate for convulsions • Have Calcium Gluconate at the bedside 	<p style="text-align: center;"><u>Medications: Oral</u></p> <p>Labetalol: 200mg po and repeated in 30 minutes, if needed</p> <p>Nifedipine: 10 mg PO and repeated in 30 minutes, if needed</p> <p>Calcium gluconate 1000 mg/10ml vial: 1000 mg/10 ml IV over 2-5 minutes</p>	<p style="text-align: center;"><u>Medications: Intravenous</u></p> <p>Labetalol (120mg/20ml):</p> <ul style="list-style-type: none"> • First dose-20 mg (4 ml) IV • Second dose- 40 mg (8 ml) if not effective within 10 minutes • Then 80 mg (16 ml) every 10 minutes <p style="text-align: center;">(Maximum total dose of 300 mg/60ml)</p>

HELLP SYNDROME

			<p>Hydralazine (20mg/ml vial): Initial: Draw 0.25 ml from the vial. 5-10 mg (0.25-0.5 ml) doses IV every 15-20 minutes</p> <p>Magnesium 20 grams/500 ml bag: IV (<i>Use Magnesium Sulfate Continuous Infusion under L&D protocol in Alaris Pump Library</i>):</p> <ul style="list-style-type: none">• Initial (Loading Dose): 4-6 g (100 ml – 150 ml) over 20 minutes• Maintenance Dose: 1-2 g/hour (25 ml/hr – 50 ml/hr) continuous infusion <p><u>IV MEDICATIONS USED BY ANESTHESIOLOGY PROFESSIONALS ONLY:</u></p> <p>Esmolol 100mg/10ml vial-1-2 mg/kg (0.1-0.2 ml/kg) IV over 1 minute</p> <p>Propofol 10mg/ml, 20ml vial-30-40 mg (3-4 ml) IV bolus</p>
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Management of Pregnant/Postpartum Patients in the ED



* Gestational Age may differ based on facility

AMBULATORY PREECLAMPSIA CHECKLIST

IF ANTEPARTUM PATIENT > 20 WEEKS GESTATION

- SBP \geq 140 OR DBP \geq 90
- Proteinuria (dip, random protein \geq +1 dip/creatinine ratio \geq 0.3 gm/24-hour urine $>$ 0.3 gm) with/without symptoms
- Presentation of signs/symptoms/lab abnormalities but no proteinuria
- New onset of headache unresponsive to medication, visual disturbances, epigastric pain, swelling, shortness of breath

- Call for OB Consult
- Repeat blood pressure SBP \geq 140 OR DBP \geq 90
- Perform DTR's and clonus check
- Draw preeclampsia stat labs if not symptomatic *to triage if stat labs not available
 - CBC w/ Platelets
 - Uric Acid
 - CMP
 - LDH
- Symptomatic with Repeat blood pressure SBP \geq 140 OR DBP \geq 90 transfer to L&D for evaluation
- Call charge nurse if suspect pre-eclampsia symptoms, vital signs, any pertinent prenatal and past history
- OB to call L&D for bed request
- Call for MFM consult if appropriate

Expectant Management Pre-eclampsia Without severe features

- Weekly platelet count, serum creatinine, liver enzyme levels
- Fetal growth ultrasound every 3-4 weeks
- Twice weekly NST's with one weekly AFI

OR

- BPP once weekly
- Prenatal visit with Blood pressure monitoring weekly
- No medications are indicated for treatment
- Delivery timing 37.0 weeks

Telephone Triage Pre-eclampsia Checklist

- New onset of headache unresponsive to medication, visual disturbances, epigastric pain, swelling
- SBP \geq 140 OR DBP \geq 90
- Review risk factors for increased risk for Pre-eclampsia
- Decreased fetal movement
- Send to triage for evaluation

Or

- New onset of headache unresponsive to medication, visual disturbances, epigastric pain, swelling
- SBP \geq 140 OR DBP \geq 90
- Review risk factors for increased risk for Pre-eclampsia
- No decreased fetal movement

- To clinic for BP check, urine dip and possible labs.

Risk Factor for Pre-eclampsia

- Nulliparity
- Multifetal gestations
- Pre-eclampsia in a previous pregnancy
- Chronic Hypertension
- Pre-gestational diabetes
- Thrombophilia
- Systemic lupus erythematosus
- Pre-pregnancy body mass index $>$ 30
- Antiphospholipid antibody syndrome
- Maternal age 35 years and older
- Kidney Disease
- Assisted reproductive technology
- Obstructive sleep apnea
- Teen pregnancy $<$ 19 years
- Family history of Pre-eclampsia (mom/siblings)

CHRONIC HYPERTENSION MANAGEMENT

Initial Visit Management: Baseline labs

- CBC, CMP, Urine or protein/creatinine clearance or 24-hour urine collection for total protein and creatinine
- 24-hour urine is recommended for a protein/creatinine of \geq 0.3
- Order baseline EKG
- Echocardiogram to assess left ventricular function if poorly controlled HTN $>$ 4 years or history of abnormal EKG
- Initiate ASA 81 mg at 12 weeks

PREECLAMPSIA



Preeclampsia is a serious disease related to high blood pressure that can affect women during pregnancy and up to six weeks after delivery. Finding preeclampsia early is important for you and your baby.

Who gets Preeclampsia?

Preeclampsia and other hypertensive disorders of pregnancy occur in five to eight percent of all pregnancies of women who have no known risk factors (see below).

The most significant risk factors for preeclampsia are:

Previous history of preeclampsia

Multiple gestation (i.e., pregnant with more than one baby)

History of chronic high blood pressure, diabetes, kidney disease or organ transplant

First pregnancy

Obesity, particularly with Body Mass Index (BMI) of 30 or greater. [Calculate your BMI here.](#)

Over 40 or under 18 years of age

Family history of preeclampsia (i.e., a mother, sister, grandmother or aunt had the disorder)

Polycystic ovarian syndrome

Lupus or other autoimmune disorders, including rheumatoid arthritis, sarcoidosis and multiple sclerosis

In-vitro fertilization

Sickle cell disease

Signs of Preeclampsia



Stomach pain



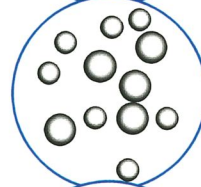
Feeling nauseous; throwing up



Swelling in your hands and face



Headaches



Seeing spots



Gaining more than 5 pounds in a week

Risks to you

- Seizures
- Stroke
- Organ damage
- Death

Risks to your baby

- Premature birth
- Death

What should you do if these signs are present?

Call your doctor right away.

The Response section documents include facility wide standard protocols with checklists and escalation policies for management and treatment of severe hypertension, eclampsia, postpartum severe hypertension, and timeliness of follow up after discharge from the postpartum unit.

- Risk Appropriate Care Considerations for Intrapartum Inpatient Settings
[Risk Appropriate Care Considerations for Intrapartum Inpatient Settings.pdf](#)
- Risk Appropriate Care Considerations for Post-Discharge and Outpatient Settings
[Risk Appropriate Care Considerations for Post-Discharge and Outpatient Settings.pdf](#)
- Nursing Acuity Assessment
[Nursing Acuity Assessment.pdf](#)
- Management of Pregnant/Postpartum Patients in the ED
[Management of Pregnant/Postpartum patient in ED](#)
- Postpartum Preeclampsia Checklist
[Postpartum Preeclampsia Checklist \(in.gov\)](#)
- MQCC Eclampsia Algorithm
[Microsoft Word - APPENDIX E ECLAMPSIA ALGORITHM.docx \(in.gov\)](#)
- Hypertension Pre-Transport Checklist
[Hypertension PreTransport Checklist \(in.gov\)](#)
- Maternal-Fetal GO-No-Go Transport Algorithm
[Maternal Fetal Go- No Go Transport Algorithm \(in.gov\)](#)
- Sample Medication Toolbox (CMQCC)
[Sample Medication Toolbox CMQCC.pdf \(in.gov\)](#)
- Badge Buddy Labor and Delivery
[Badge Buddy Labor and Delivery.pdf \(in.gov\)](#)
- Badge Buddy Postpartum
[Badge Buddy Postpartum.pdf \(in.gov\)](#)
- ENA – AWHONN Consensus Statement on Emergency Care for Patients during Pregnancy and Postpartum
[ENA-AWHONN-Consensus-Statement-Final-11.1.2020.pdf](#)



SEVERE HYPERTENSION IN PREGNANCY: RISK APPROPRIATE CARE CONSIDERATIONS FOR INTRAPARTUM INPATIENT SETTINGS

Utilize each ZONE as a PROACTIVE way to prepare for the potential need to increase the perinatal level of care in any part of the ongoing assessment and monitoring of the maternal-fetal dyad.

GREEN ZONE

1. Maternal stabilization achieved
2. Fetal gestational age appropriate for perinatal level of care
3. Nurse: patient staffing ratios appropriate for high acuity patient
4. All maternal and fetal resuscitation equipment and supplies are available and ready

Action Items:

1. Ongoing monitoring for worsening maternal or fetal status
2. Review nurse acuity assessment
3. Assessment for antenatal corticosteroids

YELLOW ZONE

1. Signs/symptoms of maternal status worsening
2. Fetal gestational age appropriate for level of care based on best knowledge of EGA
3. Nurse: patient ratio not optimal but plan is in place for adequate ratios to be achieved
4. Stabilization equipment and supplies are readily available, but depending on fetal EGA the ability to continue care post-delivery may not be available

Action Items:

1. Consults for maternal and/or fetal status in place if needed
2. Review nurse acuity assessment
3. Review pre-transport checklist
4. Evaluate availability and adequacy of resuscitation equipment and supplies

RED ZONE

1. Maternal status requires higher level of care
2. Fetal gestational age not appropriate for level of care
3. Nurse: patient staffing ratios cannot be achieved to accommodate the care of maternal-fetal dyad
4. Necessary maternal and/or fetal resuscitation equipment and supplies are not available beyond those of initial stabilization

Action items:

1. Review nurse acuity assessment
2. Review transport checklist & arrange for transport to higher level of care appropriate to the maternal-fetal status
3. Ensure stabilization of both mom and baby prior to transport (this may be post-delivery in

Perinatal Level of Care

Ongoing Assessment for appropriate level of care

Perinatal Level of Care

SEVERE HYPERTENSION IN PREGNANCY: RISK APPROPRIATE CARE CONSIDERATIONS FOR POST-DISCHARGE AND OUTPATIENT SETTINGS

Postpartum Triggers:

SBP \geq 160 or DBP \geq 110 or

SBP \geq 140-159 or DBP \geq 90-109 with unremitting headaches, visual disturbances or epigastric/RUQ pain

***AntiHTN therapy suggested if persistent SBP \geq 150 or DBP \geq 100 on at least two occasions at least 4 hours apart

***Persistent SBP \geq 160 or DBP \geq 110 should be treated within 1 hour

GREEN ZONE

1. Good maternal response to treatment and asymptomatic
2. Staffing
3. Consider facility readiness
 - Monitoring capabilities
 - Access to medications
 - Equipment and supplies
 - Time and distance to travel

Action Items:

1. Review nurse acuity assessment
2. Plan for admission to hospital for further observation and management
3. Review pre-hospitalization checklist

YELLOW ZONE

1. Maternal response equivocal and signs & symptoms present
2. Staffing
3. Consider facility readiness
 - Monitoring capabilities
 - Access to medications
 - Equipment and supplies
 -

Action Items:

1. Review nurse acuity assessment
2. Consult specialist (OB, MFM, internal med, critical care)
3. Plan for admission to hospital for further observation and management
4. Review pre-hospitalization checklist
5. Review pre-transport checklist

RED ZONE


1. Maternal response inadequate and/or recurrent and severe signs & symptoms are present
2. Staffing
3. Consider facility readiness
 - Monitoring capabilities
 - Access to medications
 - Equipment and supplies


Action Items:


1. Review nurse acuity assessment
2. Consult specialist (OB, MFM, internal med, critical care)
3. Review pre-transport checklist
4. Arrange transport to hospital with appropriate level of care
5. Review pre-hospitalization checklist

Nursing Acuity Assessment

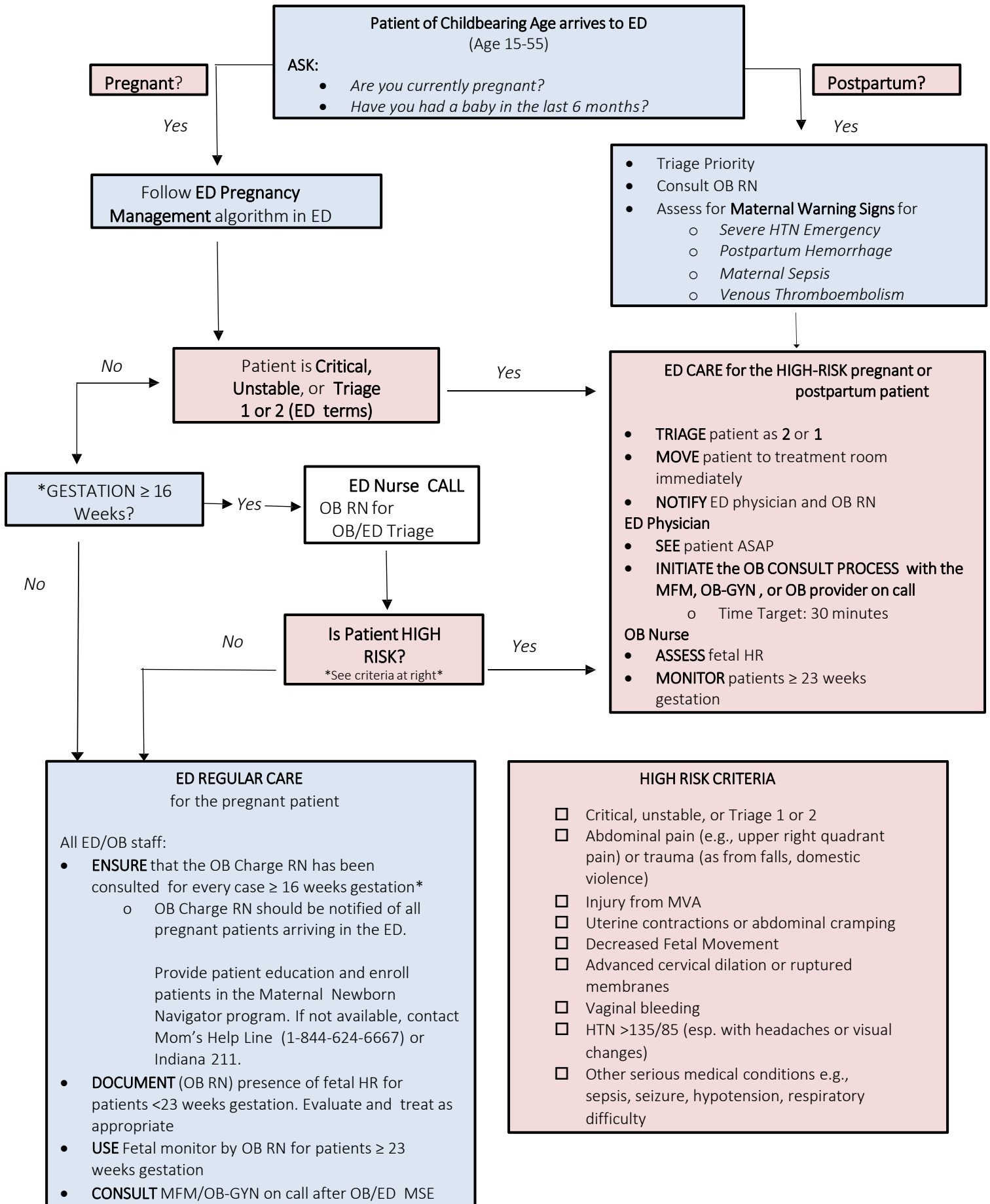
Assess: Daily weights, medication schedule, physical assessment, mental status, B/P and trends, and hourly intake and output

<p><u>GREEN ZONE: All Clear</u></p> <ul style="list-style-type: none"> • Patient is thinking clearly • Patient is seeing clearly • Patient is breathing clearly <div style="text-align: center;">  </div>	<p style="text-align: center;"><u>S/S and Labs</u></p> <ul style="list-style-type: none"> • No headache • Not dizzy • Can do usual activities • No pain in belly or pelvis • Baby is moving normally • Urinating 50 ml or more per hour • Plt >100, AST up to twice upper limit of normal value, creatinine less than 1.1 	<p style="text-align: center;"><u>ACTION</u></p> <p style="text-align: center;"><u>Green Zone: Patient is doing well</u></p> <ul style="list-style-type: none"> • Patient plan of care is working • Administer hypertensive agent as prescribed • Follow doctors' orders
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<p><u>YELLOW ZONE: Caution</u></p> <ul style="list-style-type: none"> • Patient is not thinking clearly • Patient has blurry or impaired vision • Patient is not breathing clearly • Patient has a mild HA • Patient feels dizzy • Patient is abnormally drowsy 	<p style="text-align: center;"><u>S/S and Labs</u></p> <ul style="list-style-type: none"> • Patient is anxious or upset • Altered mental status • Patient has nausea and vomiting • Patient has chest, belly, or pelvic pain • Urinating less than 30-49 ml per hour • Plt 50-100, AST > twice upper limit of normal • Creatinine 1.1 or greater; or more than twice the serum creatinine in the absence of renal disease • BP 140/90-159/109; Heart rate is 111-129 • Category II Fetal tracing 	<p><u>YELLOW ZONE: WARNING, INCREASE SURVEILLANCE</u></p> <ul style="list-style-type: none"> • Perform physical assessment • Monitor B/P and HR per policy • Contact charge nurse, primary doctor, anesthesia, and newborn resuscitation team <div style="text-align: right;">  </div>
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<p><u>RED ZONE: IMMEDIATE ATTENTION</u></p> <ul style="list-style-type: none"> • Patient unresponsive • Ongoing, unrelieved headache • Temporary blindness • Decrease in respiration (<12) <div style="text-align: center;">  </div>	<p style="text-align: center;"><u>S/S and Labs</u></p> <ul style="list-style-type: none"> • Ongoing nausea and vomiting • Patient has chest, abdominal, or pelvic pain • Urinating less than 30ml in 2 hours • Plt <50, AST to twice upper limit of normal and creatinine >1.1 or more than twice serum Creatinine Blood pressure • SBP ≥ 160 or DBP ≥ 110 (Hypertensive Emergency State if B/P remains elevated for 15 minutes) • Depressed patellar reflexes • Category III Fetal tracing 	<p><u>RED ZONE: EMERGENCY, GET HELP! CALL RAPID RESPONSE</u></p> <ul style="list-style-type: none"> • Evaluate patient immediately • 1:1 ratio; Mag Sulfate infusion • Consider Neurology consult, CT Scan to R/O intracranial hemorrhage • Initiate HTN medication panel in 30 minutes • Apply Supplemental O2 w/ nonrebreather • R/O Pulmonary edema • Contact charge RN, primary doctor, anesthesia, newborn resuscitation team immediately
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Management of Pregnant/Postpartum Patients in the ED



* Gestational Age may differ based on facility

EMERGENCY DEPARTMENT

POSTPARTUM PREECLAMPSIA CHECKLIST

If patient < 6 months postpartum with:

- BP \geq 160/110 or
- BP \geq 140/90 with unremitting headache, visual disturbances, epigastric pain

- Call for assistance
- Designate:
 - Team leader
 - Checklist reader/recorder
 - Primary RN
- Ensure side rails up
- Call obstetric consult: Document call
- Place IV; Draw preeclampsia labs
 - CBC
 - PT
 - PTT
 - Fibrinogen
 - Chemistry Panel
 - Uric Acid
 - Hepatic Function
 - Type and Screen
- Ensure medications appropriate given patient history
- Administer seizure prophylaxis
- Administer antihypertensive therapy
 - Contact MFM or Critical Care for refractory blood pressure
- Consider indwelling urinary catheter – Maintain strict I & O, patient at risk for pulmonary edema
- Brain imaging if unremitting headache or neurological symptoms

*Active Asthma is defined as:

- Symptoms at least once a week, or
- Use of an inhaler, corticosteroids for asthma during the pregnancy, or
- Any history of intubation or hospitalization for asthma

Medications listed here are safe for breastfeeding/lactation

Adapted from ACOG Safe Motherhood Initiative

Magnesium Sulfate

Contraindications: Myasthenia gravis: avoid with pulmonary edema, use caution with renal failure

Magnesium toxicity treatment: Calcium gluconate: Medication should be administered intravenously or by infusion.

IV access: Always infuse Magnesium Sulfate with Lactated Ringers. The total infusion rate for Magnesium Sulfate and Lactated Ringer should be no greater than 125ml/hr. If other medications are infusing, modifications to the LR rate must maintain a total infusion rate of 125ml/hr.

- Load 4-6 grams 10% magnesium sulfate in 100 mL solution over 20 minutes
- Label magnesium sulfate; connect to labeled infusion pump
- Magnesium sulfate maintenance 1-2 grams/hour

NO IV access:

- 10 grams of 50% solution IM (5g in each buttock)

Antihypertensive Medications

For SBP \geq 160 or DBP \geq 110 (*See SMI algorithms for complete management when necessary to move to another agent after 2 doses*)

- Labetalol (initial dose: 20mg) Avoid *parenteral labetalol with active asthma*, heart disease, or congestive heart failure; use with caution with history of asthma*
- Hydralazine (5-10 mg IV** over 2 minutes): *May increase risk of maternal hypotension*
- Oral Nifedipine (10 mg capsules); Capsules should be administered orally, not punctured or otherwise administered sublingually

** *Maximum cumulative IV-administered doses should not exceed 300 mg labetalol or 25 mg hydralazine in 24 hours*

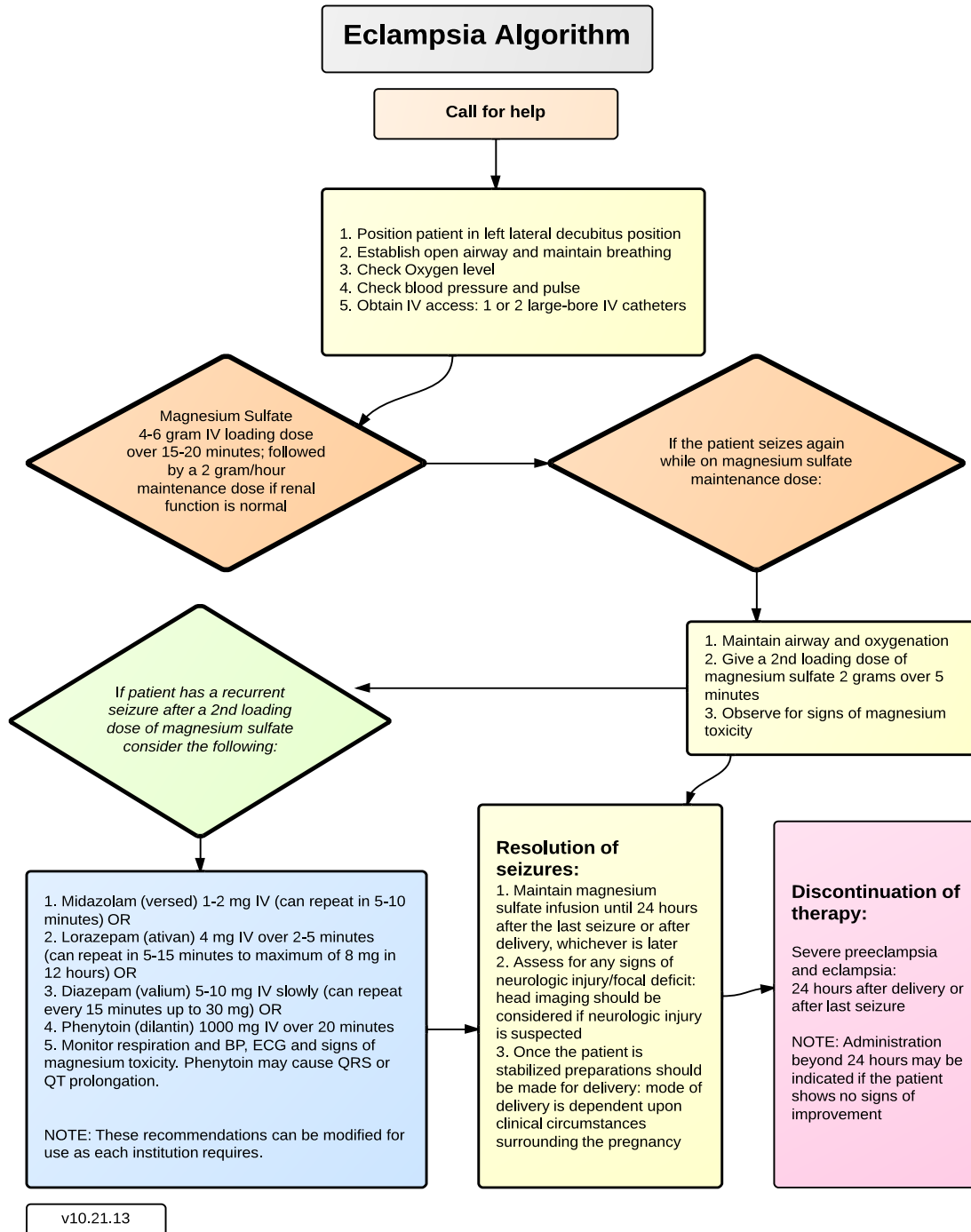
Note: *If first line agents unsuccessful, emergency consult with specialist (MFM, internal medicine, OB anesthesiology, critical care) is recommended.*

Anticonvulsant Medications

For recurrent seizures or when magnesium sulfate contraindicated

- Lorazepam (Ativan): 2-4 mg IV x 1, may repeat once after 10-15 minutes
- Diazepam (Valium): 5-10 mg IV q 5-10 minutes to maximum dose 30 mg

APPENDIX E: ECLAMPSIA ALGORITHM



Hypertension Specific Pre-Transport Checklist



Patient MUST BE STABLE for Transport

<u>Maternal Stability Criteria</u>	<u>Fetal Stability Criteria</u>
Blood Pressure Stabilized: BP <160 systolic and <110 diastolic	Category I Tracing OR Category II Tracing with moderate variability, intermittent decelerations, AND not worsening (Fetus(es) <32 weeks may exhibit FHR tracings displaying CNS immaturity)
Pulse Rate ≤ 120 and ≥ 40	
No active seizure activity	
No Active Vaginal Bleeding	
No Acute Psychiatric Episode	
Cervical Dilation ≤ 5 cm*	<i>If fetus unstable, arrange NICU transport and prepare for delivery at your facility</i>
<i>*Refer to Maternal Fetal Transport Go/No-Go Algorithm for guidance as needed</i>	

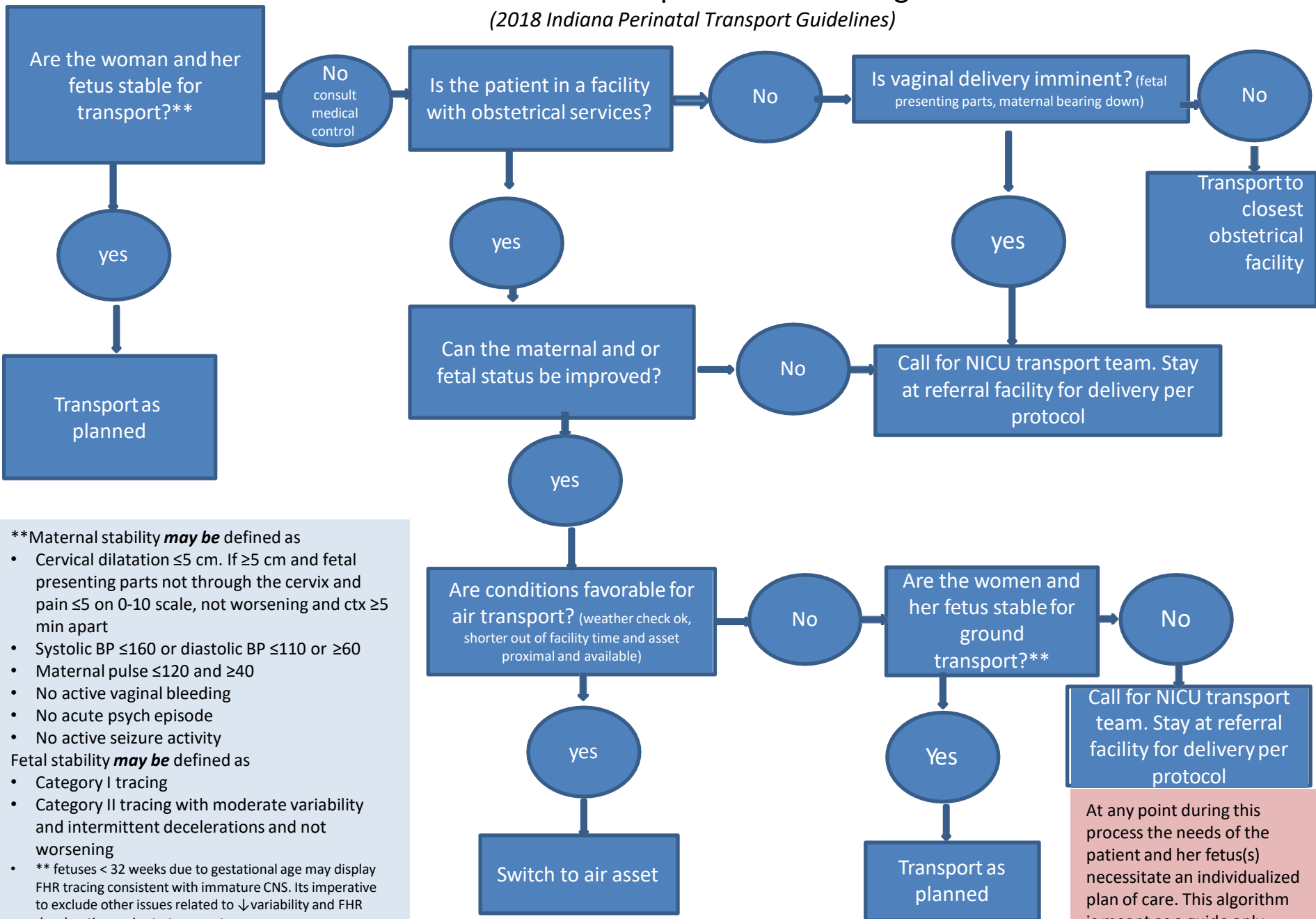
Initiate Transport and Prepare Patient



- IV Access Established
Start Second IV site (if time allows/ do not delay transport if unable to obtain second line)
- Baseline Labs Drawn/Sent (do not delay transport for results)
- Magnesium Infusion Started (if not contraindicated)
Frequent reassessment while awaiting transport
- Consider Foley Catheter Placement as needed
- Dependent on Gestational Age:
Consider/Administer steroids for fetal lung maturity as needed
- Prepare Chart for Transport complete with medication administration record

Maternal Fetal Transport Go-No Go Algorithm

(2018 Indiana Perinatal Transport Guidelines)



**Maternal stability *may be* defined as

- Cervical dilatation ≤ 5 cm. If ≥ 5 cm and fetal presenting parts not through the cervix and pain ≤ 5 on 0-10 scale, not worsening and ctx ≥ 5 min apart
- Systolic BP ≤ 160 or diastolic BP ≤ 110 or ≥ 60
- Maternal pulse ≤ 120 and ≥ 40
- No active vaginal bleeding
- No acute psych episode
- No active seizure activity

Fetal stability *may be* defined as

- Category I tracing
- Category II tracing with moderate variability and intermittent decelerations and not worsening

• ** fetuses < 32 weeks due to gestational age may display FHR tracing consistent with immature CNS. Its imperative to exclude other issues related to \downarrow variability and FHR decelerations prior to transport

At any point during this process the needs of the patient and her fetus(s) necessitate an individualized plan of care. This algorithm is meant as a guide only.

SAMPLE PREECLAMPSIA/ECLAMPSIA MEDICATION TOOLBOX LIST

Each institution should prepare its own medication toolbox specific to its protocols.

L&D Severe Preeclampsia & Eclampsia Box – Content and Dose Guideline	
Magnesium 20 grams/500 ml bag	<u>IV (Use Magnesium Sulfate Continuous Infusion under L&D protocol in Alaris Pump Library):</u> <i>Initial (Loading Dose):</i> 4-6 g (100 ml – 150 ml) over 20 minutes <i>Maintenance Dose:</i> 1-2 g/hour (25 ml/hr – 50 ml/hr) continuous infusion
Labetalol 100mg/20ml vial	<i>Initial: Draw 4 ml from the vial.</i> 20 mg (4 ml) IV bolus followed by 40 mg (8 ml) if not effective within 10 minutes; then 80 mg (16 ml) every 10 minutes (maximum total dose of 300 mg/60ml)
Hydralazine 20mg/ml vial	<i>Initial: Draw 0.25 ml from the vial.</i> 5-10 mg (0.25-0.5 ml) doses IV every 15-20 minutes
Esmolol 100mg/10ml vial (By Anesthesiologists ONLY) *	1-2 mg/kg (0.1-0.2 ml/kg) IV over 1 minute
Propofol 10mg/ml, 20ml vial (By Anesthesiologists ONLY) *	30-40 mg (3-4 ml) IV bolus
Calcium gluconate 1000 mg/10ml vial	1000 mg/10 ml IV over 2-5 minutes
Labetalol 200 mg tablets	200 mg PO and repeated in 30 minutes if needed
Nifedipine 10 mg PO	10 mg PO and repeated in 30 minutes if needed
Supply contents	3 ml, 10 ml, and 20 ml syringes, appropriate needles and appropriate tubing sets

Kindly used with permission of Stanford University Medical Center and Gillian Hilton, MD 2013

*Indiana note: Each facility should identify where anesthesia supplies are housed. The medicines can only be administered by an anesthesiologist or nurse anesthetist.

Antihypertensive agents in Preeclampsia

Treated sustained SBP>160 and/or dbp> 110 (sustained = BP confirmed > 15 minutes)

***Labetalol**: effects seen within 1 – 2 minutes

(max. effect 5 – 10 minutes)

- Give 20 mg IV slow IVP, repeat BP 10 minutes
- If BP > 160/110, give 40 mg IV slow IVP, repeat in 10 minutes
- If BP > 160/110, give 80 mg IV slow IVP and repeat BP in 10 minutes (up to total 3 doses every 10 minutes)

Maximum IV dose Labetalol= **300 mg in 24 hours**

Patient must be on continuous pulse ox. for minimum 1 hour after IV Labetalol

Hydralazine: Effects seen within 5 – 50 minutes (maximum effects 20 – 30 minutes)

- Give 5 – 10 mg IV slow IVP q 20 minutes

Maximum IV DOSE Hydralazine = **25 mg in 24 hours**

***Nifedipine**: effects seen within 10 minutes (max. effects 60 minutes)

- 10 mg PO every 20 minutes (option if patient has no IV access)

Maximum 60 mg PO

If no response to initial agent → switch agents!

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Treatment of Eclampsia

CALL FOR HELP

Call for HELP, turn patient to a lateral position, establish IV access, monitor vitals & O2 Sat, maintain airway, administer O2 and suction prn

Magnesium Sulfate

- **If not on magnesium, run loading dose 4 – 6 g IV over 20 minutes and then 2 g per hour maintenance** (if normal renal function)
- **Monitor for signs of magnesium toxicity**

Monitor Symptoms

- If current seizures after magnesium, consider:
 - Lorazepam 1 mg every 1 minute (max 8 mg)
 - Midazolam 1 – 2 mg IV every 5 – 10 minutes (max. 5 mg), or
 - Phenytoin 1,000 mg over 20 minutes
- Monitor for vital signs and observe for evidence of neurological injury or focal deficit
- Prepare for delivery as indicated
- Continue magnesium for 24 hours after last seizure or delivery, whichever is later

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Antihypertensive agents in Preeclampsia

Treated sustained SBP>160 and/or dbp> 110 (sustained = BP confirmed > 15 minutes)
*Labetalol: effects seen within 1 – 2 minutes (max. effect 5 – 10 minutes) <ul style="list-style-type: none">• Give 20 mg IV slow IVP, repeat BP 10 minutes• If BP > 160/110, give 40 mg IV slow IVP, repeat in 10 minutes• If BP > 160/110, give 80 mg IV slow IVP and repeat BP in 10 minutes (up to total 3 doses every 10 minutes) Maximum IV dose Labetalol= 300 mg in 24 hours Patient must be on continuous pulse ox. for minimum 1 hour after IV Labetalol
*Hydralazine: Effects seen within 5 – 50 minutes (maximum effects 20 – 30 minutes) <ul style="list-style-type: none">• Give 5 – 10 mg IV slow IVP q 20 minutes Maximum IV DOSE Hydralazine = 25 mg in 24 hours
*Procardia: effects seen within 10 minutes (max. effects 60 minutes) <ul style="list-style-type: none">• 10 mg PO every 20 minutes (option if patient has no IV access) Maximum 60 mg PO If no response to initial agent → switch agents!
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After PRN medication
Blood Pressure Cycles
Every 10 minutes x 1 hour Every 15 minutes x 1 hour Every 30 minutes x 1 hour Every 4 hours
A scheduled medication is not an acceptable PRN medication
Blood Pressure Ranges
Postpartum patient: SBP > 150 mmHg OR DBP > 100 mmHg
Severe Range: ≥ 160 mmHg and/or ≥ 110 mmHg
When does a Medication dose considered effective?
Medication is effective after the first hour of blood pressures if they fall under call orders.
After the first hour after a medication has been given: the blood pressure spikes → give medication that was effective
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Emergency Care for Patients During Pregnancy and the Postpartum Period: Emergency Nurses Association and Association of Women's Health, Obstetric and Neonatal Nurses Consensus Statement

Description

During pregnancy and the postpartum period, it is common for patients to present to emergency settings for emergent and non-emergent care (Kilfoyle et al., 2017). The overall number of these patients triaged in any setting exceeds the hospital birth volume by 20% to 50% (Association of Women's Health, Obstetric and Neonatal Nurses [AWHONN], 2011). When pregnant or postpartum patients present to emergency settings, risk assessment, evaluation for early warning signs of maternal and fetal compromise, followed by timely communication and coordination with obstetric clinicians are essential.

A pregnant patient may access the health care system before establishing prenatal care to determine pregnancy status or to seek treatment for early complications in pregnancy, such as excessive nausea and vomiting, threatened or incomplete spontaneous abortion, or symptoms of ectopic pregnancy. After prenatal care has been established, a pregnant patient may be assessed in an emergency setting for non-obstetric conditions (e.g., appendicitis, cholecystitis) or obstetric complications (e.g., severe hypertension/preeclampsia, shortness of breath, vaginal bleeding, acute abdominal pain, and decreased fetal movement (American College of Obstetricians and Gynecologists [ACOG], 2016). If the hospital does not have an obstetric service, the patient may be evaluated for complaints associated with labor, such as uterine contractions or loss of amniotic fluid. Critical conditions (e.g., trauma, seizures, abruptio placentae, or hemorrhage) may result in maternal and fetal compromise and demand emergent triage and intervention. In the postpartum period, 5% to 12% of patients present to an emergency setting within 6 weeks of giving birth (Batra et al., 2017; Brousseau et al., 2018; Clark et al., 2010; Patel et al., 2020). Complications, including infection, excessive vaginal bleeding, shortness of breath, hypertension, or depression, may cause the patient to reenter the hospital through the emergency system during this period.

Other factors that influence emergency care during pregnancy and the postpartum period are access to care, preferred language, immigration, and insurance status (Wolf et al., in press). In recent years, various factors have reduced access to obstetric care, including closures of rural hospitals, elimination or transfer of obstetric care services, and the lack of available obstetric clinicians. Between 2004 and 2014, the percentage of rural counties in the United States with obstetric services decreased from 55% to 46% (Kozhimannil et al., 2018). In addition, one half of all U.S. counties lack access to obstetric and gynecologic care clinicians (ACOG, 2014). One resulting outcome is a significant increase in out-of-hospital births and births in non-delivering hospitals (Kozhimannil et al., 2018). In addition, the lack of obstetric clinicians and services may force pregnant patients to travel longer distances to access care or to seek care in emergency settings. A preferred language other than English and the

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lack of private insurance also increases the likelihood of non-urgent emergency department use during pregnancy (Kilfoyle et al, 2017).

Care of a pregnant or postpartum patient necessitates specialized education, training, and competencies that are not routinely acquired by emergency nurses. Physiologic and anatomical changes in pregnancy result in altered norms for assessment of laboratory values, electrocardiogram changes, symptom morphology, radiologic examinations, and early warning signs of compromise. In addition, there are pregnancy related disease processes that can result in critical illness and/or instability for the patient and/or fetus. Awareness of these changes, early collaboration with obstetric clinicians, and rapid use of standardized emergency protocols to stabilize the patient and fetus are essential (Mhyre et al., 2014).

ENA and AWHONN Consensus Statements

It is the consensus of the Emergency Nurses Association (ENA) and the Association of Women's Health, Obstetric, and Neonatal Nurses (AWHONN) that the following standards should be achieved in emergency services:

1. Perinatal and emergency nurses collaborate to assess staff to determine clinical competency in emergent care of the pregnant or postpartum patient.
2. Emergency nurses recognize the possibility that a woman of reproductive age, regardless of presenting symptoms, may be pregnant or may have been pregnant in the past year.
3. Assessment(s) that establish pregnancy and postpartum status be incorporated into triage intake. Ideally, these assessment data point(s) are integrated into the electronic health record.
4. Education and training provided for emergency and obstetric nurses include common high-risk and life-threatening obstetric presentations, early warning signs of maternal compromise, and protocol management.
5. Access to emergency care for a pregnant or postpartum patient is not denied or delayed based on race or ethnic background, gender identity or expression, sexual orientation, socioeconomic status, language, culture, national origin, religious affiliation, age, disability status, nature of health problem, or ability to pay.
6. Hospital-based policies and procedures are developed in compliance with jurisdictional regulatory agencies and the Emergency Medical Treatment and Active Labor Act (EMTALA) that specify triage, care, and disposition of a patient who is pregnant or in the postpartum period.
7. Hospital bylaws outline clinicians designated as qualified medical providers to perform medical screening examinations.
8. In the absence of an available obstetric clinician, telehealth may be considered to determine the plan of care for a pregnant or postpartum patient.

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9. Hospital-based policies identify gestational age and weeks postpartum to determine timely consultation and/or an appropriate plan of care and disposition of the patient. For example, the policy may include gestational age parameters that indicate whether a patient is evaluated in the emergency room or an obstetric care setting.
10. Emergency, obstetric, and outside hospital emergency response systems collaborate to determine the appropriate environment of care for situations in which an obstetric patient presents, including antenatal, intrapartum, and postpartum settings. These structured guidelines include stabilizing protocols and provisions for early transfer to an appropriate maternal level of care facility as indicated.
11. Stabilizing, emergent care procedures, including radiologic examination, surgery, and/or medication administration are not delayed due to pregnancy or postpartum status, gestational age, or lactation status.
12. Emergency facilities maintain immediate access to equipment, supplies, and medications necessary to properly assist with precipitous birth, resuscitative hysterotomy, and postpartum complications.
13. Responses to obstetric emergencies are practiced and rehearsed by interprofessional teams in the emergency setting.
14. Supportive care, empathy, and education are provided to obstetric patients and family members who have experienced fetal loss.
15. Disaster preparedness plans include care of a patient during pregnancy and the postpartum period.

Background

The statements listed are not intended to be inclusive or imply standard of care. Based on scope of service and the patient population served, each hospital should determine how care is provided in the emergency setting for a woman during pregnancy or in the postpartum period. Health care professionals are expected to be prepared to stabilize and/or treat any type of patient who presents to an emergency setting, including a patient who is pregnant or has recently given birth. These emergent presentations vary in severity, and most causes of obstetric compromise are preceded by early warning signs (Mhyre et al, 2014). Systems and processes within the emergency setting are evaluated and designed to enable early recognition of pregnancy or postpartum status and acute obstetric complications. These processes include expedient consultation and engagement with obstetric clinicians and protocol-driven, stabilizing interventions (ACOG, 2016).

Triage acuity tools used in emergency settings, such as the Emergency Severity Index (Gilboy et al., 2020) and the Canadian Triage and Acuity Scale (Bullard et al., 2017) do not provide in depth surveillance questioning and assessment to address maternal and fetal physiologic needs. The Maternal Fetal Triage Index, developed and validated by AWHONN, is used to assess acuity and to prioritize care using a five-tiered system (Ruhl et al., 2015a, 2015b, 2020; Wolf et al., in press). However, this tool has not been routinely used in non-obstetric settings. Therefore, consideration of acuity assignment, recognition of early warning signs of maternal compromise, and

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high-risk prioritization of care are commonly applied during the triage process for patients during pregnancy or the postpartum period.

Scenarios are often enacted in mock drills and simulations to prepare for emergency care of patients. However, obstetric emergencies, such as ectopic pregnancy, precipitous birth, postpartum hemorrhage, hypertensive crisis, postpartum depression/psychosis, cardiac arrest, and resuscitative hysterotomy are rarely rehearsed and can create unsafe and/or chaotic care. Conditions of pregnancy and the postpartum period that can be managed in emergency settings should be planned and practiced.

Evaluation of the fetal heart rate with a Doppler device or ultrasound may confirm fetal life and can be considered in emergency nurse competencies. Electronic fetal monitoring equipment is used to record the fetal heart rate and uterine activity. Use of an electronic fetal monitoring device and interpretation of data requires specialized knowledge and competency to interpret assessment parameters, patterns, and trends (AWHONN, 2018). Therefore, the treatment of a pregnant patient requires early collaboration with obstetric clinicians to determine fetal monitoring needs. As with any intervention, a collaborative plan of care developed between obstetric and emergency clinicians takes into consideration the patient's stability, gestational age of the fetus, clinical diagnosis, and management needs. This collaborative model for a medical screening and treatment can use multiple modalities to occur, including telehealth if supported by hospital policy as a qualified medical provider (Chang et al., 2018).

Pregnancy loss may occur in the emergency department, especially in the absence of clinicians with specialized training or education to support the psychological and emotional needs of the patient and family. Approximately 10% to 20% of all pregnancies end in spontaneous abortion before 20 weeks gestation, which makes this one of the most common pregnancy-related complications (Lariviere-Bastien et al., 2019; MacWilliams et al., 2016). Fetal demise at any gestational age may be associated with physical trauma or maternal compromise. Emergency nurses, in partnership with obstetric colleagues, may acknowledge the death of a fetus or newborn through supportive, understanding, and empathetic approaches. Appropriate education of the patient and family regarding psychological effects, follow-up care, and physical symptoms that may persist after the loss are essential (Lariviere-Bastien et al., 2019).

Training for emergency nurses to recognize pregnancy or postpartum status and identify obstetric conditions that may be managed or initially stabilized in an emergency setting is essential to improve outcomes for the patient and fetus (Kozhimannil et al., 2018). It is also important to recognize that many disaster preparedness plans do not include specific provisions for pregnant patients or those who recently gave birth. To mitigate potentially preventable adverse outcomes, emergency nurses should include the needs of these patients in pre-disaster planning for emergency preparedness (ACOG, 2017). Depending on the facility, this may include care of the mother–infant dyad.

Determination for transfer out of the emergency care setting is based on several considerations. Hospital-specific policies or guidelines may dictate transfer to either an obstetric or non-obstetric unit for care depending on gestational age, maternal condition, and the unit's scope of practice. This is of particular importance as penalties for violations related to obstetric emergencies are steep and occur with some frequency for failure to provide a screening examination (82%), stabilizing treatment (51%), or arranging for appropriate transfer (36%; Terp et al., 2020). Once viability of the fetus is established, optimal care for the pregnant patient is an obstetric unit unless the patient is critically ill or an obstetric intensive care room is not available. If treatment of the patient's condition

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is outside the scope of practice for the hospital (e.g., lack of obstetric services, higher maternal acuity, anticipated care needs of the newborn), the patient should be stabilized and transported to a facility with the appropriate level of maternal and/or newborn resources. This approach to risk-appropriate care is best accomplished with a coordinated regionalized system (ACOG & Society for Maternal Fetal Medicine, 2019). Postpartum conditions may be best addressed on an obstetric unit, depending on diagnosis (ACOG, 2016). However, some non-obstetric conditions, such as influenza or varicella, may be best cared for on a non-obstetric unit to limit exposure to other pregnant patients and newborns (ACOG, 2016).

Resources

American College of Emergency Physicians. <https://www.acep.org/>

American College of Obstetricians and Gynecologists. <https://www.acog.org>

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2020 ENA Position Statement Board of Directors

Gordon Lee Gillespie, PhD, DNP, RN, CEN, CPEN, CNE, PHCNS-BC, FAEN, FAAN

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The Reporting and Systems Learning documents establish a culture of huddles for high-risk patients and post-event debriefs to identify successes and opportunities. If patients are admitted to ICU there should be a multidisciplinary review. Outcomes and process metrics to be monitored, such as time to treatment of severe BP < 60 minutes, and adherence to protocols for acute management.

- Charge Nurse Communication Unit Huddle Sheet
[Charge Nurse Communication Unit Huddle Sheet.pdf \(in.gov\)](#)
- Nurse to Nurse
[nurse to nurse huddle \(in.gov\)](#)
- Severe Maternal Hypertension Debriefing
[Severe Maternal Hypertension de-briefing form](#)
- Hot Debriefing Form
[Hot Debriefing Form.pdf](#)
- Root Cause Analysis in Response to Patient Event
[Root Cause Analysis Template \(in.gov\)](#)
- Simulation Scenario Files
[Simulation Scenario Files.pdf \(in.gov\)](#)
- Postpartum Procardia Simulation
[Postpartum Procardia Simulation.pdf \(in.gov\)](#)
- ICD 10 Codes for Hypertension
[ICD 10 codes for Hypertension.pdf \(in.gov\)](#)



Charge Nurse Communication Unit Huddle Sheet **Date:**

Shift:

Please allow items that are **not** time contingent to expire 8 days after posting

Items We Are Tracking

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Recognition/Daily Inspiration

--

Maintenance Issues

--

Maintenance Issues

--	--	--

Medical Equipment in Room

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High-Risk/Increased Acuity

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Social Concerns

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Social Concerns

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Updates **Posted Date** **Expired Date**

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NURSE TO NURSE HUDDLE

Patient Name:		Physician:		
G__P__T__A__L__		EDC:		GA:
Reason for Admission:				
Allergies:		Significant History:		
PPH Risk Assessment: Low (Clot) Medium (T&S) High (T&C)		Home Medications:		
Prenatal Labs				
Blood Type:	GBS:	Rubella:	HIV:	Hep B:
Hep C:	RPR:	Other:		
Admission/Current Labs				
Hgb	Hct	WBC	Platelets	
Other Significant Labs:				COVID:
Fetal Status:		Antenatal Steroids Dose #1 _____ @ _____ Dose #1 _____ @ _____		
Current VE:		Membranes:		
<input type="checkbox"/> Magnesium ___ Gram Bolus @ _____ ___ Gram Continuous		Admit Reflexes:		Clonus:
		Edema:		
Physical Assessment/Complaints:		Current Vitals:		
Antihypertensives				
<input type="checkbox"/> Labetalol ___ mg @ _____ ___ mg @ _____ ___ mg @ _____ ___ mg @ _____ ___ mg @ _____		<input type="checkbox"/> Hydralazine ___ mg @ _____ ___ mg @ _____ ___ mg @ _____ ___ mg @ _____ ___ mg @ _____		<input type="checkbox"/> Procardia ___ mg @ _____ ___ mg @ _____ ___ mg @ _____ ___ mg @ _____ ___ mg @ _____
Support Person:		Boy Girl Surprise		
Pain Management Plan:		Breast Bottle		
Birth Plan/Requests:				

SEVERE MATERNAL HYPERTENSION DE-BRIEFING FORM

Debrief Participants: _____

Place patient sticker here

Date and Time of Event: _____ GA at Event (weeks & days): _____

Goal: Reduce time to treatment (<60minutes) for new onset severe hypertension (≥ 160 systolic OR ≥ 110 diastolic) with preeclampsia or eclampsia or chronic/gestational hypertension with superimposed preeclampsia (include patients from triage, L&D, Antepartum, PP, ED) up to 6 months postpartum. Complete within 24 hours.

Medical Management		Medications	Dosage Given	Reason Not Given
Time: hh:mm	Measure	<input type="checkbox"/> Labetalol	<input type="checkbox"/> 20 mg <input type="checkbox"/> 40 mg <input type="checkbox"/> 80 mg	
	BP reached ≥ 160 or diastolic ≥ 110 (sustained >15 minutes) <i>Severe increase in BP that can lead to a stroke, typically systolic ≥ 180, diastolic ≥ 120</i>	<input type="checkbox"/> Hydralazine	<input type="checkbox"/> 5 mg <input type="checkbox"/> 10 mg	
	First BP med given	<input type="checkbox"/> Nifedipine	<input type="checkbox"/> 10 mg	
	BP reached <160 and diastolic BP <110	<input type="checkbox"/> Magnesium Sulfate Bolus	<input type="checkbox"/> 4gm <input type="checkbox"/> 6gm <input type="checkbox"/> Other	
Did diastolic pressure fall to <80 within one hour after meds given?	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Magnesium Sulfate Maintenance	<input type="checkbox"/> 1gm/hour <input type="checkbox"/> 2gm/hour <input type="checkbox"/> 3gm/hour <input type="checkbox"/> Other	
If yes, was there corresponding deterioration in FH rate?	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Any ANS (if <34 weeks)	<input type="checkbox"/> Partial Course <input type="checkbox"/> Complete Course <input type="checkbox"/> Not Given	
OB Complications				
<input type="checkbox"/> OB hemorrhage with transfusion ≥ 4 units of blood products	<input type="checkbox"/> Renal Failure	<input type="checkbox"/> HELLP Syndrome		
<input type="checkbox"/> Intracranial hemorrhage or Ischemic event	<input type="checkbox"/> Placental Abruption	<input type="checkbox"/> DIC		
<input type="checkbox"/> Pulmonary Edema	<input type="checkbox"/> ICU Admission	<input type="checkbox"/> Ventilation		
<input type="checkbox"/> Oliguria	<input type="checkbox"/> Eclampsia	<input type="checkbox"/> Other		
	<input type="checkbox"/> Liver Failure	<input type="checkbox"/> None		
Discharge Management:				
Follow-up appointment scheduled within 3-10 days	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/>		
Was patient discharged on meds?	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/>		
If yes, was follow-up appointment scheduled in < 72 hrs?	<input type="checkbox"/> Yes <input type="checkbox"/> No			
Were education materials about preeclampsia given?	<input type="checkbox"/> Yes <input type="checkbox"/> No			

<i>Thinking about how the hypertension event was managed</i>		
Identify what went well	Identify opportunities for improvement "human factors"	Identify opportunities for improvement "non-human factors"
<input type="checkbox"/> Communication went well <input type="checkbox"/> Teamwork went well <input type="checkbox"/> Leadership went well <input type="checkbox"/> Decision-making went well <input type="checkbox"/> Recognition to response went well <input type="checkbox"/> Roles of responding personnel went well <input type="checkbox"/> Other	<input type="checkbox"/> Communication needed improvement <input type="checkbox"/> Teamwork needed improvement <input type="checkbox"/> Leadership needed improvement <input type="checkbox"/> Decision-making needed improvement <input type="checkbox"/> Recognition to response needed improvement <input type="checkbox"/> Other:	<input type="checkbox"/> Delay in blood products availability <input type="checkbox"/> Equipment issues <input type="checkbox"/> Medication issues <input type="checkbox"/> Inadequate support (in-unit or other areas) <input type="checkbox"/> Delay in transport of patient <input type="checkbox"/> Other:
Comments:	Comments:	Comments:

1) What could have been improved for this patient's care? Could we have predicted or prevented this?

2) Was the team leader identified and in control? Were team roles clear and appropriate?

3) Did we communicate clearly and use closed-loop communication?

4) Was rapid response consulted?

HOT DEBRIEF

Occurs within 10 minutes of the conclusion of the event

Event Date: _____ Event Time: _____ Debrief time: _____

Debrief leader: _____

Attendees (circle): NURSE MD RT STUDENTS SW CHAPLAIN PCD ORDERLY PCA PHARMACY

Please take a 15 second pause

Thank the team for their work and efforts to help the patient, speak in a professional and friendly tone

1) What went well?

2) What could have been improved for this patient's care? Could we have predicted or prevented this?

3) Were there any system, process, or equipment issues identified?

4) Were there any delays in treating blood pressures within specified 60 minute time frame?

5) Was the team leader identified and in control? Were team roles clear and appropriate?

6) Did we communicate clearly and use closed-loop communication?

<https://safehealthcareforeverywoman.org/wp-content/uploads/2017/02/MEWS-Protocol.pdf>

Confidential Quality Assurance Material
Root Cause Analysis in Response to Patient Event

Review Case #	Event Date/Time:	Reported to RM Date	Final Risk Committee Date:
	RMPSC Date:	Sentinel Event: no	Never Event:
ISDOH Case #	Age:	Sex:	Location:
	Diagnosis:		Risk Analyst:
Attendees by Role	Expert Meeting:		
Details of Event			
Areas of Service Affected:			

**Confidential Quality Assurance Material
Root Cause Analysis in Response to Patient Event**

Process As Designed

Circumstances Beyond Our Control that Contribute to the Event Occurrence

Uncontrollable Contributory Factors

Human Contributing Factors

Staffing Effectiveness

Proper Qualifications and Competency for Role

Staff Performance

Communication

**Confidential Quality Assurance Material
Root Cause Analysis in Response to Patient Event**

Information Management Factors

Information Management Factors

Environmental Factors

Equipment Factors

Work Environment Factors

Environmental Factors (Emergency and Failure Mode in Place)

Code Blue Procedures

Rapid Response Teams

**Confidential Quality Assurance Material
Root Cause Analysis in Response to Patient Event**

Environmental Factors (What systems are in place to Identify Risks)

TJC Mandated Safety Regulations

Organizational, departmental, and unit policies/procedures

Organizational Risk Culture

Corporate Culture (How is IU Health culture conducive to risk identification and reduction)

Work environment that encourages disclosure of issues which may facilitate patient risk

Unit representation and participation in the IU Health Safe Passage Program

Communication Encouragement (Are there barriers to communicate risk factors)

Risk Reduction Priorities (How are the risk reduction priorities communicated?)

Patient safety is an organizational priority and is supported by IU Health Leadership

Root Cause

Patient Outcome & Disposition

**Confidential Quality Assurance Material
Root Cause Analysis in Response to Patient Event**

<i><u>Resources (Evidence-Based References)</u></i>
<i><u>Policies and Procures Impacted</u></i>

SIMULATION SCENARIO DESIGN WORKSHEET

Today's Date:	Name of Scenario Author: Email: Phone:
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GENERAL SCENARIO INFORMATION

Est. Pre-briefing Time:	Est. Scenario Time:	Est. Debriefing Time:	Course #:
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Title of Scenario:
 A. Hypertension in pregnancy-assessment of patient

Brief Description:
 39.2 W HTN, induction for labor. Placed in labor room at 0600. Consents signed and patient placed on FHR monitor.

Setting of Sim: L/D room

Facilitators:

Dates of Sims:	Pilot Date : 12/17/19 1/9/20
----------------	------------------------------------

Type of Simulation (check all that apply) : Task Trainer Mannequin Actor/SP

Scenario recording requested <input checked="" type="checkbox"/> yes <input type="checkbox"/> no	Classroom needed <input type="checkbox"/> yes <input checked="" type="checkbox"/> no	Debriefing Room needed <input checked="" type="checkbox"/> yes <input type="checkbox"/> no
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PARTICIPANT INFORMATION

Disciplines:	Total Number:	Number per Sim:
RNs		2-4
MDs		
RTs		
Pharmacists		
CSTs		
Other		

LEARNING OUTCOMES

**Team STEPPS® competencies (leadership, mutual support, situation monitoring, communication) are to be incorporated into every simulation to promote patient safety (ahrq.gov, 2017)*

General Learning Outcomes (to be disclosed to participants)

Appropriate nursing care of OB HTN pt

Scenario Specific Outcomes (for facilitator only)

Objectives:

1. Learner will perform a head-to-toe assessment on an HTN patient.
2. Learner will perform DTR assessment appropriately.
3. Learner will assess BP appropriately.
4. Learner will identify elevated blood pressure.
5. Learner will document assessment in EMR.

Expected cognitive skills to be demonstrated by participant:

Assess•

Understands what it means to have a hypertensive disorder in pregnancy diagnosis.
Discuss signs and symptoms of hypertensive disorder in pregnancy.

Document

Discuss the appropriate documentation guidelines.

Expected psychomotor skills to be demonstrated by participant:

- Performs proper assessment of hypertensive patient.
- Recognizes signs and symptoms, lab values, and vital signs associated with hypertensive disorder.
- Performs neuro assessment, including level of consciousness, DTRs, presence of visual disturbance, headache, and epigastric pain.

Expected affective skills to be demonstrated by participant:

Demonstrates assessment of patient and notifies physician using SBAR.
Documents assessments and practices appropriately in the EMR.
Commits to providing patient comfort and safety.

PRE-BRIEFING INFORMATION

Pre-requisite Knowledge/Reading/Testing (provide references on last page):

POEP:

Module 8 Complications of Pregnancy, Part 2

CBT:

FHCI Hypertensive Disorders in Pregnancy

Policy:

Hypertensive Disorder in Pregnancy

NOTE TO FACILIATORS: Prior to beginning the simulation, participants must be oriented to simulator and/or setting, understand guidelines and expectations for their scenario(s), have completed all pre-work, and understand their assigned roles.

Pre-Briefing Report to Participants

S

PATIENT	Tonya	AGE/SEX	32 yr old	ADMISSION WEIGHT	
PRIMARY MD	Triplett and/or Fam. Med MD		PROCEDURE		
CONSULTS			CODE STATUS	Full	
DX	HTN in pregnancy		PASSWORD		
CURRENT PROBLEM	Elevated blood pressures in pregnancy, induction		NEXT OF KIN	Husband: Matt	
				DIET	NPO

B

HX	39.2 weeks gestation Induction of labor Chronic Hypertension- not on medications				
ALLERGIES	NKDA				
MEDICATIONS	PNV				
SAFETY/PRECAUTIONS	none				
RESTRAINTS	none				

A

CURRENT CONDITION		<input type="checkbox"/> VENT	<input type="checkbox"/> ETT	SIZE		LOCATION	
SKIN		PAIN	0 /10	MODE		RATE	<input type="checkbox"/> PEEP
CARDIO/RHYTHM/PULSES		FIO2		<input type="checkbox"/> PS		<input type="checkbox"/> NC	<input type="checkbox"/> CPAP/BIPAP
RESP	Clear lung sounds		<input checked="" type="checkbox"/> IV LINES				
NEURO	A/Ox3, DTRs normal		<input type="checkbox"/> PICC/CVL		<input type="checkbox"/> ART		
GI/GU	BM	VOID		<input checked="" type="checkbox"/> MIVF	LR at 125 ml/hr		
	<input type="checkbox"/> FOLEY		<input type="checkbox"/> DRIPS				
TUBES	<input type="checkbox"/> NG/OG	<input type="checkbox"/> JP	<input type="checkbox"/> CT				
I/O							
VITALS	Routine						
ACTIVITY	Up ad lib						

R

SUGGESTIONS/RECOMMENDATIONS/REQUESTS TO MD/NURSE		
ORDERS	Admit to inpatient. Full Code. Activity as tolerated Vital signs, routine	

	Pain assessment, routine Intake and output, routine Diet Clear liquid Insert peripheral IV CBC with dif STAT Hold Specimen-blood bank STAT UDS STAT LR 125ml/hr
ANTICIPATED CHANGES OR OTHER ISSUES	
PENDING LABS	

SET UP/RESOURCES (for simulation center staff)		
Simulation Setting		
<input type="checkbox"/> ER <input type="checkbox"/> Med-Surg <input type="checkbox"/> Pediatrics <input type="checkbox"/> ICU <input type="checkbox"/> OR / PACU	<input checked="" type="checkbox"/> Women's & Children's <input type="checkbox"/> Behavioral Health <input type="checkbox"/> Home Health <input type="checkbox"/> Pre-Hospital <input type="checkbox"/> Doctor's office/clinic (table, chairs and exam table) <input type="checkbox"/> Other:	
Time of Day: morning		
Is the patient a mannequin or a Standardized Patient (SP)? mannequin		
Appearance of Mannequin		
Clothing gown	Moulage	Incisions/Dressings
Appearance of Actor/SP		
Clothing	Moulage	Incisions/Dressings
Monitor Waveform Setup		
EKG/HR <input type="checkbox"/>	RR <input type="checkbox"/>	O2 Sat <input type="checkbox"/>
BP <input type="checkbox"/>	Arterial Line <input type="checkbox"/>	PAP <input type="checkbox"/>
ETCO2 <input type="checkbox"/>	Other: FHR, contractions every 5 minutes	
Equipment attached to patient		
ECG Monitor <input type="checkbox"/>	BP Cuff <input checked="" type="checkbox"/>	Arterial/PA lines <input type="checkbox"/>
Oxygen Sat Probe <input checked="" type="checkbox"/>	NG tube <input type="checkbox"/>	Foley <input type="checkbox"/> Urine Color:
Chest Tube <input type="checkbox"/>	Vent <input type="checkbox"/>	IV line <input checked="" type="checkbox"/>

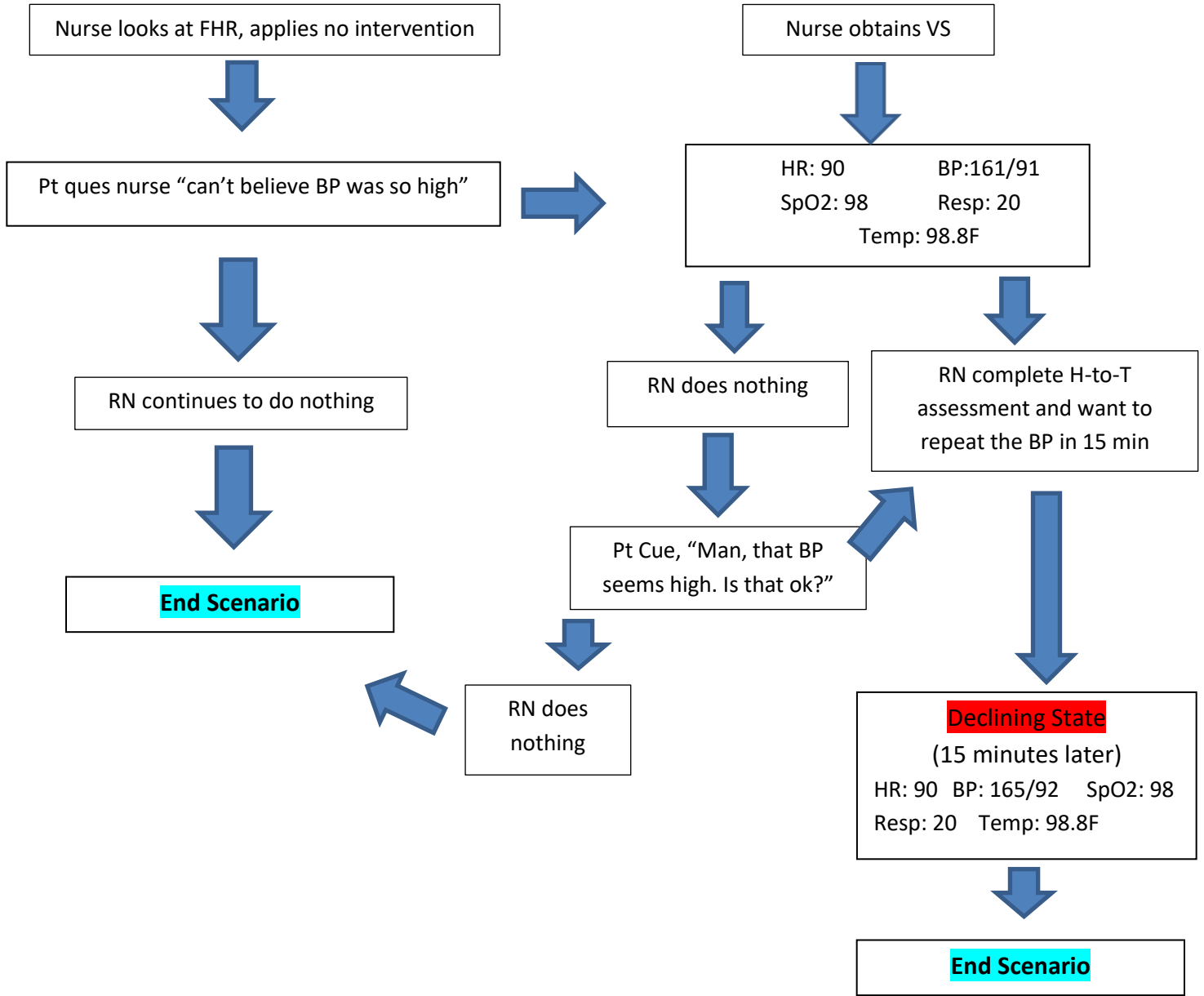
ID Band/MRN <input checked="" type="checkbox"/>	Allergy Band <input type="checkbox"/>	IO <input type="checkbox"/>	SCDs <input type="checkbox"/>
Fall Blanket/Footies <input checked="" type="checkbox"/>	Other:		
IV Type			
PIV <input checked="" type="checkbox"/>	Saline Lock <input type="checkbox"/>	Central Line <input type="checkbox"/>	
PICC <input type="checkbox"/>	UVC/UAC <input type="checkbox"/>		
IV Fluids/Rate			
NS	D5	D10	
LR running @ 125	Other:		
Rate of Fluids:			
Medications (to be retrieved from Pyxis)			
PO	IVP	IVPB	
		Pitocin 500ml bag infusing at 1ml/hr (1mu/hr)	
Medication Equipment Available in the Room			
IV Pump <input checked="" type="checkbox"/>	Number of channels 2	IV Pump Tubing <input type="checkbox"/>	
IV Piggyback tubing <input type="checkbox"/>	IV gravity tubing <input type="checkbox"/>	Extra IV tubing <input type="checkbox"/>	
Syringes/#/Size	Needles/#/size	Med cart/Pyxis	
IV start supplies/angio gauge	Art Line <input type="checkbox"/>	PA Catheter <input type="checkbox"/>	
Pressure bag <input type="checkbox"/>	Syringe pump <input type="checkbox"/>	Syringe pump tubing <input type="checkbox"/>	
IO <input type="checkbox"/>	Umbilical Line <input type="checkbox"/>	Other	
Cardiac Equipment Available in the room			
12 lead ECG machine <input type="checkbox"/>	Code Cart <input type="checkbox"/>	Defibrillator <input type="checkbox"/>	
Temp Pacemaker <input type="checkbox"/>	Telemetry Pack <input type="checkbox"/>	AED <input type="checkbox"/>	
Respiratory Equipment Available in the room			
Nasal cannula <input checked="" type="checkbox"/>	Simple Facemask <input type="checkbox"/>	Venturi Mask <input type="checkbox"/>	
Non-rebreather <input checked="" type="checkbox"/>	IS <input type="checkbox"/>	Trach <input type="checkbox"/>	
BiPAP/CPAP <input type="checkbox"/>	Vent <input type="checkbox"/>	Suction <input type="checkbox"/>	
Suction cath/#/size	Intubation box <input type="checkbox"/>	Other: suction set up on table so that during prebrief learners can learn to set up	
GI Equipment Available in the room			
NG/OG <input type="checkbox"/>	G tube <input type="checkbox"/>	Feeding pump <input type="checkbox"/>	
Feeding bag <input type="checkbox"/>	Dining tray <input type="checkbox"/>	Other:	
GU Equipment Available in the room			

Foley <input type="checkbox"/>	Condom catheter <input type="checkbox"/>	SP catheter <input type="checkbox"/>
Urinal <input type="checkbox"/>	Bedpan	Other:
Other Supplies		
TED hose <input type="checkbox"/>	SCDs <input type="checkbox"/>	Dressing Supplies <input type="checkbox"/>
Venipuncture <input type="checkbox"/>	Blood tubes <input type="checkbox"/>	Culture tubes <input type="checkbox"/>
Thermometer <input checked="" type="checkbox"/>	Pen light <input type="checkbox"/>	Fall blanket/footies <input type="checkbox"/>
Any additional set up notes for sim staff: stethoscope. Reflex hammer, Assessment QR codes (or something for clonus and reflexes)		

Scenario Progression Storyboard

Patient Initial State

Tonya is here today for her scheduled induction of labor for 39.2 weeks. Induction started at 0600. Night shift has started her admission and has signed consents, started her IV, and placed her on the EFM/TOCO.
FHR: 140, moderate variability, with accelerations.
Pain: 0 out of 10



Progression Outline

Timing	Patient verbal and/or non-verbal communication	Participant expected behaviors/interventions	Patient Response (potential cues for participant if needed?)
Beginning (0-2 mins)	<ul style="list-style-type: none"> • Sitting up in bed • has the EFM/TOCO on • not in any pain. 	<ul style="list-style-type: none"> • RN asks pt how she is feeling and why being induced • Takes VS (HR, BP, SpO2, Resp, Temp-tape temp on thermometer) 	<ul style="list-style-type: none"> • I have been having elevated blood pressures during my pregnancy (140s/80s).
2-5 mins	<ul style="list-style-type: none"> • Patient starting to be concerned about her elevated blood pressure. 	<ul style="list-style-type: none"> • RN notices that the BP is elevated • Inform patient that her BP is above call orders at this time and is going to retake in 15 min. 	<ul style="list-style-type: none"> • Is my blood pressure okay?
5-12 mins	<ul style="list-style-type: none"> • Pt slightly nervous, otherwise normal 	<ul style="list-style-type: none"> • Start performing H-to-T assessment • Ask questions: HA? Blurry vision/vision changes? Epigastric pain? • Listen to lung and heart sounds • Perform clonus and reflex assessment (DTR) • Document findings in EPIC 	<ul style="list-style-type: none"> • No HA, blurry vision, or pain

12-15 mins	<ul style="list-style-type: none"> • Still slightly anxious 	<ul style="list-style-type: none"> • Re-take VS (BP, HR) 	<ul style="list-style-type: none"> • Is my BP better?
End of Scenario (When objectives met? At specified time period)		<ul style="list-style-type: none"> • Informs pt of results and calling MD 	

SP role description	
Name and Role in scenario (Patient? Family member?)	
Brief Scenario Summary	
Patient location	
History pertinent to simulation	
Mental State/Demeanor	

Questions/comments SP may verbalize during scenario	
SP Observations	How does the staff communicate with you and with each other?

DEBRIEFING GUIDE

With Video

Without Video

Debriefing/Guided Reflection Questions:

1. How did you feel throughout the simulation experience
2. Tell me what went well.

General learning outcome(s)
Appropriate nursing care of OB HTN pt
Scenario Specific Outcomes *Copy from page 2 of this form*
<p>Objectives:</p> <ol style="list-style-type: none"> 1. Did you patient have elevated blood pressure? How did you know this? 2. I see you performed a head-to-toe assessment, tell me about this? 3. Tell me how you performed reflexes assessment? Have you ever done this before? Do we need more practice? 4. Tell me how you knew which blood pressure cuff to use? Tell me how you took her blood pressure. 5. Tell me how you document your assessment

3. Let's review the objectives and discuss whether we were successful or not
4. If you were able to repeat the scenario, what would you do differently?
5. What GAPS did you identify in your own knowledge base and/or preparation for the simulation experience?
6. Talk about how you will transfer what is learned during this experience to your work setting.
7. Is there anything else you would like to discuss?

Evaluation Tools

Attach to this page the evaluation tools (surveys, tests) that you plan to use

References***List references for your educational content***

ahrq.gov. (2017, August). *TeamSTEPPS 2.0 Team Strategies and Tools to Enhance Performance and Patient Safety*. Retrieved from <https://www.ahrq.gov/sites/default/files/wysiwyg/professionals/education/curriculum-tools/teamstepps/instructor/essentials/pocketguide.pdf>

<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3119563/>

SIMULATION SCENARIO DESIGN WORKSHEET

Today's Date:	Name of Scenario Author: Email: Phone:
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GENERAL SCENARIO INFORMATION

Est. Pre-briefing Time:	Est. Scenario Time:	Est. Debriefing Time:	Course #:
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Title of Scenario:
B. Hypertension panels

Brief Description:
39.2 W HTN, induction for labor. Placed in labor room at 0600. Consents signed and patient placed on FHR monitor. 2 elevated blood pressures above call orders. RN will call MD, give SBAR report, and obtain panel orders.

Setting of Sim: L/D room

Facilitators:

Dates of Sims:	Pilot Date : 12/17/19 1/9/20
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Type of Simulation (check all that apply) : Task Trainer Mannequin Actor/SP

Scenario recording requested <input type="checkbox"/> Yes <input type="checkbox"/> no	Classroom needed <input type="checkbox"/> yes <input checked="" type="checkbox"/> no	Debriefing Room needed <input type="checkbox"/> Yes <input type="checkbox"/> no
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PARTICIPANT INFORMATION

Disciplines:	Total Number:	Number per Sim:
RNs		2-4
MDs		
RTs		
Pharmacists		
CSTs		
Other		

LEARNING OUTCOMES

**Team STEPPS® competencies (leadership, mutual support, situation monitoring, communication) are to be incorporated into every simulation to promote patient safety (ahrq.gov, 2017)*

General Learning Outcomes
(to be disclosed to participants)

Appropriate nursing care of OB HTN pt

Scenario Specific Outcomes
(for facilitator only)**Objectives:**

1. Learner will complete an SBAR report to a Physician.
2. Learner will find and place the appropriate orders given in EMR.
3. Learner will give Labetalol appropriately.
4. Learner will follow blood pressure protocol after medication administered.

Expected cognitive skills to be demonstrated by participant:

Plan•

Discusses warning signs of a hypertensive disorder.

Implement

Identify precautions used for hypertensive disorders (seizure precautions, timing of checks, decrease environmental stimuli, etc).

Document

Discuss the appropriate documentation guidelines.

Expected psychomotor skills to be demonstrated by participant:

- Performs proper assessment of hypertensive patient.
- Recognizes signs and symptoms, lab values, and vital signs associated with hypertensive disorder.
- Performs neuro assessment, including level of consciousness, DTRs, presence of visual disturbance, headache, and epigastric pain.

Expected affective skills to be demonstrated by participant:

Demonstrates assessment of patient and notifies physician using SBAR.
Documents assessments and practices appropriately in the EMR.
Commits to providing patient comfort and safety.

PRE-BRIEFING INFORMATION

Pre-requisite Knowledge/Reading/Testing (provide references on last page):

POEP:

Module 8 Complications of Pregnancy, Part 2

CBT:

FHCI Hypertensive Disorders in Pregnancy

Policy:

Hypertensive Disorder in Pregnancy

NOTE TO FACILIATORS: Prior to beginning the simulation, participants must be oriented to simulator and/or setting, understand guidelines and expectations for their scenario(s), have completed all pre-work, and understand their assigned roles.

Pre-Briefing Report to Participants

S

PATIENT	Tonya	AGE/SEX	32 yr old	ADMISSION WEIGHT	
PRIMARY MD	Triplett and/or Fam. Med MD		PROCEDURE		
CONSULTS			CODE STATUS	Full	
DX	HTN in pregnancy		PASSWORD		
CURRENT PROBLEM	Elevated blood pressures in pregnancy, induction		NEXT OF KIN	Husband: Matt	
				DIET	clears

B

HX	39.2 weeks gestation Induction of labor Chronic Hypertension- not on medications				
ALLERGIES	NKDA				
MEDICATIONS	PNV				
SAFETY/PRECAUTIONS	none				
RESTRAINTS	none				

A

CURRENT CONDITION		<input type="checkbox"/> VENT	<input type="checkbox"/> ETT	SIZE		LOCATION	
SKIN		PAIN	0 /10	MODE		RATE	<input type="checkbox"/> PEEP
CARDIO/RHYTHM/PULSES		FIO2		<input type="checkbox"/> PS		<input type="checkbox"/> NC	<input type="checkbox"/> CPAP/BIPAP
RESP	Clear lung sounds		<input checked="" type="checkbox"/> IV LINES				
NEURO	A/Ox3, DTRs normal		<input type="checkbox"/> PICC/CVL		<input type="checkbox"/> ART		
GI/GU	BM	VOID		<input checked="" type="checkbox"/> MIVF	L R at 125ml/hr		
	<input type="checkbox"/> FOLEY			<input type="checkbox"/> DRIPS			
TUBES	<input type="checkbox"/> NG/OG	<input type="checkbox"/> JP	<input type="checkbox"/> CT				
I/O							
VITALS	Routine						
ACTIVITY	Up ad lib						

R

SUGGESTIONS/RECOMMENDATIONS/REQUESTS TO MD/NURSE	
Call MD for orders	
ORDERS	Admit to inpatient. Full Code. Activity as tolerated Vital signs, routine

	Pain assessment, routine Intake and output, routine Diet Clear liquid Insert peripheral IV CBC with dif STAT Hold Specimen-blood bank STAT UDS STAT LR 125ml/hr
ANTICIPATED CHANGES OR OTHER ISSUES	
PENDING LABS	

SET UP/RESOURCES (for simulation center staff)		
Simulation Setting		
<input type="checkbox"/> ER <input type="checkbox"/> Med-Surg <input type="checkbox"/> Pediatrics <input type="checkbox"/> ICU <input type="checkbox"/> OR / PACU	<input checked="" type="checkbox"/> Women's & Children's <input type="checkbox"/> Behavioral Health <input type="checkbox"/> Home Health <input type="checkbox"/> Pre-Hospital <input type="checkbox"/> Doctor's office/clinic (table, chairs and exam table) <input type="checkbox"/> Other:	
Time of Day: morning		
Is the patient a mannequin or a Standardized Patient (SP)? mannequin		
Appearance of Mannequin		
Clothing gown	Moulage	Incisions/Dressings
Appearance of Actor/SP		
Clothing	Moulage	Incisions/Dressings
Monitor Waveform Setup		
EKG/HR <input type="checkbox"/>	RR <input type="checkbox"/>	O2 Sat <input type="checkbox"/>
BP <input type="checkbox"/>	Arterial Line <input type="checkbox"/>	PAP <input type="checkbox"/>
ETCO2 <input type="checkbox"/>	Other:	
Equipment attached to patient		
ECG Monitor <input checked="" type="checkbox"/> have ready, staff will have to place it on patient	BP Cuff <input checked="" type="checkbox"/>	Arterial/PA lines <input type="checkbox"/>
Oxygen Sat Probe <input checked="" type="checkbox"/>	NG tube <input type="checkbox"/>	Foley <input type="checkbox"/> Urine Color:
Chest Tube <input type="checkbox"/>	Vent <input type="checkbox"/>	IV line <input checked="" type="checkbox"/>

ID Band/MRN <input checked="" type="checkbox"/>	Allergy Band <input type="checkbox"/>	IO <input type="checkbox"/>	SCDs <input type="checkbox"/>
Fall Blanket/Footies <input checked="" type="checkbox"/>	Other: FHM attached to pt		
IV Type			
PIV <input checked="" type="checkbox"/>	Saline Lock <input type="checkbox"/>	Central Line <input type="checkbox"/>	
PICC <input type="checkbox"/>	UVC/UAC <input type="checkbox"/>		
IV Fluids/Rate			
NS	D5	D10	
LR running @ 125	Other:		
Rate of Fluids:			
Medications (to be retrieved from Pyxis)			
PO	IVP	IVPB	
	1. Labetalol 20/40/80 (ask Gina to make fake meds)		
Medication Equipment Available in the Room			
IV Pump <input checked="" type="checkbox"/>	Number of channels 2	IV Pump Tubing <input checked="" type="checkbox"/>	
IV Piggyback tubing <input type="checkbox"/>	IV gravity tubing <input type="checkbox"/>	Extra IV tubing <input checked="" type="checkbox"/>	
Syringes/#/Size 3 10 ml flushes	Needles/#/size	Med cart/Pyxis Pyxis needs to have Labetalol	
IV start supplies/angio gauge	Art Line <input type="checkbox"/>	PA Catheter <input type="checkbox"/>	
Pressure bag <input type="checkbox"/>	Syringe pump <input type="checkbox"/>	Syringe pump tubing <input type="checkbox"/>	
IO <input type="checkbox"/>	Umbilical Line <input type="checkbox"/>	Other	
Cardiac Equipment Available in the room			
12 lead ECG machine <input type="checkbox"/>	Code Cart <input type="checkbox"/>	Defibrillator <input type="checkbox"/>	
Temp Pacemaker <input type="checkbox"/>	Telemetry Pack <input type="checkbox"/>	AED <input type="checkbox"/>	
Respiratory Equipment Available in the room			
Nasal cannula <input checked="" type="checkbox"/>	Simple Facemask <input type="checkbox"/>	Venturi Mask <input type="checkbox"/>	
Non-rebreather <input checked="" type="checkbox"/>	IS <input type="checkbox"/>	Trach <input type="checkbox"/>	
BiPAP/CPAP <input type="checkbox"/>	Vent <input type="checkbox"/>	Suction <input type="checkbox"/>	
Suction cath/#/size	Intubation box <input type="checkbox"/>	Other	
GI Equipment Available in the room			
NG/OG <input type="checkbox"/>	G tube <input type="checkbox"/>	Feeding pump <input type="checkbox"/>	
Feeding bag <input type="checkbox"/>	Dining tray <input type="checkbox"/>	Other:	

GU Equipment Available in the room		
Foley <input checked="" type="checkbox"/>	Condom catheter <input type="checkbox"/>	SP catheter <input type="checkbox"/>
Urinal <input type="checkbox"/>	Bedpan	Other:
Other Supplies		
TED hose <input type="checkbox"/>	SCDs <input type="checkbox"/>	Dressing Supplies <input type="checkbox"/>
Venipuncture <input type="checkbox"/>	Blood tubes <input type="checkbox"/>	Culture tubes <input type="checkbox"/>
Thermometer <input checked="" type="checkbox"/>	Pen light <input type="checkbox"/>	Fall blanket/footies <input type="checkbox"/>
Any additional set up notes for sim staff: stethoscope. Reflex hammer, Assessment QR codes (or something for clonus and reflexes), seizure precautions equip (blankets, cloth tape)		

Scenario Progression Storyboard

Patient Initial State

Tonya is reclining in her bed. She is anxious and nervous when the RN returns to the room.

FHR: 140, moderate variability, accelerations HR:90 BP: 162/90 SpO2: 98 Resp: 20 Temp: 98.8F

MD calls via Vocera to RN. RN to give SBAR report to RN. MD gives orders for Labetalol Panel and seizure precautions to be ordered.

Order to be placed into Epic.

Nurse overrides Labetalol to give to patient.

RN places pt on EKG

Pt cues nurse "what did the doctor say?"

RN does nothing

Labetalol 20mg IV push.

"Will that medicine affect my HR?"

Head-to-toe assessment performed.

RN does nothing

Pt Cue, "Man, that BP seems high. Is that ok?"

End Scenario

Declining State (10 minutes later)-

FHR: 140, moderate variability, accels
HR: 92 BP: 170/100
SpO2: 98 Resp: 20 Temp: 98.8F

RN does nothing

Give Labetalol 40 mg IV push.

End Scenario

Progression Outline

Timing	Patient verbal and/or non-verbal communication	Participant expected behaviors/interventions	Patient Response (potential cues for participant if needed?)
Beginning (0-2 mins)	<ul style="list-style-type: none"> Pt getting more nervous/anxious, otherwise normal 	<ul style="list-style-type: none"> RN informs patient on the order received and answers any questions. Places order in Epic Puts patient on EKG 	<ul style="list-style-type: none"> What did the doctor say?
2-5 mins	<ul style="list-style-type: none"> Pt questions about the medication and will this affect my baby 	<ul style="list-style-type: none"> RN gets medication out of Pyxis Scans appropriate amount Pushes med over 2 minutes 	
5-7 mins	<ul style="list-style-type: none"> Pt nervous/ anxious, otherwise normal 	<ul style="list-style-type: none"> Performs H-to-t assessment. Seizure precautions placed on patient Ask questions: HA? Blurry vision/vision changes? Epigastric pain? Listen to lung and heart sounds Perform clonus and reflex assessment (DTR) Document findings in EPIC and seizure precautions. 	<ul style="list-style-type: none"> Pt Cue, "Man, that BP seems high. Is that ok?" No HA, blurry vision, or pain

7-10 mins	<ul style="list-style-type: none"> Pt is questioning about the reading 	<ul style="list-style-type: none"> Re-take VS (BP, HR) Recognizes it is high Informs pt of results 	<ul style="list-style-type: none"> Is my BP better?
End of Scenario (When objectives met? At specified time period)		<ul style="list-style-type: none"> Gives another dose of medication 	

SP role description	
Name and Role in scenario (Patient? Family member?)	
Brief Scenario Summary	
Patient location	
History pertinent to simulation	
Mental State/Demeanor	

Questions/comments SP may verbalize during scenario	
SP Observations	How does the staff communicate with you and with each other?

DEBRIEFING GUIDE	
<input checked="" type="checkbox"/> With Video	<input type="checkbox"/> Without Video

Debriefing/Guided Reflection Questions:

1. Let's start with the series of events. Let's walk through what happened.
2. How did you feel throughout the simulation experience?
3. Tell me what went well.

General learning outcome(s)
Appropriate nursing care of OB HTN pt
Scenario Specific Outcomes *Copy from page 2 of this form*
<p>Objectives:</p> <ol style="list-style-type: none"> 1. Tell me about your SBAR with the physician. How did you feel/concerns/questions? 2. Tell me about how placing the orders in the EMR went. 3. What medication did you give your patient? How did that feel? Comfortable/need more practice? 4. Tell me about your next steps once you are in the HTN protocol.

4. Let's review the objectives and discuss whether we were successful or not.
5. If you were able to repeat the scenario, what would you do differently?
6. What GAPS did you identify in your own knowledge base and/or preparation for the simulation experience?
7. Talk about how you will transfer what is learned during this experience to your work setting.
8. Is there anything else you would like to discuss?

Evaluation Tools

Attach to this page the evaluation tools (surveys, tests) that you plan to use

References

List references for your educational content

ahrq.gov. (2017, August). *TeamSTEPPS 2.0 Team Strategies and Tools to Enhance Performance and Patient Safety*. Retrieved from <https://www.ahrq.gov/sites/default/files/wysiwyg/professionals/education/curriculum-tools/teamstepps/instructor/essentials/pocketguide.pdf>

<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3119563/>

MD speaking points

Actions	Statements
SBAR called to MD	Hello, _____. What is going on?
	Yes, that is my patient. Any signs and symptoms? How is her DTRs? Blurry vision? Headache? Epigastric pain?
RN answers	Start the Labetalol panel and call me back with an update in an hour.

SIMULATION SCENARIO DESIGN WORKSHEET

Today's Date:	Name of Scenario Author: Email: Phone:
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GENERAL SCENARIO INFORMATION

Est. Pre-briefing Time:	Est. Scenario Time:	Est. Debriefing Time:	Course #:
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Title of Scenario:
 C. Hypertension with seizure

Brief Description:
 39.2 W HTN, induction for labor. Placed in labor room at 0600. Consents signed and patient placed on monitor. 2 elevated blood pressures above call orders. RN will continue to assess patient. Patient seizes.

Setting of Sim: L/D room

Facilitators:

Dates of Sims:	Pilot Date : 12/17/19 1/9/20
-----------------------	---

Type of Simulation (check all that apply) : Task Trainer Mannequin Actor/SP

Scenario recording requested <input type="checkbox"/> Yes <input type="checkbox"/> no	Classroom needed <input type="checkbox"/> yes <input checked="" type="checkbox"/> no	Debriefing Room needed <input type="checkbox"/> Yes <input type="checkbox"/> no
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PARTICIPANT INFORMATION

Disciplines:	Total Number:	Number per Sim:
RNs		2-4
MDs		
RTs		
Pharmacists		
CSTs		
Other		

LEARNING OUTCOMES

**Team STEPPS® competencies (leadership, mutual support, situation monitoring, communication) are to be incorporated into every simulation to promote patient safety (ahrq.gov, 2017)*

General Learning Outcomes (to be disclosed to participants)

Appropriate nursing care of OB HTN pt

Scenario Specific Outcomes (for facilitator only)

Objectives:

1. Learner will turn patient to side during seizure.
2. Learner will have suction and yankauer set up.
3. Learner will have oxygen turned on.
4. Learner will perform after care of a seizure by keeping pt on side, assess LOC, and perform VS.
5. Learner will notify MD of event.

Expected cognitive skills to be demonstrated by participant:

Implement

Identify precautions used for hypertensive disorders (seizure precautions, timing of checks, decrease environmental stimuli, etc).
Discusses seizure precautions and decreased environmental stimuli (low lights, quiet environment, and padded side rails).

Evaluate

Understands warning signs of a hypertensive disorder.

Document

Discuss the appropriate documentation guidelines.

Expected psychomotor skills to be demonstrated by participant:

- Performs proper assessment of hypertensive patient.
- Recognizes signs and symptoms, lab values, and vital signs associated with hypertensive disorder.
- Performs neuro assessment, including level of consciousness, DTRs, presence of visual disturbance, headache, and epigastric pain.

Expected affective skills to be demonstrated by participant:

Demonstrates assessment of patient and notifies physician using SBAR.
Documents assessments and practices appropriately in the EMR.
Commits to providing patient comfort and safety.

PRE-BRIEFING INFORMATION

Pre-requisite Knowledge/Reading/Testing (provide references on last page):

POEP:

Module 8 Complications of Pregnancy, Part 2

CBT:

FHCI Hypertensive Disorders in Pregnancy

Policy:

Hypertensive Disorder in Pregnancy

NOTE TO FACILIATORS: Prior to beginning the simulation, participants must be oriented to simulator and/or setting, understand guidelines and expectations for their scenario(s), have completed all pre-work, and understand their assigned roles.

Pre-Briefing Report to Participants

S

PATIENT	Tonya	AGE/SEX	32 yr old	ADMISSION WEIGHT	
PRIMARY MD	Triplett and/or Fam. Med MD		PROCEDURE		
CONSULTS			CODE STATUS	Full	
DX	HTN in pregnancy		PASSWORD		
CURRENT PROBLEM	Elevated blood pressures in pregnancy, induction		NEXT OF KIN	Husband: Matt	
				DIET	clears

B

HX	39.2 weeks gestation Induction of labor Chronic Hypertension- not on medications				
ALLERGIES	NKDA				
MEDICATIONS	PNV				
SAFETY/PRECAUTIONS	none				
RESTRAINTS	none				

A

CURRENT CONDITION		<input type="checkbox"/> VENT	<input type="checkbox"/> ETT	SIZE		LOCATION	
SKIN		PAIN	0 /10	MODE		RATE	<input type="checkbox"/> PEEP
CARDIO/RHYTHM/PULSES		FIO2		<input type="checkbox"/> PS		<input type="checkbox"/> NC	<input type="checkbox"/> CPAP/BIPAP
RESP	Clear lung sounds		<input checked="" type="checkbox"/> IV LINES				
NEURO	A/Ox3, DTRs normal		<input type="checkbox"/> PICC/CVL		<input type="checkbox"/> ART		
GI/GU	BM	VOID		<input checked="" type="checkbox"/> MIVF	LR at 125mL/hr		
	<input type="checkbox"/> FOLEY		<input type="checkbox"/> DRIPS				
TUBES	<input type="checkbox"/> NG/OG	<input type="checkbox"/> JP	<input type="checkbox"/> CT				
I/O							
VITALS							
ACTIVITY	Up ad lib						

R

SUGGESTIONS/RECOMMENDATIONS/REQUESTS TO MD/NURSE	
Call MD for orders	
ORDERS	Admit to inpatient. Full Code. Activity as tolerated Vital signs, routine

Notify Physician Vitals/other: SBP >159, DBP >109 Assess DTRs q4h Weigh patient daily Pain assessment, routine Intake and output, every shift Nonrebreather mask oxygen at 10-12 liters, routine Diet Clear liquid Insert peripheral IV CBC with dif STAT Hold Specimen-blood bank STAT UDS STAT LR 125ml/hr Labetalol (Nordomyne) panel: 20mg, 40mg, 80mg prn
ANTICIPATED CHANGES OR OTHER ISSUES
PENDING LABS

SET UP/RESOURCES (for simulation center staff)		
Simulation Setting		
<input type="checkbox"/> ER <input type="checkbox"/> Med-Surg <input type="checkbox"/> Pediatrics <input type="checkbox"/> ICU <input type="checkbox"/> OR / PACU	<input checked="" type="checkbox"/> Women's & Children's <input type="checkbox"/> Behavioral Health <input type="checkbox"/> Home Health <input type="checkbox"/> Pre-Hospital <input type="checkbox"/> Doctor's office/clinic (table, chairs and exam table) <input type="checkbox"/> Other:	
Time of Day: morning		
Is the patient a mannequin or a Standardized Patient (SP)? mannequin		
Appearance of Mannequin		
Clothing gown	Moulage	Incisions/Dressings
Appearance of Actor/SP		
Clothing	Moulage	Incisions/Dressings
Monitor Waveform Setup		
EKG/HR <input type="checkbox"/>	RR <input type="checkbox"/>	O2 Sat <input type="checkbox"/>
BP <input type="checkbox"/>	Arterial Line <input type="checkbox"/>	PAP <input type="checkbox"/>
ETCO2 <input type="checkbox"/>	Other:	

Equipment attached to patient		
ECG Monitor <input type="checkbox"/>	BP Cuff <input checked="" type="checkbox"/>	Arterial/PA lines <input type="checkbox"/>
Oxygen Sat Probe <input checked="" type="checkbox"/>	NG tube <input type="checkbox"/>	Foley <input type="checkbox"/> Urine Color:
Chest Tube <input type="checkbox"/>	Vent <input type="checkbox"/>	IV line <input checked="" type="checkbox"/>
ID Band/MRN <input checked="" type="checkbox"/>	Allergy Band <input type="checkbox"/>	IO <input type="checkbox"/> SCDs <input type="checkbox"/>
Fall Blanket/Footies <input checked="" type="checkbox"/>	Other: FHM attached to pt	
IV Type		
PIV <input checked="" type="checkbox"/>	Saline Lock <input type="checkbox"/>	Central Line <input type="checkbox"/>
PICC <input type="checkbox"/>	UVC/UAC <input type="checkbox"/>	
IV Fluids/Rate		
NS	D5	D10
LR running @ 125	Other:	
Rate of Fluids:		
Medications (to be retrieved from Pyxis)		
PO	IVP	IVPB
Medication Equipment Available in the Room		
IV Pump <input checked="" type="checkbox"/>	Number of channels 2	IV Pump Tubing <input checked="" type="checkbox"/>
IV Piggyback tubing <input type="checkbox"/>	IV gravity tubing <input type="checkbox"/>	Extra IV tubing <input checked="" type="checkbox"/>
Syringes/#/Size 3 10 ml flushes	Needles/#/size	Med cart/Pyxis Pyxis needs to have Mag and Labetalol, and Ca Gluconate
IV start supplies/angio gauge	Art Line <input type="checkbox"/>	PA Catheter <input type="checkbox"/>
Pressure bag <input type="checkbox"/>	Syringe pump <input type="checkbox"/>	Syringe pump tubing <input type="checkbox"/>
IO <input type="checkbox"/>	Umbilical Line <input type="checkbox"/>	Other
Cardiac Equipment Available in the room		
12 lead ECG machine <input type="checkbox"/>	Code Cart <input type="checkbox"/>	Defibrillator <input type="checkbox"/>
Temp Pacemaker <input type="checkbox"/>	Telemetry Pack <input type="checkbox"/>	AED <input type="checkbox"/>
Respiratory Equipment Available in the room		
Nasal cannula <input checked="" type="checkbox"/>	Simple Facemask <input type="checkbox"/>	Venturi Mask <input type="checkbox"/>
Non-rebreather <input checked="" type="checkbox"/>	IS <input type="checkbox"/>	Trach <input type="checkbox"/>
BiPAP/CPAP <input type="checkbox"/>	Vent <input type="checkbox"/>	Suction <input type="checkbox"/>

Suction cath/#/size	Intubation box <input type="checkbox"/>	Other
GI Equipment Available in the room		
NG/OG <input type="checkbox"/>	G tube <input type="checkbox"/>	Feeding pump <input type="checkbox"/>
Feeding bag <input type="checkbox"/>	Dining tray <input type="checkbox"/>	Other:
GU Equipment Available in the room		
Foley <input checked="" type="checkbox"/>	Condom catheter <input type="checkbox"/>	SP catheter <input type="checkbox"/>
Urinal <input type="checkbox"/>	Bedpan	Other:
Other Supplies		
TED hose <input type="checkbox"/>	SCDs <input type="checkbox"/>	Dressing Supplies <input type="checkbox"/>
Venipuncture <input type="checkbox"/>	Blood tubes <input type="checkbox"/>	Culture tubes <input type="checkbox"/>
Thermometer <input checked="" type="checkbox"/>	Pen light <input type="checkbox"/>	Fall blanket/footies <input type="checkbox"/>
Any additional set up notes for sim staff: stethoscope, pads for side rails, reflex hammer, Assessment QR codes (or something for clonus and reflexes)		

Scenario Progression Storyboard

Patient Initial State

Tonya is reclining in her bed. She is anxious and nervous when the RN returns to the room. It has been 10 minutes since last dose of Labetalol.

FHR: 140, moderate variability, HR: 92 BP: 170/100 SpO2: 98 Resp: 20 Temp: 98.8F

Patient states HA blurry vision and right sided abdomen pain.

RN does nothing.

Pt cues nurse "can you do anything for my headache?"

RN does nothing

End Scenario

RN assess VS.

Declining State

FHR: 140, moderate variability, accels
HR: 92 BP: 180/105
SpO2: 98 Resp: 20 Temp: 98.8F

Patient seizes fo 60 sec.

FHR: 80 bpm, minimal variability (decel)

RN does nothing

RN retakes VS and assesses

Declining State

FHR: 130 minimal variability HR: 92
BP: 165/94 SpO2: 98 Resp: 20
Temp: 98.8F

End Scenario

Progression Outline

Timing	Patient verbal and/or non-verbal communication	Participant expected behaviors/interventions	Patient Response (potential cues for participant if needed?)
Beginning (0-2 mins)	<ul style="list-style-type: none"> HA, blurry vision, epigastric pain 	<ul style="list-style-type: none"> RN to take next blood pressure. 	<ul style="list-style-type: none"> I don't feel good. HA 6 out of 10 Seeing spots. Stabbing, sharp pain on right side, continuous
2-3 mins	<ul style="list-style-type: none"> Pt actively seizing 	<ul style="list-style-type: none"> RN assist patient to her side RN calls for additional help Monitor patient so that she does not hurt self. RN times seizure Suction PRN 	
3-5 mins	<ul style="list-style-type: none"> Pt feeling fuzzy, dazed 	<ul style="list-style-type: none"> Pt stay left turn Assesses VS (BP, HR, SpO2) LOC Discontinue Pitocin (If in L/D; PP not needed) 	
7-10 mins			

End of Scenario (When objectives met? At specified time period)			<ul style="list-style-type: none"> • “What happened?” • “Is my baby ok?”
--	--	--	--

SP role description	
Name and Role in scenario (Patient? Family member?)	
Brief Scenario Summary	
Patient location	
History pertinent to simulation	
Mental State/Demeanor	

Questions/comments SP may verbalize during scenario

SP Observations

How does the staff communicate with you and with each other?

DEBRIEFING GUIDE

With Video

Without Video

Debriefing/Guided Reflection Questions:

1. How did you feel throughout the simulation experience
2. Tell me what went well.
3. Let's review the objectives and discuss whether we were successful or not

General learning outcome(s)		4. If you were able to repeat the
Appropriate nursing care of OB HTN pt		
Scenario Specific Outcomes *Copy from page 2 of this form*		
<p>Objectives:</p> <ol style="list-style-type: none"> 1. Your patient had a seizure, tell me about that? 2. How did you feel during the seizure? Comfortable/questions/need more practice? 3. Tell me about your process after the patient has a seizure. 		
<p>scenario, what would you do differently?</p> <ol style="list-style-type: none"> 5. What GAPS did you identify in your own knowledge base and/or preparation for the simulation experience? 6. Talk about how you will transfer what is learned during this experience to your work setting. 7. Is there anything else you would like to discuss? 		

Evaluation Tools
Attach to this page the evaluation tools (surveys, tests) that you plan to use

References
List references for your educational content

ahrq.gov. (2017, August). *TeamSTEPPS 2.0 Team Strategies and Tools to Enhance Performance and Patient Safety*. Retrieved from <https://www.ahrq.gov/sites/default/files/wysiwyg/professionals/education/curriculum-tools/teamstepps/instructor/essentials/pocketguide.pdf>

<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3119563/>

Charge RN/person who answers vocera to help

Actions	Statements
RN calls via vocera for help	Hello, _____. What is going on?
My patient is seizing	Comes to bedside. What can I do to help?
	Cues to RN (after a few seconds) Let's turn her on her side. (the primary RN as not done this) Have we called the MD yet? Let me call someone to page the MD?
Seizure is complete	Let's put her back on her back with a wedge. We should take a set of Vital signs.

SIMULATION SCENARIO DESIGN WORKSHEET

Today's Date:	Name of Scenario Author: Email: Phone:
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GENERAL SCENARIO INFORMATION

Est. Pre-briefing Time:	Est. Scenario Time:	Est. Debriefing Time:	Course #:
--------------------------------	----------------------------	------------------------------	------------------

Title of Scenario:
 D. Hypertension with magnesium drip

Brief Description:
 39.2 W HTN, induction for labor. Placed in labor room at 0600. Consents signed and patient placed on monitor. 2 elevated blood pressures above call orders. RN will continue to assess patient. Patient seizes. Magnesium ordered by MD.

Setting of Sim: L/D room

Facilitators:

Dates of Sims:	Pilot Date : 12/17/19 1/9/20
-----------------------	---

Type of Simulation (check all that apply) : Task Trainer Mannequin Actor/SP

Scenario recording requested <input type="checkbox"/> Yes <input type="checkbox"/> no	Classroom needed <input type="checkbox"/> yes <input checked="" type="checkbox"/> no	Debriefing Room needed <input type="checkbox"/> Yes <input type="checkbox"/> no
--	---	--

PARTICIPANT INFORMATION

Disciplines:	Total Number:	Number per Sim:
RNs		2-4
MDs		
RTs		
Pharmacists		
CSTs		
Other		

LEARNING OUTCOMES

**Team STEPPS® competencies (leadership, mutual support, situation monitoring, communication) are to be incorporated into every simulation to promote patient safety (ahrq.gov, 2017)*

General Learning Outcomes (to be disclosed to participants)

Appropriate nursing care of OB HTN pt

Scenario Specific Outcomes (for facilitator only)

Objectives:

1. Learner will be able to utilize SBAR to MD.
2. Learner will be able to place Magnesium order.
3. Learner will be able to start a magnesium infusion.
4. Learner will state intake maximum per hour while on magnesium.
5. Learner will be able to state management of magnesium.
6. Learner will be able to perform appropriate patient assessments while on magnesium.

Expected cognitive skills to be demonstrated by participant:

- Plan• Discusses use of Magnesium Sulfate for pre-eclamptic patient during antepartum/intrapartum management, including double checks, assessments, and precautions.
- Implement Identify precautions used for hypertensive disorders (seizure precautions, timing of checks, decrease environmental stimuli, etc). Discusses seizure precautions and decreased environmental stimuli (low lights, quiet environment, and padded side rails).
- Evaluate Understands warning signs of a hypertensive disorder. Discusses elevated lab values for hypertensive disorders in pregnancy.
- Document Discuss the appropriate documentation guidelines.

Expected psychomotor skills to be demonstrated by participant:

- Performs proper assessment of hypertensive patient.
- Recognizes signs and symptoms, lab values, and vital signs associated with hypertensive disorder.
- Performs neuro assessment, including level of consciousness, DTRs, presence of visual disturbance, headache, and epigastric pain.
- Minimizes stimulation (low lighting and noise levels, minimize visitors, anchor foley catheter (as indicated), or offer bedside commode/bedpan if ordered; while on Magnesium infusion.
- Identifies signs and symptoms of changes in mental status related to disease process and/or Magnesium administration (confusion, agitation, irritability, somnolence, diminished DTRs).

Expected affective skills to be demonstrated by participant:

- Demonstrates assessment of patient and notifies physician using SBAR.
- Documents assessments and practices appropriately in the EMR.
- Commits to providing patient comfort and safety.

PRE-BRIEFING INFORMATION

Pre-requisite Knowledge/Reading/Testing (provide references on last page):

POEP:

Module 8 Complications of Pregnancy, Part 2

CBT:

FHCl Hypertensive Disorders in Pregnancy

Policy:

Hypertensive Disorder in Pregnancy

Critical Element:

Magnesium Sulfate

NOTE TO FACILIATORS: Prior to beginning the simulation, participants must be oriented to simulator and/or setting, understand guidelines and expectations for their scenario(s), have completed all pre-work, and understand their assigned roles.

Pre-Briefing Report to Participants

PATIENT	Tonya		AGE/SEX	32 yr old		ADMISSION WEIGHT		
PRIMARY MD	Triplett and/or Fam. Med MD			PROCEDURE				
CONSULTS	Rapid/ACLS trained provider/Anesthesia			CODE STATUS	Full			
DX	HTN in pregnancy			PASSWORD				
CURRENT PROBLEM	Elevated blood pressures in pregnancy, induction			NEXT OF KIN	Husband: Matt			
							DIET	NPO
HX	39.2 weeks gestation Induction of labor Chronic Hypertension- not on medications							
ALLERGIES	NKDA							
MEDICATIONS	PNV							
SAFETY/PRECAUTIONS	none							
RESTRAINTS	none							
CURRENT CONDITION			<input type="checkbox"/> VENT	<input type="checkbox"/> ETT	SIZE		LOCATION	
SKIN			PAIN	0 /10	MODE		RATE	<input type="checkbox"/> PEEP
CARDIO/RHYTHM/PULSES			FIO2		<input type="checkbox"/> PS		<input type="checkbox"/> NC	<input type="checkbox"/> CPAP/BIPAP
RESP	Clear lung sounds		<input checked="" type="checkbox"/> IV LINES					
NEURO	A/Ox3, DTRs normal at this time		<input type="checkbox"/> PICC/CVL			<input type="checkbox"/> ART		
GI/GU	BM		VOID		<input checked="" type="checkbox"/> MIVF	LR		
		<input type="checkbox"/> FOLEY	<input type="checkbox"/> DRIPS					
TUBES	<input type="checkbox"/> NG/OG	<input type="checkbox"/> JP	<input type="checkbox"/> CT					
I/O								
VITALS								
ACTIVITY	Up ad lib							
SUGGESTIONS/RECOMMENDATIONS/REQUESTS TO MD/NURSE								
Call MD for orders								
ORDERS	Admit to inpatient. Full Code. Activity as tolerated Vital signs, routine							

S

B

A

R

	Pain assessment, routine Intake and output, routine Diet Clear liquid Insert peripheral IV CBC with dif STAT Hold Specimen-blood bank STAT UDS STAT LR 125ml/hr
ANTICIPATED CHANGES OR OTHER ISSUES	
PENDING LABS	

SET UP/RESOURCES		
(for simulation center staff)		
Simulation Setting		
<input type="checkbox"/> ER <input type="checkbox"/> Med-Surg <input type="checkbox"/> Pediatrics <input type="checkbox"/> ICU <input type="checkbox"/> OR / PACU	<input checked="" type="checkbox"/> Women's & Children's <input type="checkbox"/> Behavioral Health <input type="checkbox"/> Home Health <input type="checkbox"/> Pre-Hospital <input type="checkbox"/> Doctor's office/clinic (table, chairs and exam table) <input type="checkbox"/> Other:	
Time of Day: morning		
Is the patient a mannequin or a Standardized Patient (SP)? mannequin		
Appearance of Mannequin		
Clothing gown	Moulage	Incisions/Dressings
Appearance of Actor/SP		
Clothing	Moulage	Incisions/Dressings
Monitor Waveform Setup		
EKG/HR <input type="checkbox"/>	RR <input type="checkbox"/>	O2 Sat <input type="checkbox"/>
BP <input type="checkbox"/>	Arterial Line <input type="checkbox"/>	PAP <input type="checkbox"/>
ETCO2 <input type="checkbox"/>	Other:	
Equipment attached to patient		
ECG Monitor <input type="checkbox"/>	BP Cuff <input checked="" type="checkbox"/>	Arterial/PA lines <input type="checkbox"/>
Oxygen Sat Probe <input checked="" type="checkbox"/>	NG tube <input type="checkbox"/>	Foley <input type="checkbox"/> Urine Color:
Chest Tube <input type="checkbox"/>	Vent <input type="checkbox"/>	IV line <input checked="" type="checkbox"/>

ID Band/MRN <input checked="" type="checkbox"/>	Allergy Band <input checked="" type="checkbox"/>	IO <input type="checkbox"/>	SCDs <input type="checkbox"/>
Fall Blanket/Footies <input checked="" type="checkbox"/>	Other: fetal monitor		
IV Type			
PIV <input checked="" type="checkbox"/>	Saline Lock <input type="checkbox"/>	Central Line <input type="checkbox"/>	
PICC <input type="checkbox"/>	UVC/UAC <input type="checkbox"/>		
IV Fluids/Rate			
NS	D5	D10	
LR running @ 125	Other:		
Rate of Fluids:			
Medications (to be retrieved from Pyxis)			
PO	IVP	IVPB	
	1. Mag 1000 ml bag 2. Ca Gluconate syringe		
Medication Equipment Available in the Room			
IV Pump <input checked="" type="checkbox"/>	Number of channels 2	IV Pump Tubing <input checked="" type="checkbox"/>	
IV Piggyback tubing <input type="checkbox"/>	IV gravity tubing <input type="checkbox"/>	Extra IV tubing <input checked="" type="checkbox"/>	
Syringes/#/Size	Needles/#/size	Med cart/Pyxis Pyxis needs to have Mag and Ca Gluconate	
IV start supplies/angio gauge	Art Line <input type="checkbox"/>	PA Catheter <input type="checkbox"/>	
Pressure bag <input checked="" type="checkbox"/>	Syringe pump <input type="checkbox"/>	Syringe pump tubing <input type="checkbox"/>	
IO <input type="checkbox"/>	Umbilical Line <input type="checkbox"/>	Other	
Cardiac Equipment Available in the room			
12 lead ECG machine <input type="checkbox"/>	Code Cart <input type="checkbox"/>	Defibrillator <input type="checkbox"/>	
Temp Pacemaker <input type="checkbox"/>	Telemetry Pack <input type="checkbox"/>	AED <input type="checkbox"/>	
Respiratory Equipment Available in the room			
Nasal cannula <input checked="" type="checkbox"/>	Simple Facemask <input type="checkbox"/>	Venturi Mask <input type="checkbox"/>	
Non-rebreather <input checked="" type="checkbox"/>	IS <input type="checkbox"/>	Trach <input type="checkbox"/>	
BiPAP/CPAP <input type="checkbox"/>	Vent <input type="checkbox"/>	Suction <input type="checkbox"/>	
Suction cath/#/size	Intubation box <input type="checkbox"/>	Other	
GI Equipment Available in the room			
NG/OG <input type="checkbox"/>	G tube <input type="checkbox"/>	Feeding pump <input type="checkbox"/>	
Feeding bag <input type="checkbox"/>	Dining tray <input type="checkbox"/>	Other:	
GU Equipment Available in the room			

Foley <input checked="" type="checkbox"/>	Condom catheter <input type="checkbox"/>	SP catheter <input type="checkbox"/>
Urinal <input type="checkbox"/>	Bedpan <input checked="" type="checkbox"/>	Other:
Other Supplies		
TED hose <input type="checkbox"/>	SCDs <input checked="" type="checkbox"/>	Dressing Supplies <input type="checkbox"/>
Venipuncture <input type="checkbox"/>	Blood tubes <input type="checkbox"/>	Culture tubes <input type="checkbox"/>
Thermometer <input checked="" type="checkbox"/>	Pen light <input type="checkbox"/>	Fall blanket/footies <input type="checkbox"/>
Any additional set up notes for sim staff: stethoscope, reflex hammer		

Scenario Progression Storyboard

Patient Initial State (5 minutes since post-ictal)

Patient laying in bed and awake. Patient unaware of what happened. RN to explain what happened. RN awaiting MD to call to give SBAR.

FHR 130 minimal variability HR: 100 BP: 165/95 SpO2: 98 Resp: 20

MD calls via Vocera. Orders for Magnesium given.

RN places order in patient's EMR and retrieves medication

RN starts bolus without cosigner

Magnesium to be started with a cosigner.

RN does nothing

End Scenario

RN does not take VS or assessment

Take VS and perform modified assessment.

Take VS and perform modified assessment.

End Scenario

Declining State

FHR: 135, minimal variability
HR: 90 BP: 165/94 SpO2: 98
Resp: 20 Temp 98.6F

End Scenario

Progression Outline

Timing	Patient verbal and/or non-verbal communication	Participant expected behaviors/interventions	Patient Response (potential cues for participant if needed?)
Beginning (0-2 mins)	<ul style="list-style-type: none"> Dazed, confused 	<ul style="list-style-type: none"> RN to give SBAR report to MD. Inform MD to VS, seizure and patient's current status. Order for Magnesium 	<ul style="list-style-type: none"> What happened? Is my baby ok? Am I ok?
2-5 mins	<ul style="list-style-type: none"> Nervous, confused, questioning 	<ul style="list-style-type: none"> RN explains order to patient and answers questions. RN places order in patient's EMR. RN receives medication and other materials (ie. pads for rails, labels for tubing) 	<ul style="list-style-type: none"> Will this hurt? Will this affect my baby? What will it do to me?
5-7 mins	<ul style="list-style-type: none"> Nervous, questioning 	<ul style="list-style-type: none"> RN uses EPIC and pump to program dose of medication A bolus is given and then a continuous rate. LR at 75ml/hr Mag after bolus at 50ml/hr Stay at bedside during bolus VS should be taken once the infusion is 	<ul style="list-style-type: none"> What are these for (pads for rails)? Can I still use the restroom?

		<p>started and every 15 minutes x 1 hr.</p> <ul style="list-style-type: none"> • RN performs a modified H-to-T assessment (DTRs, Heart and lung sounds, reflexes, HA, blurry vision, epigastric pain.) 	
7-10 mins			
End of Scenario (When objectives met? At specified time period)		<ul style="list-style-type: none"> • RN explains how often blood pressures to be taken (15 min x1 hr, 30 min x1 hr, 1 hr until infusion complete). • RN explains that modified assessments are completed as well. 	<ul style="list-style-type: none"> • How often do you have to take my blood pressure?

SP role description

Name and Role in scenario
(Patient? Family member?)

Brief Scenario Summary	
Patient location	
History pertinent to simulation	
Mental State/Demeanor	
Questions/comments SP may verbalize during scenario	
SP Observations	How does the staff communicate with you and with each other?

DEBRIEFING GUIDE

With Video

Without Video

Debriefing/Guided Reflection Questions:

1. How did you feel throughout the simulation experience
2. Tell me what went well.
3. Let's review the objectives and discuss whether we were successful or not

General learning outcome(s)		
Appropriate nursing care of OB HTN pt	4. If you were able to repeat the	
Scenario Specific Outcomes *Copy from page 2 of this form*		
<p>Objectives:</p> <ol style="list-style-type: none"> 1. Tell me about your SBAR with the physician. How did you feel/concerns/questions? 2. Your physician ordered Magnesium, tell me about placing that order. Comfortable/more practice/concerns? 3. Tell me about your experience with starting the infusion. 4. Tell me about the process after the infusion is started, what do you do next and following. 		

scenario, what would you do differently?

5. What GAPS did you identify in your own knowledge base and/or preparation for the simulation experience?
6. Talk about how you will transfer what is learned during this experience to your work setting.
7. Is there anything else you would like to discuss?

Evaluation Tools

Attach to this page the evaluation tools (surveys, tests) that you plan to use

References

List references for your educational content

ahrq.gov. (2017, August). *TeamSTEPPS 2.0 Team Strategies and Tools to Enhance Performance and Patient Safety*. Retrieved from <https://www.ahrq.gov/sites/default/files/wysiwyg/professionals/education/curriculum-tools/teamstepps/instructor/essentials/pocketguide.pdf>

<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3119563/>

MD speaking parts

Actions	Statements
SBAR called to MD	Hello, _____. What is going on? Yes, that is my patient.
If RN does not state info on seizure:	How is she now? How long did the seizure last? Do you know what triggered it?
After answers seizure	Any signs and symptoms now? How is her DTRs? Blurry vision? Headache? Epigastric pain? What are her current vital signs?
RN answers	Start Magnesium Sulfate infusion. 6gm bolus and then 2g/hr

Charge RN or RN help speaking parts

Actions	Statements
Can you come help sign off on Magnesium? Dr. _____ gave orders to bolus and start?	RN at bedside. What can I help you with? How did you program the pump? Did you do a bolus?
After bolus started:	Do you need any more help?
Bedside RN says no.	Okay. Did you set your vital signs to go off? Have you done your checks? Did the MD give orders for a foley or what can she use? If you need any help let me know.

SIMULATION SCENARIO DESIGN WORKSHEET

Today's Date:	Name of Scenario Author: Email: Phone:
---------------	--

GENERAL SCENARIO INFORMATION

Est. Pre-briefing Time:	Est. Scenario Time:	Est. Debriefing Time:	Course #:
--------------------------------	----------------------------	------------------------------	------------------

Title of Scenario: HTN in pregnancy in Postpartum

Brief Description:
39 W HTN pt, vaginal delivery. 2nd day pp (to be discharged home later in the day). BP taken in the morning was 154/100. Patient has no IV and needs Procardia and labetalol.

Setting of Sim: PP room

Facilitators:

Dates of Sims:	Pilot Date : 12/17/19 1/9/20
-----------------------	---

Type of Simulation (check all that apply) : Task Trainer Mannequin Actor/SP

Scenario recording requested <input checked="" type="checkbox"/> yes <input type="checkbox"/> no	Classroom needed <input type="checkbox"/> yes <input checked="" type="checkbox"/> no	Debriefing Room needed <input checked="" type="checkbox"/> yes <input type="checkbox"/> no
---	---	---

PARTICIPANT INFORMATION

Disciplines:	Total Number:	Number per Sim:
RNs		1-2
MDs		
RTs		
Pharmacists		
CSTs		
Other		

LEARNING OUTCOMES

**Team STEPPS® competencies (leadership, mutual support, situation monitoring, communication) are to be incorporated into every simulation to promote patient safety (ahrq.gov, 2017)*

General Learning Outcomes (to be disclosed to participants)

Appropriate nursing care of PP HTN pt

Scenario Specific Outcomes (for facilitator only)

Objectives:

1. Learner will complete an SBAR report to a Physician.
2. Learner will find and place the appropriate orders given in EMR.
3. Learner will give Procardia appropriately.
4. Learner will follow blood pressure protocol after Procardia given.
5. Learner will find and place the appropriate orders for Labetalol in EMR and gather appropriate staff.

Expected cognitive skills to be demonstrated by participant:

- Assess• Understands what it means to have a hypertensive disorder in pregnancy diagnosis.
Discuss signs and symptoms of hypertensive disorder in pregnancy.
- Plan• Discusses warning signs of a hypertensive disorder.
- Implement Identify precautions used for hypertensive disorders (seizure precautions, timing of checks, decrease environmental stimuli, etc).
Discusses seizure precautions and decreased environmental stimuli (low lights, quiet environment, and padded side rails).
- Evaluate Understands warning signs of a hypertensive disorder.
- Document Discuss the appropriate documentation guidelines.

Expected psychomotor skills to be demonstrated by participant:

- Performs proper assessment of hypertensive patient.
- Recognizes signs and symptoms, lab values, and vital signs associated with hypertensive disorder.
- Performs neuro assessment, including level of consciousness, DTRs, presence of visual disturbance, headache, and epigastric pain.

Expected affective skills to be demonstrated by participant:

- Demonstrates assessment of patient and notifies physician using SBAR.
- Documents assessments and practices appropriately in the EMR.
- Commits to providing patient comfort and safety.

PRE-BRIEFING INFORMATION

Pre-requisite Knowledge/Reading/Testing (provide references on last page):

- POEP
Module 8 Complications of Pregnancy, Part 2
- CBT
FHCI Hypertensive Disorders in Pregnancy

Policy:

Hypertensive Disorder in Pregnancy

Critical Element:

Magnesium Sulfate

NOTE TO FACILIATORS: Prior to beginning the simulation, participants must be oriented to simulator and/or setting, understand guidelines and expectations for their scenario(s), have completed all pre-work, and understand their assigned roles.

Pre-Briefing Report to Participants

PATIENT	Tonya		AGE/SEX	28 year old		ADMISSION WEIGHT			
PRIMARY MD	Foxlow or Fam Med MD			PROCEDURE	Vaginal delivery				
CONSULTS				CODE STATUS	Full				
DX	Vaginal delivery, HTN			PASSWORD					
CURRENT PROBLEM	2 nd day PP, HTN			NEXT OF KIN	Husband- Tyler				
				DIET	Regular				
HX	39 weeks Vaginal delivery HTN- took Labetalol 100mg daily during pregnancy (nothing after delivery)								
ALLERGIES	PCN								
MEDICATIONS	Stool softener Ibuprofen 600mg q8h								
SAFETY/PRECAUTIONS	None								
RESTRAINTS	None								
CURRENT CONDITION				<input type="checkbox"/> VENT	<input type="checkbox"/> ETT	SIZE		LOCATI ON	PP room
SKIN		PAIN	2 /10 but comfortable	MODE		RATE		<input type="checkbox"/> PEEP	
CARDIO/RHYTHM/PULSES				FIO2		<input type="checkbox"/> PS		<input type="checkbox"/> NC	<input type="checkbox"/> CPAP/BIPAP
RESP	Clear			<input type="checkbox"/> IV LINES	None				
NEURO	A/Ox3, DTRs normal			<input type="checkbox"/> PICC/CVL		<input type="checkbox"/> ART			
GI/GU	BM	Pos	VOID	Normal	<input type="checkbox"/> MIVF				
		<input type="checkbox"/> FOLEY	none		<input type="checkbox"/> DRIPS	none			
TUBES	<input type="checkbox"/> NG/OG	<input type="checkbox"/> JP	<input type="checkbox"/> CT						
I/O									
VITALS	Under call orders until this one								
ACTIVITY	Up ad lib								
SUGGESTIONS/RECOMMENDATIONS/REQUESTS TO MD/NURSE									

S

B

A

R

Call MD for orders	
ORDERS	<p>Notify Physician Vitals/Other</p> <p>Temp greater than: 100.4</p> <p>Heart rate greater than (beats/min): 120</p> <p>Systolic BP greater than: 150</p> <p>Diastolic BP greater than: 100</p> <p>Other: Abnormal vaginal bleeding</p> <p>Routine, UNTIL DISCONTINUED, starting today at 1552, Until Specified, May shower.</p> <p>Diet Regular, DIET EFFECTIVE NOW, starting today at 1552, Until Specified</p> <p>Laboratory</p> <p>Only order the Rh Workup if indicated and not done previously.</p> <p>CBC without differential, AM DRAW, First occurrence tomorrow at 0600</p> <p>Meds</p> <p>acetaminophen tab, 650 mg, Oral, EVERY 4 HOURS PRN, For mild pain</p> <p>HYDROcodone-acetaminophen (NORCO) 5-325 mg per tablet, 1 Tab, Oral, EVERY 4 HOURS PRN, Pain, For moderate pain</p> <p>ibuprofen (ADVIL,MOTRIN) tablet, 600 mg, Oral, EVERY 6 HOURS PRN, Pain, for moderate pain</p>
ANTICIPATED CHANGES OR OTHER ISSUES	
PENDING LABS	

SET UP/RESOURCES
(for simulation center staff)

Simulation Setting

- | | |
|---|--|
| <input type="checkbox"/> ER
<input type="checkbox"/> Med-Surg
<input type="checkbox"/> Pediatrics
<input type="checkbox"/> ICU
<input type="checkbox"/> OR / PACU | <input checked="" type="checkbox"/> Women's & Children's
<input type="checkbox"/> Behavioral Health
<input type="checkbox"/> Home Health
<input type="checkbox"/> Pre-Hospital
<input type="checkbox"/> Doctor's office/clinic (table, chairs and exam table)
<input type="checkbox"/> Other: |
|---|--|

Time of Day: 0800

Is the patient a mannequin or a Standardized Patient (SP)? mannequin

Appearance of Mannequin

Clothing gown	Moulage	Incisions/Dressings
---------------	---------	---------------------

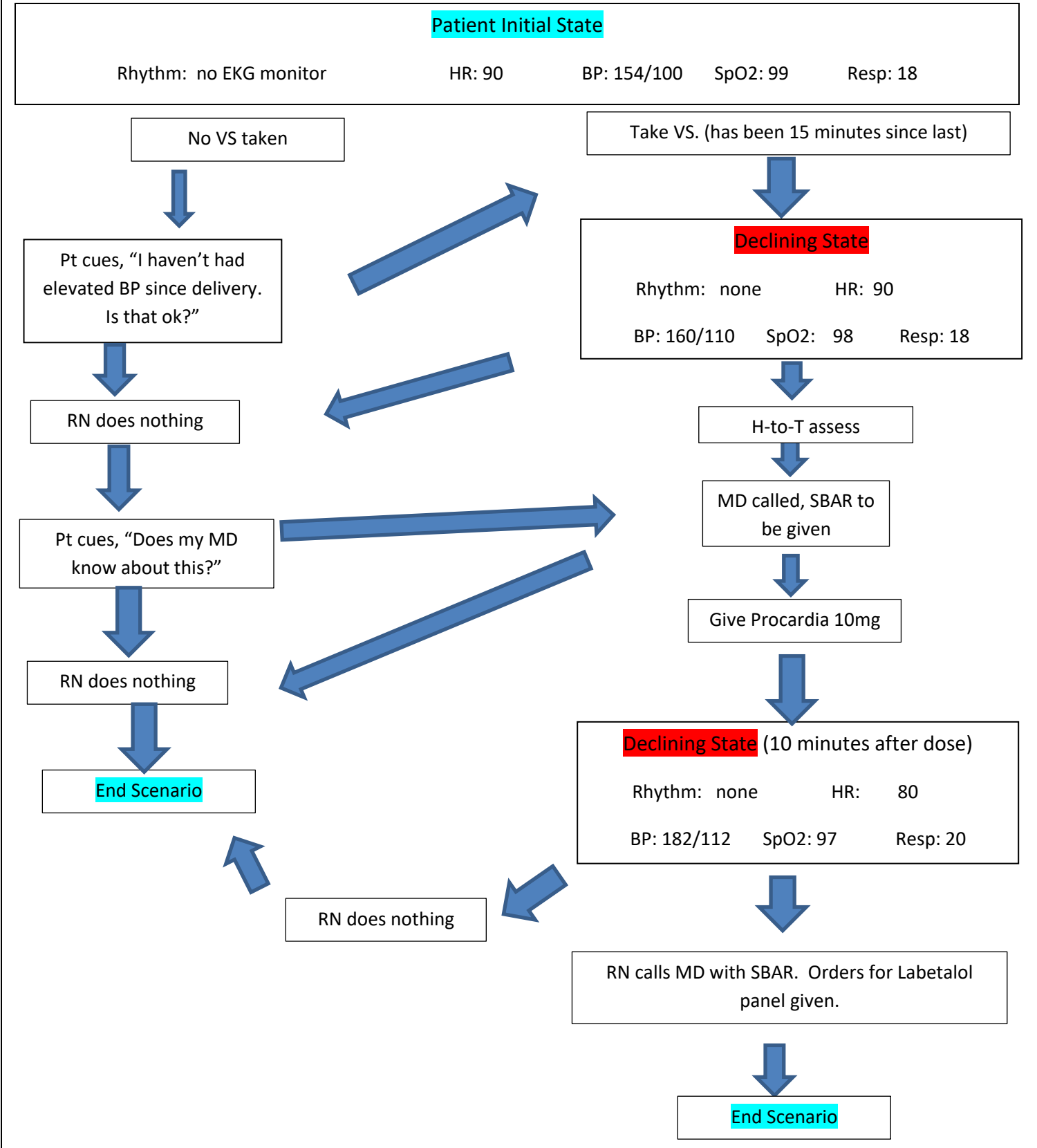
Appearance of Actor/SP

Clothing	Moulage	Incisions/Dressings
----------	---------	---------------------

Monitor Waveform Setup		
EKG/HR <input checked="" type="checkbox"/>	RR <input checked="" type="checkbox"/>	O2 Sat <input checked="" type="checkbox"/>
BP <input checked="" type="checkbox"/>	Arterial Line <input type="checkbox"/>	PAP <input type="checkbox"/>
ETCO2 <input type="checkbox"/>	Other:	
Equipment attached to patient		
ECG Monitor <input type="checkbox"/>	BP Cuff <input type="checkbox"/>	Arterial/PA lines <input type="checkbox"/>
Oxygen Sat Probe <input type="checkbox"/>	NG tube <input type="checkbox"/>	Foley <input type="checkbox"/> Urine Color:
Chest Tube <input type="checkbox"/>	Vent <input type="checkbox"/>	IV line <input type="checkbox"/>
ID Band/MRN <input checked="" type="checkbox"/>	Allergy Band <input type="checkbox"/>	IO <input type="checkbox"/> SCDs <input type="checkbox"/>
Fall Blanket/Footies <input checked="" type="checkbox"/>	Other:	
IV Type		
PIV <input type="checkbox"/>	Saline Lock <input type="checkbox"/>	Central Line <input type="checkbox"/>
PICC <input type="checkbox"/>	UVC/UAC <input type="checkbox"/>	
IV Fluids/Rate		
NS	D5	D10
LR	Other:	
Rate of Fluids:		
Medications (to be retrieved from Pyxis)		
PO	IVP	IVPB
1. Procardia (20mg Capsule)	1. Labetalol (20mg)	
Medication Equipment Available in the Room		
IV Pump <input type="checkbox"/>	Number of channels	IV Pump Tubing <input type="checkbox"/>
IV Piggyback tubing <input type="checkbox"/>	IV gravity tubing <input type="checkbox"/>	Extra IV tubing <input type="checkbox"/>
Syringes/#/Size 1 10ml NS syringe	Needles/#/size	Med cart/Pyxis Needs to have Procardia (pill), Labetalol IV push
IV start supplies/angio gauge Yes, 18 gauge with Y site and IV start kit	Art Line <input type="checkbox"/>	PA Catheter <input type="checkbox"/>
Pressure bag <input type="checkbox"/>	Syringe pump <input type="checkbox"/>	Syringe pump tubing <input type="checkbox"/>
IO <input type="checkbox"/>	Umbilical Line <input type="checkbox"/>	Other
Cardiac Equipment Available in the room		
12 lead ECG machine <input type="checkbox"/>	Code Cart <input type="checkbox"/>	Defibrillator <input type="checkbox"/>

Temp Pacemaker <input type="checkbox"/>	Telemetry Pack <input type="checkbox"/>	AED <input type="checkbox"/>
Respiratory Equipment Available in the room		
Nasal cannula <input checked="" type="checkbox"/>	Simple Facemask <input type="checkbox"/>	Venturi Mask <input type="checkbox"/>
Non-rebreather <input type="checkbox"/>	IS <input type="checkbox"/>	Trach <input type="checkbox"/>
BiPAP/CPAP <input type="checkbox"/>	Vent <input type="checkbox"/>	Suction <input type="checkbox"/>
Suction cath/#/size	Intubation box <input type="checkbox"/>	Other
GI Equipment Available in the room		
NG/OG <input type="checkbox"/>	G tube <input type="checkbox"/>	Feeding pump <input type="checkbox"/>
Feeding bag <input type="checkbox"/>	Dining tray <input type="checkbox"/>	Other:
GU Equipment Available in the room		
Foley <input type="checkbox"/>	Condom catheter <input type="checkbox"/>	SP catheter <input type="checkbox"/>
Urinal <input type="checkbox"/>	Bedpan	Other:
Other Supplies		
TED hose <input type="checkbox"/>	SCDs <input type="checkbox"/>	Dressing Supplies <input type="checkbox"/>
Venipuncture <input type="checkbox"/>	Blood tubes <input type="checkbox"/>	Culture tubes <input type="checkbox"/>
Thermometer <input checked="" type="checkbox"/>	Pen light <input type="checkbox"/>	Fall blanket/footies <input type="checkbox"/>
Any additional set up notes for sim staff: stethoscope, reflex hammer, QR codes		

Scenario Progression Storyboard



Progression Outline

Timing	Patient verbal and/or non-verbal communication	Participant expected behaviors/interventions	Patient Response (potential cues for participant if needed?)
Beginning (0-2 mins)	<ul style="list-style-type: none"> Pt concerned as she has not had any elevated BP in PP. 	<ul style="list-style-type: none"> Blood pressure retaken in 15 minutes after previous one. 	<ul style="list-style-type: none"> "I haven't had elevated BP since delivery. Is that ok?"
2-5 mins	<ul style="list-style-type: none"> Pt still concerned, becoming anxious 	<ul style="list-style-type: none"> MD gives orders for Procardia PO panel. RN places panel orders in EMR. Procardia 10mg given. 	<ul style="list-style-type: none"> Pt cues, "Does my MD know about this?"
5-10 mins	<ul style="list-style-type: none"> Pt still concerned, becoming anxious Pt questioning what is going on 	<ul style="list-style-type: none"> Blood pressure retaken continually above call orders (increasing rapidly). H-to-T assessment completed Ask questions: HA? Blurry vision/vision changes? Epigastric pain? Listen to lung and heart sounds Perform clonus and reflex assessment (DTR) Document findings in EPIC 	<ul style="list-style-type: none"> HA 6 out of 10, Blurry vision Epigastric pain, sharp, stabbing pain on my right side, "I don't feel well." +1 beat Clonus BL Brisk Reflexes BL

10-15 mins		<ul style="list-style-type: none"> • Repeat VS (BP and HR) • RN SBAR to MD. • Labetalol panel orders given. • RN needs to: call for IV start, EKG monitoring (ACLS provider or Rapid), • RN puts appropriate panel order in EMR • Gets appropriate medication dose 	<ul style="list-style-type: none"> • Am I okay? • Will this new medication affect my breastmilk?
End of Scenario (When objectives met? At specified time period)		<ul style="list-style-type: none"> • Have all appropriate people in place (ACLS provider, IV, and medication). • Verbalizes how often to take BP after giving medication and what assessments. 	

SP role description

Name and Role in scenario (Patient? Family member?)

Brief Scenario Summary

Patient location

History pertinent to simulation	
Mental State/Demeanor	
Questions/comments SP may verbalize during scenario	
SP Observations	How does the staff communicate with you and with each other?

DEBRIEFING GUIDE

With Video

Without Video

Debriefing/Guided Reflection Questions:

1. How did you feel throughout the simulation experience
2. Tell me what went well.
3. Let's review the objectives and discuss whether we were successful or not

General learning outcome(s)
Appropriate nursing care of PP HTN pt
Scenario Specific Outcomes *Copy from page 2 of this form*
<p>Objectives:</p> <ol style="list-style-type: none"> 1. You completed an SBAR with the physician how did that feel? Tell me about the experience. 2. Tell me about how placing the orders in the EMR went. 3. What medication did you give your patient? How did that feel? Comfortable/need more practice? 4. Tell me about your next steps once you are in the HTN protocol. 5. Your patient needed further medication, tell me about what was ordered and your steps.

4. If you were able to repeat the scenario, what would you do differently?
5. What GAPS did you identify in your own knowledge base and/or preparation for the simulation experience?
6. Talk about how you will transfer what is learned during this experience to your work setting.
7. Is there anything else you would like to discuss?

Evaluation Tools

Attach to this page the evaluation tools (surveys, tests) that you plan to use

References

List references for your educational content

ahrq.gov. (2017, August). *TeamSTEPPS 2.0 Team Strategies and Tools to Enhance Performance and Patient Safety*. Retrieved from <https://www.ahrq.gov/sites/default/files/wysiwyg/professionals/education/curriculum-tools/teamstepps/instructor/essentials/pocketguide.pdf>

MD speaking parts

Actions	Statements
SBAR called to MD	Hello, _____. What is going on? Yes, that is my patient.
RN gives BPs	Any signs and symptoms? How is her DTRs? Blurry vision? Headache? Epigastric pain? How many days postpartum is she? Does she have an IV?
After answers	Start the Procardia panel since she does not have an IV. Call me in an hour with an update.

MD speaking parts

Actions	Statements
SBAR called to MD	Hello, _____. What is going on?
RN talks about blood pressures	How is she now? Her blood pressures are increasing? Did the Procardia lower her Blood pressure at all?
After answers	Any signs and symptoms now? How is her DTRs? Blurry vision? Headache? Epigastric pain? What are her current vital signs?
RN answers	Sounds like we need Labetalol. Start an IV and the Labetalol panel. I will come up and see her.

SMM Denominator | Preeclampsia

Among the overall birth admit codes, limiting to patients with preeclampsia as below

Severe Preeclampsia or Eclampsia diagnosis

ICD-9	ICD-10	Descriptions	Note
642.5x	O11.1	Pre-existing hypertension with pre-eclampsia, first trimester	
642.6x	O11.2	Pre-existing hypertension with pre-eclampsia, second trimester	
642.7x	O11.3	Pre-existing hypertension with pre-eclampsia, third trimester	
	O11.4	Pre-existing hypertension with pre-eclampsia, complicating childbirth	
	O11.5	Pre-existing hypertension with pre-eclampsia, complicating the puerperium	
	O11.9	Pre-existing hypertension with pre-eclampsia, unspecified trimester	
	O14.10	Severe pre-eclampsia, unspecified trimester	
	O14.12	Severe pre-eclampsia, second trimester	
	O14.13	Severe pre-eclampsia, third trimester	
	O14.14	Severe pre-eclampsia complicating childbirth	
	O14.15	Severe pre-eclampsia, complicating the puerperium	
	O14.20	HELLP syndrome (HELLP), unspecified trimester	
	O14.22	HELLP syndrome (HELLP), second trimester	
	O14.23	HELLP syndrome (HELLP), third trimester	
	O14.24	HELLP syndrome, complicating childbirth	
	O14.25	HELLP syndrome, complicating the puerperium	
	O15.00	Eclampsia in pregnancy, unspecified trimester	
	O15.02	Eclampsia in pregnancy, second trimester	
	O15.03	Eclampsia in pregnancy, third trimester	
	O15.1	Eclampsia in labor	
	O15.2	Eclampsia in the puerperium	
	O15.9	Eclampsia, unspecified as to time period	