WASHINGTON STATE BLUE BAND INITIATIVE

Emergency Department Blue Band Awareness & Perinatal Hypertension Education Toolkit

2025

Developed by Kat Wright, DNP, RNC-OB, C-EFM, C-ONQS for University of Washington DNP final project in collaboration with
Washington State DOH and Washington State Blue Band Work Group

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INTRODUCTION

Purpose

This handbook serves as a reference guide for Emergency Department (ED) staff on the recognition, management, and treatment of hypertensive disorders of pregnancy and postpartum (HDPP). It outlines hypertension education and Blue Band awareness to ensure timely intervention, standardized protocols, and consistent care for at-risk patients.

Goal

The goal of this handbook is to improve maternal health outcomes by equipping ED providers with the necessary knowledge and tools to quickly identify and manage pregnant and postpartum patients at risk of severe hypertensive complications. Through standardized protocols and the Blue Band Initiative, ED staff can enhance patient safety, reduce delays in treatment, and facilitate appropriate referrals.

Equity and Disparities in Hypertensive disorders in Pregnancy & Postpartum

HDPP disproportionately affect Black, Indigenous and People of Color (BIPOC) patients and those who live in rural areas**,** who experience higher rates of complications and maternal mortality due to systemic inequities in healthcare access and treatment.[1–3] Addressing these disparities requires equitable care strategies, improved provider awareness, and standardized clinical responses to ensure all patients receive high-quality, evidence-based care in the ED.

Clinical Relevance for ED Staff

Hypertensive disorders are one of the leading causes of maternal morbidity and mortality, and early intervention is critical.[1,4–6] Delayed recognition and treatment can lead to life-threatening complications, including stroke, seizure, organ failure, and cardiovascular disease.[1,6,7] The Blue Band Initiative can support ED staff in quickly identifying high-risk patients and ensuring appropriate clinical responses across healthcare settings.

Emergency providers are trained to respond to hypertensive emergencies using thresholds of ≥180/120 mmHg. However, in pregnancy and postpartum, a lower threshold of ≥160/110 mmHg defines severe hypertension, as these patients may not have a history of chronic hypertension and are at greater risk of rapid deterioration including stroke and end organ damage. The key difference underscores the importance of early identification and rapid treatment, even when BP readings may not seem emergent by usual ED standards.

What is the Blue Band Initiative?

The Blue Band Initiative is a Washington State Department of Health initiative designed to improve the identification and management of HDPP.[8] Patients diagnosed with preeclampsia, gestational hypertension, or chronic hypertension with superimposed preeclampsia may receive a (blue) wristband from their prenatal care provider or at hospital discharge. This serves as a visual alert for ED staff to assess the patient for hypertensive complications and initiate timely management.

Key Objectives:

This toolkit was developed to support implementation of the Washington State Blue Band Initiative in ED settings. The objectives below guide the structure, education and procedures provided throughout this handbook.

- Increase provider awareness of hypertensive disorders in pregnancy and postpartum.
- Standardize evaluation and treatment protocols for at-risk patients in the ED.
- Enhance patient education and self-advocacy for those with HDPP.
- Improve communication and care coordination between ED, obstetrics, and primary care.

Recognizing and Managing HDPP in the ED

Why This Matters for ED Staff

Emergency departments often serve as the first point of contact for patients experiencing hypertensive complications in pregnancy or postpartum.[1,7,9] Recognizing a Blue Band on a patient should prompt:[7,9–12]

- A focused assessment and evaluation for hypertensive symptoms.
- Immediate blood pressure measurement and recognition of severe-range readings.
- Initiation of appropriate clinical protocols based on hospital guidelines.
- Consideration for OB consultation or transfer when necessary.

Time-Sensitive Treatment for Severe Hypertension[1,6,7,11,12]

- Patients with severe-range blood pressure (SBP ≥ 160 and/or DBP ≥ 110) require antihypertensive treatment within 60 minutes of identification.
- Early intervention improves outcomes for both the birthing parent and infant.

Patient Education and Advocacy in the ED[7,11]

Educating patients on the signs, symptoms, and risks of HDPP is essential for preventing severe complications. The Blue Band serves as both a visual identifier for providers and a reminder for patients to monitor their health and seek urgent medical care when needed.

Using this Handbook

By integrating the Blue Band Initiative into ED protocols and staff training, emergency teams can play a critical role in reducing maternal morbidity and mortality related to hypertensive disorders of pregnancy.

This handbook provides information on:

1. Implementation[1,12,13]
Developing & Rolling Out Protocols – Ensuring seamless integration of standardized care expectations into ED workflows.
Training & Onboarding Staff – Implementing structured education sessions, drills, and real-time coaching.
Resource Allocation – Identifying essential tools and ensuring accessibility for all ED staff.
Key Partner Engagement – Involving key champions from ED, OB, anesthesia, administration, and leadership for buy-in and long-term sustainability.
Pilot Testing & Refinement – Running small-scale implementation trials to identify barriers and improve protocols before full-scale rollout.

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2. Recognition & Assessment [7,11,14]
Guidance & Standardized Care Expectations – Ensuring everyone knows what to look for and how to respond appropriately to HDPP.
Recognition & Assessment – Establishing best practices for screening, identifying, and triaging patients at risk for HDPP.
Nursing Assessments & Monitoring – Structured monitoring of vital signs, BP trends, and warning signs to catch deterioration early.

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3. Management & Protocols [6,7,9–11,14–16]
Emergency Management Protocols – *"Wait and see"* is not a management strategy for a hypertensive crisis. This covers rapid response, first-line treatments, and escalation of care.
Management and Protocols – The grand roadmap of care, covering medications, treatment timelines, and escalation steps.

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4. Communication & Collaboration [7,10,11,13,17]
Key Partners and Champions – Identifying the essential players who drive successful implementation and advocacy

Communication & Collaboration – Coordinating between ED, OB, anesthesia, and other departments to ensure a smooth, seamless, and shockingly well-functioning system.
System Integration & Monitoring – Ensuring protocols are actively implemented, continuously evaluated, and refined for ongoing improvements.

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5. Education & Awareness [7,9,11,18]
Training & Implementation – Provide training and education for ED staff, including providers, nursing and front desk personnel on the rationale, key principles and best practices for HDPP management. Emphasize the significance of early recognition and intervention.
Blue Band Initiative Awareness – Ensure all ED personnel understand the purpose and clinical implications of the Blue Band Initiative, reinforcing its role in identifying and prioritizing care for at-risk patients.
Additional Considerations – Address critical insights and supporting information that enhance understanding and reinforce best practices but do not fall under the primary training and education categories.

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6. Evaluation & Measurement [11–13]
Outcome Measures – Focused on early detection and timely intervention, ensuring all pregnant and postpartum patients in the ED are screened for elevated blood pressure and that case reviews assess care effectiveness.
Process Measures – Tracking real-time actions such as pregnancy/postpartum screening, timely antihypertensive treatment, and optimized transfer protocols to improve patient outcomes.
Structure Measures – The foundation of readiness, including standardized hospital policies, provider education, and staff training to ensure consistent, high-quality HDPP management.
Feedback & Continuous Improvement – Gathering data from frontline providers, patients, and key members to refine workflows and enhance effectiveness.
Equity & Disparity Analysis – Ensuring that improvements in HDPP recognition and management benefit all patient populations equitably, particularly high-risk groups.

IMPLEMENTATION & PLANNING GUIDE

Implementation Guidance

Implementation of the Blue Band Initiative and maternal safety bundles must be tailored to each facility's unique resources and priorities—there is no one-size-fits-all approach.[7,12,13] Hospitals can implement the initiative incrementally or all at once, but achieving sustainable, system-wide improvements is key to improving maternal outcomes.[7]

A rapid-cycle Plan-Do-Study-Act (PDSA) approach is recommended for continuous quality improvement.[7,12,13] Successful implementation relies on team-based efforts, which can range from small groups to larger committees, ensuring the work is not dependent on a single person but rather an integrated, repeatable process.[7,10]

To effectively implement the toolkit and safety bundles, facilities should focus on measurement in three key areas:[11,13]

Outcomes – Measure impact and effectiveness to drive improvements.
Process – Develop workflows and protocols for seamless integration.
Structure – Establish a clear framework for implementation.

Steps and considerations

Education & Training:

- Train ED staff on HDPP warning signs and Blue Band significance.
- Provide laminated quick-reference guides and posters for easy access.

Key Member Engagement:

- Include obstetrics, emergency, and nursing leaders in the toolkit rollout.
- Gather feedback during implementation to refine practices.

Monitoring & Feedback:

- Regularly review incident logs and patient outcomes to identify improvement areas.
- Conduct follow-up surveys to assess staff knowledge retention and toolkit efficacy.

Table 1. Planning Guide: Project Scope and Action Plan

Project	Project Manager	Date
Blue Band Initiative /ED education		

Purpose				
Scope				
In scope		**Out of scope**		
Project Deliverables				
Constraints				
Assumptions				
Action Plan				
Action Item	**Who is responsible**	**Due Date**	**Status (in progress/ complete)**	**Comments**
Provider education				
Nursing education				
ED/NPD Connection				
Patient education				
Supplies needed				
Develop workflow				
Documentation				
Implementation Analysis				

Credit: MultiCare Hospital System – example below

Project Scope & Action Plan TG

Project	Project Manager	Date
Blue Band Initiative	Rachel	Go live: June 4, 2024

Purpose

- Hypertensive disorders in WA affect 12-22% of pregnancies.
- WA State DOH is implementing a campaign and funds across the state for pregnant and postpartum patients at-risk for preeclampsia: Washington Blue Band Initiative | Washington State Department of Health
- Earlier recognition and treatment improve morbidity and mortality.
- Chronic HeROs report delays and sometimes mismanagement of preeclamptic patients presenting to the emergency room.

Scope Description

In Scope	Out of Scope

• Inpatient
  ◦ Pregnant ≥ 20 weeks, or
  ◦ Postpartum: 0-6 weeks postpartum AND
  ▪ Hypertension order set used during above timeframe
  ▪ Chronic hypertension (hypertensive grouper diagnosis)
  ▪ Preeclampsia diagnosis	

Project Deliverables

- **Go Live June 4th –** able to immediately start distributing bands and patient education

Project Exclusions

Constraints

- Workflow for outpatient setting
  - Epic interface not available for ambulatory setting currently

Assumptions

- EMS awareness
- Availability of supplies to order
- Epic build
  - "Preeclampsia risk" bubble appears:
    - ED Storyboard
    - Clinic Storyboards
      - OB
      - Primary Care
    - OB Storyboard

Action Plan

Action Item	Who is Responsible	Due Date	Status (In progress, complete)	Comments/Notes

Figure. 1a: Project Scope & Action Plan
Source: MultiCare

Project Scope & Action Plan TG

Provider Education	Dr Molina		x	Meet with Dr Molina on 5/20 at Leader Connect to discuss
Nursing Education	Rachel	5/24	x	• Practice Alert (from Zibby) • Info session for OB and ED Providers and Nursing staff • Huddle script complete • Summer newsletter
ED/NPD Connect	Rachel	5/22	x	• Review Education
Patient Education	Rachel			**** order from Print Shop** • Preeclampsia rack card (62-1677-5) • Patient Education Sticker (62-1679-7) • How to Take my BP (62-1678-6)
Supplies	Sierra		Complete	• Bands • Blood Pressure Cuffs

Workflow	Susan and Mandy			Criteria to give Blue Band:
				• Pregnant ≥ 20 weeks, or
				• Postpartum: 0-6 weeks postpartum AND
				  • Hypertension order set used during above timeframe
				  • Chronic hypertension (hypertensive grouper diagnosis)
				  • Preeclampsia diagnosis
				
				Where to store and how to provide?
				
				When to give?
				• On discharge

Documentation • Outpatient and inpatient	Rachel			Discharge Checklist 
Analysis of Implementation	Leaders			Track bands given Readmission rates

Figure. 1b: Project Scope & Action Plan
Source: MultiCare

Table 2. Blue Band ED Key Driver Diagram

Severe Hypertension in Pregnancy and Postpartum ED Education and Blue Band Awareness		
Goal 1: Increase identification and treatment for severe hypertension within 1 hour. By XXX, Increase # pregnant and postpartum patients with acute-onset severe hypertension who are treated within 1 hour of first BP >160/110 by X% **Goal 2:** Increase awareness of Blue Band as a visual cue to identify some patients at risk for HDPP by X%.		
Primary Drivers	**Secondary Drivers**	**Change Ideas**
Unit policy/procedure for hypertension in pregnancy and postpartum patients	1. Adopt standard diagnostic criteria, monitoring & treatment for severe hypertension, preeclampsia, & eclampsia. 2. Develop a process for timely triage of pregnant & postpartum women with hypertension including ED and outpatient areas. 3. Rapid access to medications used for severe hypertension/eclampsia 4. Adopt a standard process for the measurement and assessment of BP for all pregnant & postpartum women. 5. Adopt a standard response to maternal early warning signs including listening to & appropriately investigating patient symptoms, noticing Blue Band & lab assessment. 6. System plan for escalation, obtaining appropriate consultation & maternal transport as needed. 7. Facility wide standard process with checklists & escalation policies for management and treatment of for severe hypertension/eclampsia	· Implement standard order sets & algorithms. · Postpartum patients presenting to the ED/outpatient areas with hypertension, preeclampsia or eclampsia are either assessed by or admitted to an obstetrical service if available · Implement Emergency department's initial screening question: Are you pregnant or were you pregnant in the last 6 weeks · Medications stocked & readily available · Include a brief guide for administration & dosage · Develop protocol for assessing BP. Educate staff on BP process. · Ensure BP measurement and assessment protocol meets minimum required components as found in AIM patient safety bundle. · HTN educational & Blue Band awareness posters in unit

Integrating maternal hypertension and Blue Band documentation into Electronic Health Records.	1. Adopt a standard process for the measurement, assessment and documentation in the medical record of BP for all pregnant and postpartum women. 2. Adopt standard diagnostic criteria, monitoring and treatment for severe hypertension, preeclampsia, and eclampsia to include order sets, algorithms and documentation. 3. Adopt documentation plan for follow-up plan for blood pressure check for women with HTN.	· Develop protocol for assessing BP & documentation into EHR. Educate staff on BP documentation. · Implement standard order sets and algorithms into EHR. · Develop standardized notification for early warning signs, symptoms, labs & Blue Band. Integrate into EMR. (PERT tool, MEWS chart) · Implement standard documentation for follow up plan for blood pressure check.
Hypertension education for all pregnant and postpartum patients at time of discharge.	1. Facility-wide standards for educating prenatal & postpartum women on signs & symptoms of preeclampsia and severe hypertension	· Investigate resources for patient education by including a woman on the design team. (example: Preeclampsia Foundation, AWHONN, ACOG)
Provide support for patients, family and staff related to severe hypertension cases.	1. Staff education & drills. 2. Support plan for patients, families and staff for serious complications of severe hypertension & ICU admissions.	· Unit education on protocols and unit-based drills (with post-drill debriefs). · Include patients in development of support plans for patients/ families.
Debriefs and multidisciplinary case reviews for cases of maternal severe hypertension	1. Adopt a standard process for multidisciplinary case reviews for severe hypertension. 2. Adopt a standard process for high-risk huddles for patients experiencing severe hypertension. 3. Adopt a standard process for unit wide de-briefs following cases of severe hypertension.	· PDSA case review processes. · Identify nursing & medical champions to test huddle implementation · Choose a simple debrief tool and test it before implementing. · Document problem areas & confirm best practices. Post for all staff to see results of debrief/ case reviews.

Key Planning Considerations for ED:

Triage Protocols and Early Screening

Implement ED triage procedures to ensure early screening for pregnancy or postpartum status and hypertension.[13]

Establish BP screening, treatment, and transfer policies to streamline ED workflows.

Staff Education and Training

Implement structured education programs for non-OB ED providers to enhance recognition of hypertensive disorders of pregnancy (HDPP) and appropriate escalation strategies.[9]

Provide laminated quick-reference guides, posters, and clinical pathways to ensure easy access to emergency management protocols.[11]

Ensure timely data collection and review to measure program effectiveness and improve quality of care.

Data Collection and Continuous Improvement

- Timely data collection and case review are crucial for assessing the effectiveness of the Blue Band Initiative and improving maternal safety protocols.[7,11]
- Conduct follow-up staff surveys and debriefs to assess knowledge retention and refine protocols[11,13]

Policies, Order Sets, and Quick References Related to HDPP and the Blue Band Initiative

OB ED Protocols

- Triage/Admission: Standardized assessment for pregnancy/postpartum status and hypertensive risk factors.[7]
- Severe Hypertension OB - Emergent Treatment: Rapid administration of first-line antihypertensives (IV labetalol, hydralazine, or oral nifedipine) within 60 minutes.[7,9,11,15]
- Maternal Early Warning Trigger (MEWT)/Preeclampsia Response Team (PERT): Guidelines for early escalation and OB consultation. [7,9,19]
- Magnesium Sulfate IV Administration: Order set for seizure prophylaxis in patients with severe preeclampsia/eclampsia.[7,9,15]
- ED Triage for Pregnant/Postpartum Patients: Early identification and referral to OB specialists if needed.[7,9,15]

Order Sets

- OB Hypertension Crisis Orders: Immediate intervention plan for severe-range hypertension (SBP ≥160 and/or DBP ≥110 mmHg).[7,11]

- Magnesium Sulfate for Gestational Hypertension (GHTN): Pre-defined dosing for seizure prevention in high-risk patients.[7,15]

Quick References

- HTN Magnesium Quick Reference: Guidelines for IV administration, monitoring, and toxicity management.[7]
- HTN Severe, HTN Worksheet: Checklist for ED staff to ensure adherence to treatment protocols and escalation criteria.[7,16,20]
- HTN Crisis Medication Reference: Dosing and administration guide for first-line antihypertensives in the ED[7,15]

EXAMPLE

EMERGENCY DEPARTMENT

Postpartum Preeclampsia Checklist

IF PATIENT < 6 WEEKS POSTPARTUM WITH:

- BP ≥ 160/110 or
- BP ≥ 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.

Magnesium Sulfate

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

IV access:

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

No IV access:

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

Antihypertensive Medications

For SBP ≥ 160 or DBP ≥ 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 min); **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 220 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 min
- ☐ **Diazepam (Valium)**: 5-10 mg IV q 5-10 min

Safe Motherhood Initiative

ACOG

Revised January 2019

Figure 2: Emergency Department Postpartum Checklist

RECOGNITION & ASSESSMENT

Recognition and Assessment

- **Early Identification**: The first step in the Emergency Department (ED) is to determine if a patient is pregnant or within the last 6 weeks.[7,11] Delayed postpartum preeclampsia can develop up to 6 weeks post-delivery, so ongoing vigilance in ED screening is necessary.[7,11]
- **Warning signs of hypertensive disorders**: include any of the following severe headache, vision changes, right upper quadrant pain, sudden severe swelling, shortness of breath, chest pain, and/or elevated blood pressure (≥140 mmHg systolic or ≥90 mmHg diastolic)[7,11]
- **Critical Symptoms:** elevated blood pressure (≥160 mmHg systolic or ≥110 mmHg diastolic) with presence or absence of warning signs above.[7,11]

Guidance & Standardized Care Expectations

- Ask every patient if they are currently pregnant or have recently given birth.[7,11]
- All ED staff should recognize the Blue Band as a visual cue indicating elevated risk for severe hypertension-related complications. NOTE***: Not everyone at risk for HDPP will be wearing a Blue Band.***

Nursing Assessments & Monitoring

Vital Signs & Observations:[6,7,11,15]

- If initial BP: ≥160/110
- Follow-up BP (after 15 min): ≥160/110 requires immediate treatment
- Note symptoms and risk factors

Reportable Conditions requiring urgent escalation:[6,7,11,16]

- **Severe hypertension** (Systolic ≥160 mmHg or Diastolic ≥110 mmHg).
- **Maternal heart rate abnormalities** (<50 bpm or >120 bpm).
- If pregnant, **fetal distress** indicated by abnormal fetal heart rate tracings.

ED Screening Checklist – Urgent Evaluation needed if ANY checked

Patient Questionnaire:

- ☐ Are you currently pregnant or pregnant within the last 6 weeks?
- ☐ Do you have a history of high blood pressure either before, during or after pregnancy?
- ☐ Are you wearing or were you given a Blue Band by your OB provider?
- ☐ Have you experienced any of the following symptoms: severe headache, vision changes, pain under the ribcage on the right side, or swelling?

MANAGEMENT & PROTOCOLS

Key Procedures

- Standardize care protocols for ED staff when assessing and treating pregnant or postpartum patients.[7,11,13]
- Prioritize immediate recognition and response for patients reporting current or recent pregnancy or wearing a Blue Band.[7]
- Follow established guidelines for triage, monitoring, and escalation of care.[7,11]

Emergency Management Protocols[6,7,11,13,15]

Use a multidisciplinary approach to managing severe hypertension, including:

- Immediate administration of antihypertensive medications per algorithm.
- Seizure prophylaxis with magnesium sulfate if indicated.
- Prompt consultation with OB or MFM recommended for any pregnant or postpartum patient presenting with severe hypertension or concerning symptoms. In settings without OB, initiate telemedicine or transfer protocols.
- Consulting higher levels of care and considering patient transfer when per your hospital's policies.
- Follow hospital-wide policies directing where hypertensive patients should be evaluated based on their gestational age or postpartum weeks (usually up to 6 weeks 0 days after the end of a pregnancy).
- Ensure ED staff are familiar with the algorithm for evaluation and treatment of severe hypertension

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ED Workflow Key Points

Identify pregnancy or postpartum status immediately

- When a patient presents to the emergency department (ED), the first step is to determine if they are currently pregnant or were pregnant within the last 6 weeks. If yes, assess immediately.[7,11]
- A Blue Band may help identify at-risk patients but always ask about recent pregnancy status because not every patient at risk will have a Blue Band.
- Create a site specific **Pregnant and Postpartum Patients Presenting to the Emergency Department** guideline for determining the appropriate site of care.
- If hypertensive crisis is suspected, initiate the **ED medication algorithm** in alignment with system-wide perinatal hypertension policies.

Recognize the risk of preeclampsia and eclampsia[7,11]

- All ED personnel should be familiar with the risk factors, signs, and symptoms of preeclampsia.
- Preeclampsia and eclampsia can develop or worsen in the postpartum period, even weeks after pregnancy ends.

Assess for symptoms[4,7,11]

- New-onset headache that is severe or persistent
- Visual disturbances such as blurry vision or flashing lights
- Right upper quadrant or epigastric pain
- Nausea and vomiting
- Shortness of breath, which may indicate pulmonary edema
- Oliguria, or low urine output
- Confusion or altered mental status

Hypertension and severe headache—consider stroke[7]

- If a pregnant or postpartum patient presents with hypertension and a severe headache, evaluate for stroke immediately and follow emergency stroke protocols. Do not delay treatment.

Additional Management Consideration[7]

- **Blood Pressure Management**: Severe hypertension requires (≥160 mmHg systolic or ≥110 mmHg diastolic) treatment within 30–60 minutes to prevent complications like seizure and stroke.
- Persistent or borderline severe BP readings (e.g., 162/105, 158/104, 165/100, 159/109 mmHg) are stroke risk values and require treatment with antihypertensive medication. Consider treatment at 155/105 mmHg based on evidence linking this threshold to increased maternal morbidity.
- If an initial severe BP (≥ 160/110 mmHg) is followed by a lower reading (e.g., 145/95 mmHg), immediate treatment is not required, but frequent BP monitoring is necessary to track trends and identify worsening hypertension.
- If BP rises again to a severe range within an hour, clinicians may choose to initiate treatment or take another reading within 15 minutes to confirm persistence while preparing medication.
- Delayed confirmatory BP (30–40 minutes later) still in severe range? Treat immediately. The 15-minute window is for defining persistent severe hypertension, not a reason to delay care.
- Key Action Point: One severe BP reading (≥160/110 mmHg) triggers BP checks every 15 minutes for at least one hour to guide treatment decisions.

POLICY/PROCEDURES

This policy guide ensures timely recognition, intervention, and escalation of care for pregnant and postpartum patients with hypertensive disorders. The policies outlined are specifically tailored to use in the emergency department (ED), while recognizing that hospital-wide policies for perinatal hypertension disorders may already exist. Integrating these ED-specific policies into broader institutional protocols can enhance consistency in care and facilitate alignment with existing guidelines.

To ensure accessibility for hospitals without obstetric services, these policies are designed to provide a template for clear guidance on the management of hypertensive disorders in the ED setting. Hospitals implementing the Blue Band Initiative should collaborate with nearby facilities to coordinate policies and establish clear referral pathways for patients seeking care outside of obstetric units.

The approach taken can include an ED-specific algorithm "Evaluation and Management of Severe Perinatal Hypertension" following ACOG's recommendations for emergency departments to provide standardization for all units while addressing the unique needs of both obstetric and emergency care settings. Additionally, the guideline can direct where patients with hypertension and related concerns should be evaluated based on their gestational age or postpartum duration in weeks + days.

These structured templated policies and guidelines aim to standardize evidence-based care pathways across all units while clarifying the role of ED providers in hypertensive emergency management.

Template 2: Hospital Policy for Emergency Departments identification and treatment Hypertension Disorders of Pregnancy or Postpartum

Policy Title: Emergency Departments identification and treatment hypertension disorders of pregnant or postpartum
Policy Number: [Insert Policy Number]
Effective Date: [Insert Date]
Review Date: [Insert Date]
Approved By: [Insert Approval Authority]
Purpose: This policy aims to enhance the recognition and management of hypertensive disorders in pregnancy and up to 6 weeks 0/7 days postpartum in the Emergency Department (ED).
Goal: To improve maternal health outcomes by ensuring timely identification, consistent care, and appropriate interventions for hypertensive disorders in pregnancy and postpartum (HDPP) along with awareness and recognition for patients wearing a Blue Band as a visual cue. **ALERT: Not all patients at risk for HDPP will be wearing a Blue Band.**
Scope: This policy applies to all healthcare providers, nursing staff, and ancillary personnel working in the Emergency Department and other relevant hospital units.

Definitions:

Hypertension disorders of pregnancy and postpartum (HDPP): Includes conditions such as preeclampsia, eclampsia, gestational hypertension, chronic hypertension, superimposed preeclampsia, and HELLP syndrome

Blue Band: A standardized visual bracelet-style identifier worn by pregnant and postpartum patients at risk for HDPP to alert healthcare providers to their elevated risk for complications such as preeclampsia, eclampsia, and stroke.

Policy Statement:

- ED staff will be able to recognize the Blue Band and understand its significance as noted above.
- Patients wearing a Blue Band should receive priority triage, evaluation and treatment for potential HDPP-related complications.
- This policy is designed to ensure consistent, evidence-based care for pregnant and postpartum patients across the hospital or healthcare system

Procedures:

- Develop written evidenced-based procedures for managing pregnant and postpartum patients with severe hypertension/preeclampsia that includes the following:
- Evidence-based set of emergency response medications that are stocked and immediately available, including seizure prophylaxis.
- Guidance on the following:
    - When to consult additional experts and consider transfer to a higher level of care
    - When to use continuous fetal monitoring
    - When to consider emergent delivery
    - When a team debrief is recommended

Note: The written procedures should be developed or reviewed by a multidisciplinary team that includes representation from obstetrics, emergency department, anesthesiology, nursing, laboratory, and pharmacy.

A. Screening and Triage

- All patients presenting to the ED should be asked if they are currently or recently pregnant, regardless pregnancy outcome (live birth, miscarriage, or abortion)

- Patients identified wearing a Blue Band should be immediately identified for careful assessment and prioritized for evaluation.

B. Clinical Assessment

- Conduct a thorough assessment, including:
  - Blood pressure measurement with validated BP monitor
  - Symptom evaluation (e.g., headache, vision changes, right upper quadrant pain, swelling in the hands or feet or overall edema including the face.
  - Relevant lab work if indicated (e.g., liver enzymes, platelets).
- Follow hospital protocol for ongoing blood pressure monitoring and medication administration.

C. Treatment and Escalation

- Administer antihypertensive therapy and magnesium sulfate as per guidelines for severe hypertension or preeclampsia with severe features.
- Engage a multidisciplinary team, including obstetrics and maternal-fetal medicine specialists, for complex cases

D. Documentation

- Record patient assessments, interventions, and outcomes in the electronic health record (EHR).
- Chart Medication Administration

E. Patient Education

- Provide information on HDPP warning signs, follow-up care, and the importance of wearing the Blue Band bracelet until instructed by a healthcare provider.

Roles and Responsibilities:

- **Check-in desk staff/Unit Secretary/First contact person:** Document patient symptoms for triage, obtain brief pregnancy history, look and ask about Blue Band.
- **Nurses**: Look and ask about Blue Band, obtain pregnancy history, assess and monitor patient, administer medications, and provide education.
- **ED Providers**: Conduct assessments and initiate appropriate treatment. Collaborate with patient regarding next steps. Provide care with informed consent.

- **Leadership**: Ensure compliance with training and implementation. Review quality metrics and offer staff education and additional training opportunities when needed.

Monitoring and Evaluation:

- Conduct regular audits of patient outcomes and adherence to the policy.
- Review incident reports to identify areas for improvement.

References:

- ACOG Guidelines on Hypertensive Disorders in Pregnancy.[6,15]
- CMQCC[7]
- Hospital-specific protocols

Policy Example 1: **Emergent Hypertensive Therapy for Pregnancy and Postpartum in Emergency Department**

PURPOSE: To define assessment and management of pregnant and postpartum patients identified in ED with severe hypertension using a Maternal Early Warning Trigger (MEWT) system. Severe hypertension is considered a hypertensive emergency. Prompt identification and treatment reduce adverse patient outcomes.

DEFINITIONS:
Severe Hypertension: Acute onset severe hypertension (Systolic BP ≥ 160 OR Diastolic BP ≥ 110) on two occasions ≥15 minutes apart when accurately measured (ACOG, 2020).
The Maternal Early Warning Trigger (MEWT) system was designed to reduce maternal morbidity by early identification and a standardized and prompt response.

POLICY: Pregnant and postpartum patients identified with severe hypertension are immediately assessed and treated in ED, prior to transfer to L&D. Ideally, medication is administered within 30-60 minutes following diagnosis of severe hypertension.

PERFORMED BY: Healthcare personnel

PROCEDURE:

- Notify the provider immediately with the first event of severe hypertension, defined as a systolic blood pressure **≥160 mmHg**, or a diastolic blood pressure **≥ 110 mmHg**. Document BP and provider notification in EMR.
- RN or provider will retake the patient's blood pressure within 15 minutes.
    - Mercury sphygmomanometer is gold standard, although staff can use validated equivalent automated equipment.

○ Blood pressure should be taken with an appropriately sized cuff with the patient in an upright position after an initial 10-minute rest period. (ACOG, 2020)
○ Erroneous readings may occur with a blood pressure cuff that is too small or too large.
• Determine what hypertensive medications, if any, the patient currently takes and when they were last taken.
• RN/Provider will assess for and document additional signs/symptoms of preeclampsia, including but not limited to headache, visual changes, RUQ or epigastric pain, sudden swelling.
• If BP remains in the severe range, discuss orders for medication management with the provider at bedside. The goal is to administer anti-hypertensives within 30-60 minutes from second severe range blood pressure.
• Document BP and provider notification/presence at bedside in EMR. RN/provider will remain at bedside with patient.
• Administer and document antihypertensive medication per provider order. See Medication Guidelines below.
• Notify OB and/or L&D of impending patient transfer
• Transfer patient to L&D. If onsite transfer, Primary RN will stay with patient for transfer and provides report to L&D RN. If the patient is at a hospital ED location without L&D, ensure rapid, safe transfer to a higher level of care.
MEDICATION GUIDELINES:
When there is a lack of IV access, the recommended choice for pharmaceutical treatment is **immediate release oral nifedipine**. The goal is to initiate rapid (within 30 mins) pharmaceutical treatment without delay prior to transfer to a higher level of care for continued monitoring and management.
• **Immediate release oral Nifedipine:** Onset of action 5-10 minutes:
○ Dose: 10mg orally, after one dose, prepare for patient transfer to L&D for continued monitoring and evaluation. However, if BP parameters are not met (140-159/90-109) upon recheck, 20mg can be repeated (3 total max doses) after 20-minute intervals. Oral nifedipine can be used when there is no IV access. This medication has a rapid onset of 5-10 minutes and is about 85% effective with first dose.
○ Maximum daily dose is 180mg
○ CAUTION: May be associated with precipitous hypotension, reflex tachycardia, and headaches (ACOG 2020)
NURSING CARE PLAN
Emergent severe HTN (Systolic ≥160 OR Diastolic ≥110). Early identification of potential maternal deterioration is critical. Therefore, documentation of vital

signs and nursing assessment parameters should be completed as close to "real time" as possible.
Assessment: • Complete nursing assessment.
Activity: • Promote rest and reduce external stimuli. Avoid unnecessary ambulation. • Determine method of safely transporting patient to higher level of care.
Education: • Explain medications, treatments, procedures, expected outcomes, nursing assessment and plan of care. • Provide appropriate education about GHTN, Preeclampsia and Eclampsia.
Seizure Care:
If patient seizes, **activate the emergency system**:
• Activate call light and/or call out for help,
• Call code as indicated
• Provide lateral positioning
• Protect airway/patient
• Provide oxygen as indicated
• Give provider ordered medications
• Monitor fetal status as indicated
• Request OB consult and notify of impending transfer after stabilization.
QUALITY IMPROVEMENT
• Ensure timely documentation and complete an incident report for ongoing quality improvement including process measures and compliance with evidence-based practice bundles. (ACOG Hypertension in Pregnancy) (MEWT)
REFERENCES:
ACOG Practice Bulletin #222, June 2020. Gestational Hypertension and Preeclampsia.[6]
ACOG Committee Opinion # 692, Revised April 2019. Emergent Therapy for Acute-onset, Severe Hypertension During Pregnancy and the Postpartum period[15]
CMQCC[7]
REVIEW/REVISION DATES:
REVIEWED BY:
APPROVED BY:

Eclamptic Seizures: Magnesium sulfate is the first-line treatment.

Neuroimaging is recommended if clinical signs suggest other neurological causes.

***Policy Example 2*: ED Eclampsia Seizure Management Guidelines**
PURPOSE:
To provide a safe patient environment, define management, and prevent harm and injury to a patient actively experiencing eclamptic seizure in the ED.
"The initial steps in the management of a woman with eclampsia are basic supportive measures such as calling for help, prevention of maternal injury, placement in lateral decubitus position, prevention of aspiration, administration of oxygen, and monitoring vital signs including oxygen saturation. Only subsequently is attention directed to the administration of magnesium sulfate. Most eclamptic seizures are self-limited. Magnesium sulfate is not necessary to arrest the seizure but to prevent recurrent convulsions". (ACOG 2020)
DEFINITIONS:
Eclamptic seizures: "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" "Eclampsia is the convulsive manifestation of the hypertensive disorders of pregnancy and is among the more severe manifestations of the disease." (ACOG, 2020) OBJ
PERFORMED BY:
Registered Nurse (RN) or any staff member who witnesses a patient experiencing a seizure should stay with patient and activate the emergency procedures for additional help. Trained medical personnel can obtain and document vital signs and emergency access
GUIDELINES: OBJ
Seizure response **During the seizure:** OBJ Assure patient safety including: **Stay with patient and activate clinic emergency call system (call out for help, pull call light, etc.).** • **Activate the alarm system** • Immediately call for help and provider to patient's location. • Staff will bring vitals monitor, code cart, and HTN emergency equipment to patient. • Guide the patient gently to the floor if sitting or standing and protect head • Position patient in left lateral recumbent position • Do not restrain patient during the seizure

- Maintain airway/monitor respiratory status. Attach pulse oximetry sensor. Administer oxygen if respiratory depression occurs (Use SpO2 92% as lower limit)
- Suction airway as needed

Prepare IM Magnesium Sulfate for provider administration if requested by MD:

ACOG (2020) outlines that the initial management during an eclamptic seizure is on supportive and safety measure outlined above. Consideration for Magnesium Sulfate administration occurs after basic supportive measures are implemented if there could be a delay in either transferring patient to L&D or concern that the risk of continued seizures necessitates administration prior to transfer. Magnesium sulfate is not necessary to arrest the seizure but to prevent recurrent convulsions. (ACOG, 2020).

- Dose 10mg: Magnesium Sulfate 50% concentration. 0.5mg/ml (10ml bottle contains 5g)
- In each buttock* by deep IM injection give 5 g of 50% magnesium sulfate solution with 1 mL of xylocaine 2% solution
- Perform independent double check prior to medication administration

After the seizure:

Transfer to L&D or Facility with OB, once stable

Monitor oxygen saturation, blood pressure, pulse and respiration rate prior to and immediately after transfer.

Assist patient in maintaining patent airway and adequate oxygenation as needed, including side-lying (recovery) position, suctioning of upper airway as needed, and supplemental oxygen (10L/min by via simple O2 mask or non-breather mask).

Assessment/Documentation:

Observe seizure activity and document the description of seizure activity and response in the medical record including:

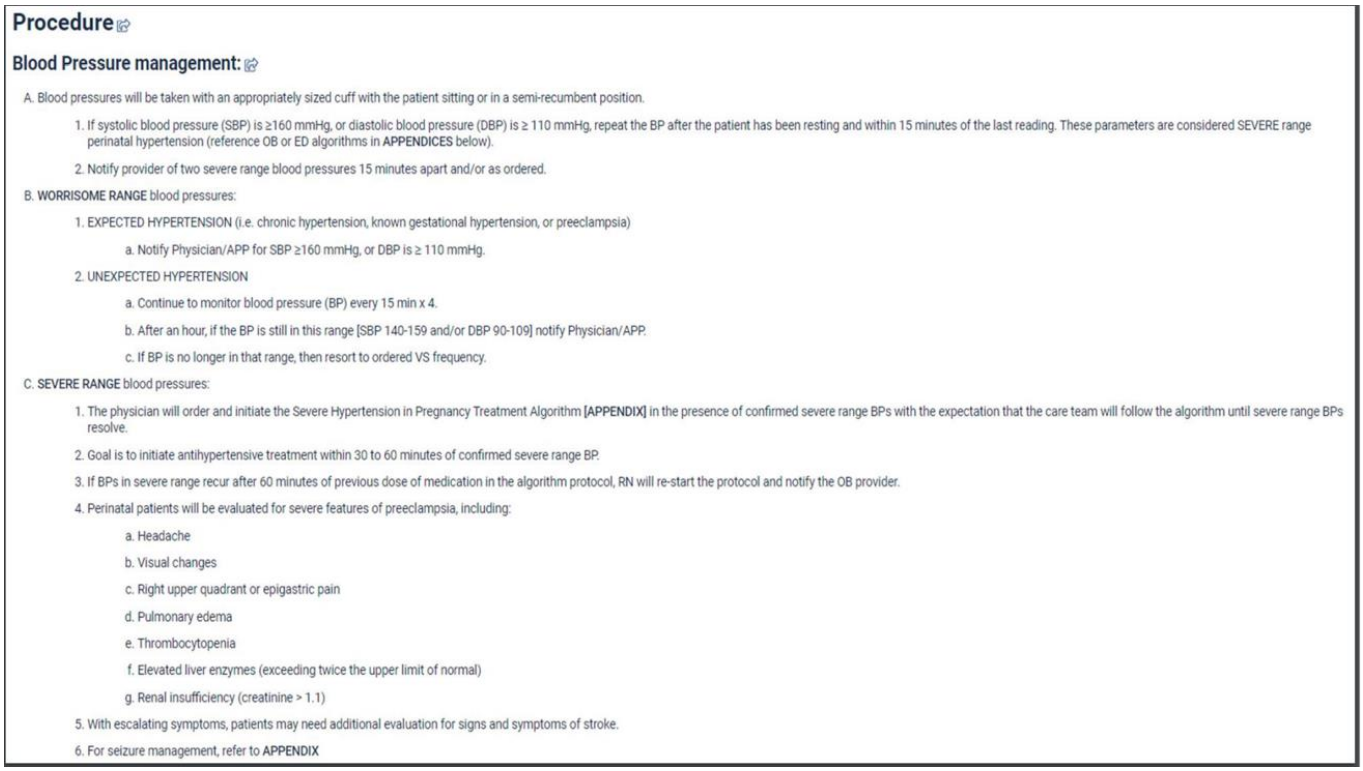
- Activity of seizure: Type of limb and body movements, eye/head deviation, lip smacking, grimacing, tongue biting
- Level of awareness during and after the seizure, onset and progression of the seizure regarding movement, sensation, speech or behavior and patient reported presence of headache, aura or other symptoms prior to seizure.
- Note time of seizure start, finish and transfer from ED
-

REFERENCES:

ACOG Practice Bulletin #222, June 2020. Gestational Hypertension and Preeclampsia.[6]

Hospital policy for Seizure Care
Hospital based policy for Magnesium Sulfate Intravenous Infusion for Preeclampsia/Eclampsia. Precautions and Management of Seizure section.
*References indicate administering IM Magnesium Sulfate in each “buttock” best practice for deep IM injections indicate using ventrogluteal muscle Efficacy and Safety in Intramuscular Injection Techniques Using Ultrasonographic Data: https://www.scirp.org/journal/paperinformation?paperid=83290
REVIEW/REVISION DATES:
REVIEWED BY:
APPROVED BY:

Figure 3. Policy Example:
“Evaluation and Management of Severe Perinatal Hypertension” MultiCare Hospital System policy



Procedure

Blood Pressure management:

A. Blood pressures will be taken with an appropriately sized cuff with the patient sitting or in a semi-recumbent position.

1. If systolic blood pressure (SBP) is ≥160 mmHg, or diastolic blood pressure (DBP) is ≥ 110 mmHg, repeat the BP after the patient has been resting and within 15 minutes of the last reading. These parameters are considered SEVERE range perinatal hypertension (reference OB or ED algorithms in **APPENDICES** below).
2. Notify provider of two severe range blood pressures 15 minutes apart and/or as ordered.

B. **WORRISOME RANGE** blood pressures:

1. EXPECTED HYPERTENSION (i.e. chronic hypertension, known gestational hypertension, or preeclampsia)
   a. Notify Physician/APP for SBP ≥160 mmHg, or DBP is ≥ 110 mmHg.
2. UNEXPECTED HYPERTENSION
   a. Continue to monitor blood pressure (BP) every 15 min x 4.
   b. After an hour, if the BP is still in this range [SBP 140-159 and/or DBP 90-109] notify Physician/APP.
   c. If BP is no longer in that range, then resort to ordered VS frequency.

C. **SEVERE RANGE** blood pressures:

1. The physician will order and initiate the Severe Hypertension in Pregnancy Treatment Algorithm **[APPENDIX]** in the presence of confirmed severe range BPs with the expectation that the care team will follow the algorithm until severe range BPs resolve.
2. Goal is to initiate antihypertensive treatment within 30 to 60 minutes of confirmed severe range BP.
3. If BPs in severe range recur after 60 minutes of previous dose of medication in the algorithm protocol, RN will re-start the protocol and notify the OB provider.
4. Perinatal patients will be evaluated for severe features of preeclampsia, including:
   a. Headache
   b. Visual changes
   c. Right upper quadrant or epigastric pain
   d. Pulmonary edema
   e. Thrombocytopenia
   f. Elevated liver enzymes (exceeding twice the upper limit of normal)
   g. Renal insufficiency (creatinine > 1.1)
5. With escalating symptoms, patients may need additional evaluation for signs and symptoms of stroke.
6. For seizure management, refer to **APPENDIX**

Flow Charts and Algorithms:

Utilize standardized protocols for diagnosing and treating hypertensive emergencies, including antihypertensive medications and seizure prophylaxis.

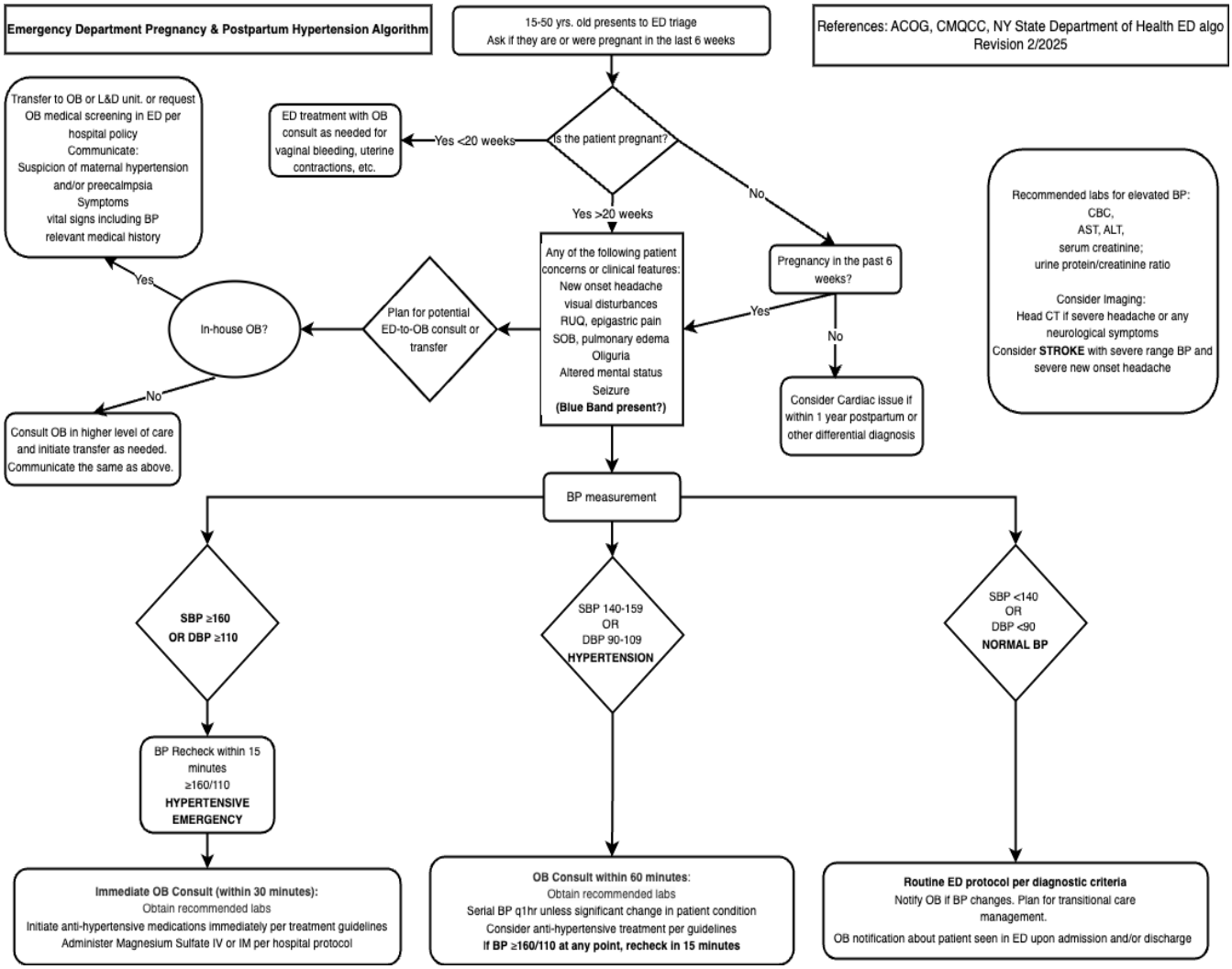


Figure. 4a: Emergency Department Pregnancy & Postpartum Algorithm

Treatment Recommendations for Sustained SBP ≥160 or DBP ≥110: 1st Line Anti-Hypertensive Treatment:
Target BP: 130-150/80-100 (If pregnant, dropping BP too fast may result in decreased fetal perfusion)
Antihypertensive treatment and magnesium sulfate should be administered simultaneously. If unable to administer both, prioritize antihypertensive therapy first
If patient has a history of asthma or is bradycardia, choose hydralazine as first line IV medication.

LABETALOL as Primary Antihypertensive

1. Initial dose: **Administer Labetalol 20 mg IV over 2 min**
2. **Repeat BP in 10 min**
   - If SBP ≥160 or DBP ≥110
   - **Administer Labetalol 40 mg IV over 2 minutes**
3. **Repeat BP in 10 min**
   - If SBP ≥160 or DBP ≥110
   - **Administer Labetalol 80 mg IV over 2 minutes**
4. **Repeat BP in 10 min**
   - If SBP ≥160 or DBP ≥110
   - **CONVERT TO hydralazine 10 mg** IV over 2 min
   - **Obtain emergent consultation** from OB, maternal-fetal medicine, internal medicine, anesthesiology, or critical care
5. **Repeat BP in 20 min**
   - If SBP ≥160 or DBP ≥110 while awaiting additional support
   - Administer **Hydralazine 10 mg** IV over 2 min

HYDRALAZINE as Primary Antihypertensive

1. Administer **hydralazine 5 or 10 mg IV over 2 minutes**
2. **Repeat BP in 20 min**
   - If SBP ≥160 or DBP ≥110
   - **administer hydralazine 10 mg IV over 2 minutes**
3. **Repeat BP in 20 min**
   - If SBP ≥160 or DBP ≥110
   - **CONVERT TO labetalol 20 mg IV over 2 minutes**
   - Obtain emergent consultation from maternal-fetal medicine, internal medicine, anesthesiology, or critical care
4. **Repeat BP in 10 min**
   - While awaiting additional support If SBP ≥160 or DBP ≥110
   - Administer **Labetalol 40 mg IV** over 2 minutes
5. **Repeat BP in 10 min**
   - If SBP ≥160 or DBP ≥110 while awaiting additional support
   - Administer **labetalol 80 mg IV** over 2 minutes

PO Nifedipine as Primary Antihypertensive if no IV access

1. Administer **nifedipine immediate release (IR) 10 mg PO**
2. **Repeat BP in 20 min**
   - If SBP ≥160 or DBP ≥110
   - **administer nifedipine 20mg (IR) PO**
3. **Repeat BP in 20 min**
   - If SBP ≥160 or DBP ≥110
   - **administer nifedipine 20mg (IR) PO**
4. **Repeat BP in 20 min**
   - If SBP ≥160 and DBP ≥110
   - **CONVERT TO Labetalol 20 mg IV over 2 minutes**
   - Obtain emergent consultation from OB, maternal-fetal medicine, internal medicine, anesthesiology, or critical care
5. **Repeat BP in 10 minutes**
   - While awaiting additional support If SBP ≥160 or DBP ≥110
   - Administer **Labetalol 40 mg IV** over 2 minutes
6. **Repeat BP in 10 minutes**
   - If SBP ≥160 or DBP ≥110 while awaiting additional support
   - Administer **labetalol 80 mg IV** over 2 minutes

Magnesium Sulfate Administration

Initial Treatment:
1.Loading Dose: 4-6 gm over 15-20 min
2. Maintenance 1-2 gm/hour
3. Close observation for signs of toxicity:
   - Disappearance of deep tendon reflexes
   - Decreased RR, shallow respirations, shortness of breath
   - Heart block, chest pain
   - Pulmonary edema

IF INABLE TO INITIATE IV ACCESS consider IM injection

If Patient Seizes While on Magnesium:
1. Secure airway and maintain oxygenation
2. Give 2nd loading dose of 2 gm magnesium over 5 min
3. If patient seizes after 2nd magnesium bolus, consider one of the following:
   - Midazolam 1-2 mg IV; may repeat in 5-10 min
   - Lorazepam 2 mg IV; may repeat
   - Diazepam 5-10 mg IV; may repeat q15 min to max of 30 mg
   - Phenytoin 1g IV over 20 min

If Seizures Resolve:
1. Maintain airway and oxygenation
2. Monitor VS, cardiac rhythm/ECG for signs of medication toxicity
3. Consider brain imaging for:
   - Head trauma
   - Focal seizure
   - Focal neurologic findings
   - Other neurologic diagnosis is suspected

TARGET BP: 130-150/80-100 mmHG
Once target BP achieved, monitor BP closely
q10 min for 1 hour, q15 min for 2nd hour, q30 min for 3rd hour, then Q1hoiur for 4 hours
If at any point BP >160/110, readminister antihypertensives

References: Adapted from 2023 ACOG Acute Hypertension in Pregnancy & Postpartum algorithm

Figure. 4b: Emergency Department Pregnancy & Postpartum Algorithm

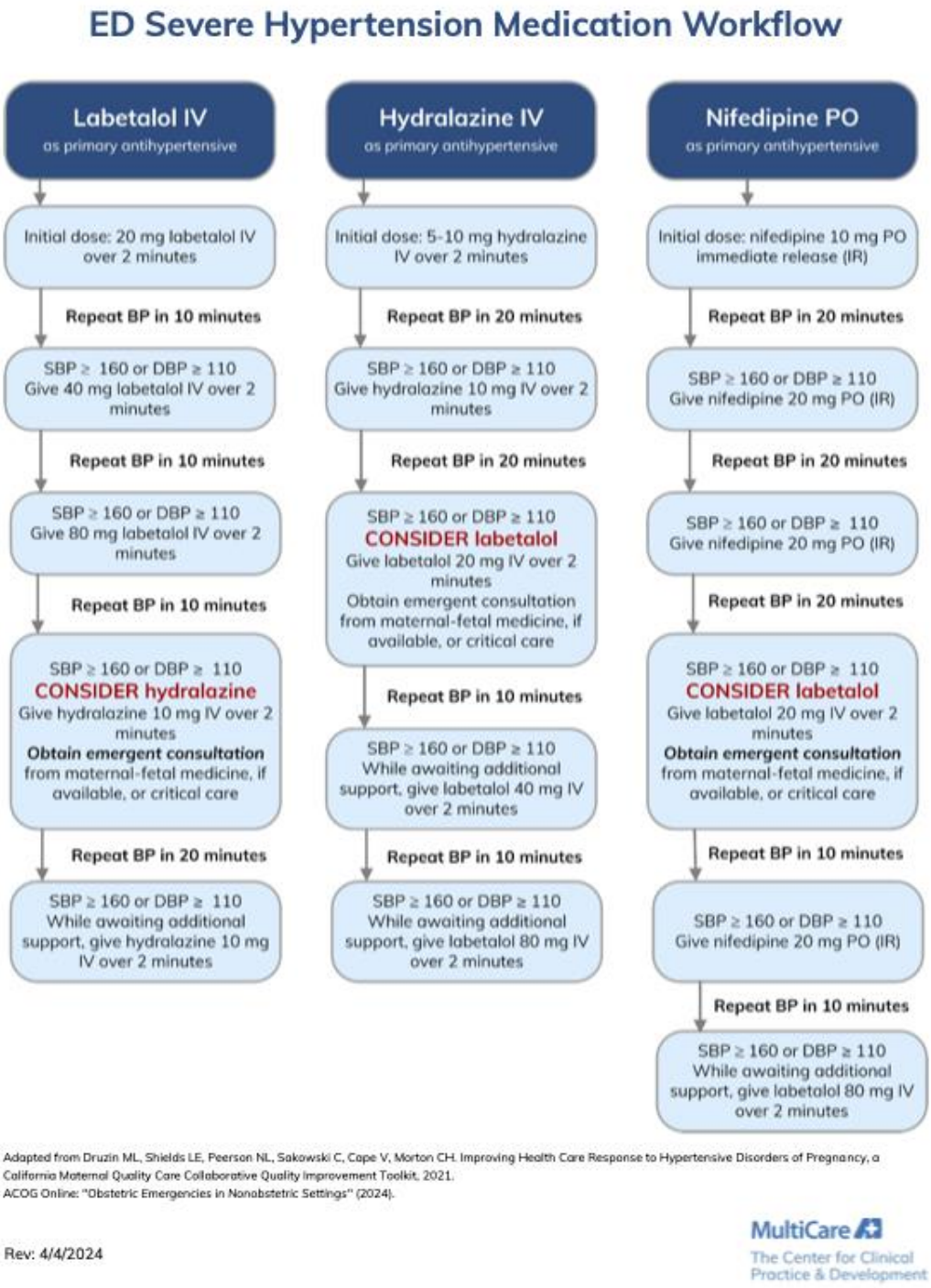


Figure 5: ED Severe Hypertension Medication Workflow

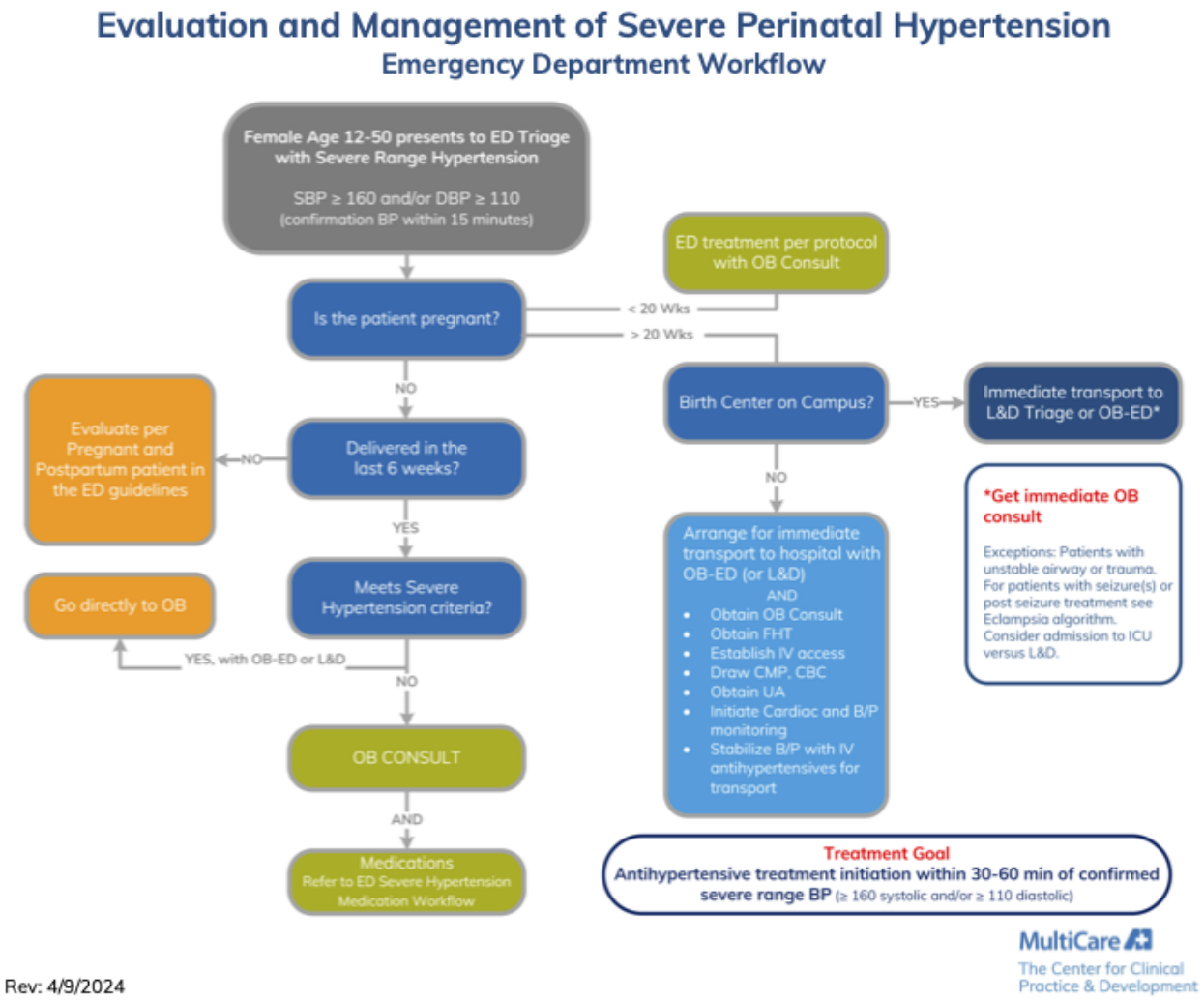


Figure. 6: Evaluation and Management of Severe Perinatal Hypertension

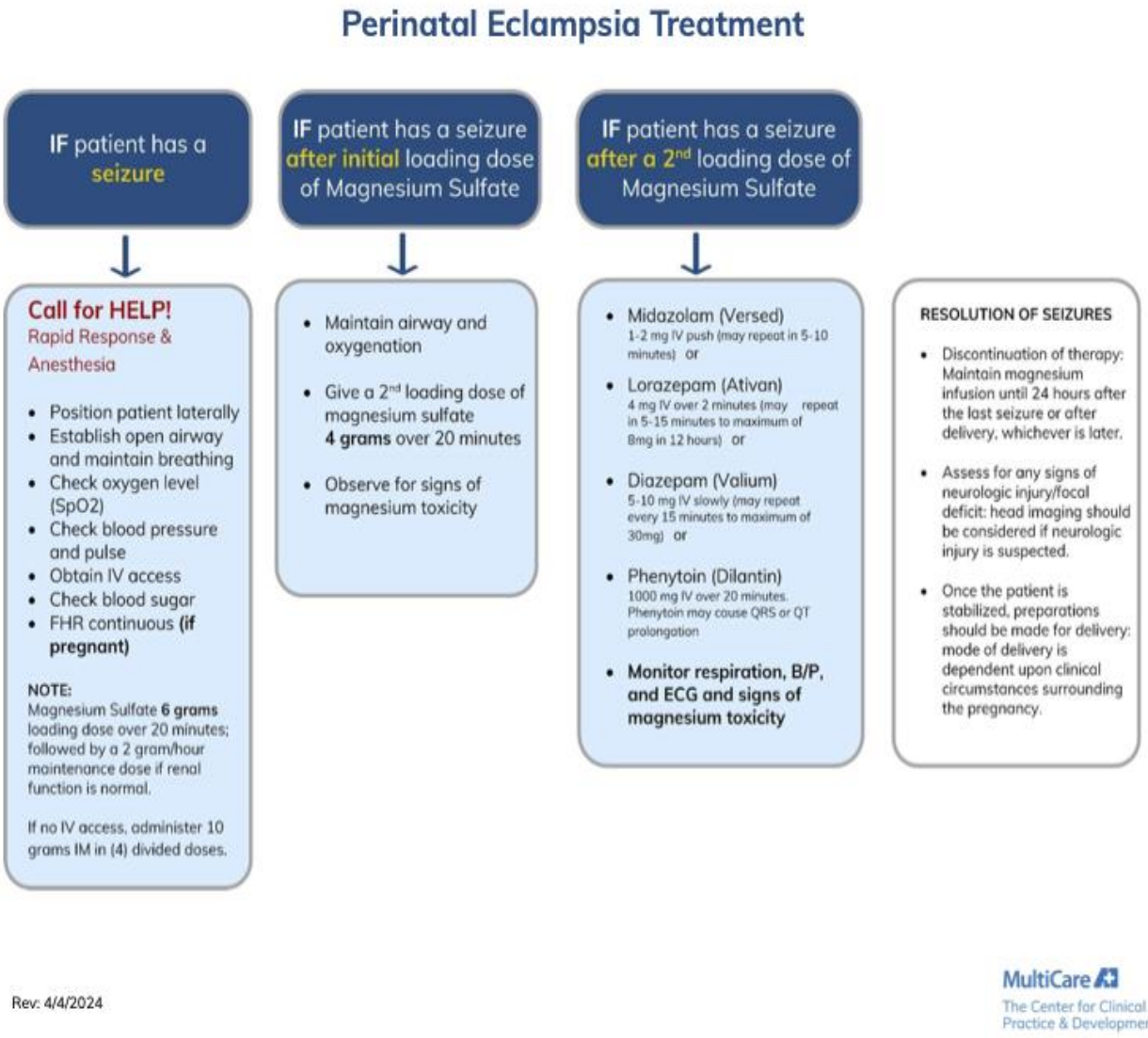


Figure. 7: Perinatal Eclampsia Treatment

COMMUNICATION & COLLABORATION

Communication and Collaboration

Interdepartmental Teams:

1. ED and (if available) OB/GYN teams should collaborate to develop workflows tailored to the hospital's resources and ensure all clinicians are trained on the protocols.[7,9,13]
2. Establish clear roles and responsibilities for each team member to ensure smooth coordination during hypertensive emergencies.[11]
3. Develop standardized training to ensure all ED clinicians understand best practices for recognizing and managing HDPP.[9]

OB Consultation in the ED for Pregnant and Postpartum Patients:

1. An in-person or telephone OB consultation is strongly recommended for all pregnancy or postpartum patients presenting to the ED.[9]
2. If an OB provider is not available in-house, ensure consultation process is developed to ensure timely expert input.[9]
3. Utilize standardized decision-support tools or pre-established algorithms (see previous section for examples) to guide ED providers on when to escalate care to an OB specialist.[9]

Direct Communication Between Teams:

1. **ED to OB Communication:** Implement a **structured communication protocol**, such as the SBAR (Situation, Background, Assessment, Recommendation) format, for relaying patient information quickly and effectively.[7,9,13]
2. **Critical Access Hospital (CAH) to Higher-Level Care:**[7,11,13]
    - For CAHs without in-house obstetric services, establish telemedicine consultation agreements with regional hospitals for real-time expert guidance.
    - Use regional transfer networks or statewide perinatal transport protocols to ensure patients with severe hypertension or preeclampsia are quickly transferred to facilities with appropriate maternal care capabilities.
    - Implement pre-determined escalation criteria for when immediate transfer should occur versus when stabilization and consultation are appropriate.

Developing a Communication Plan or Tool[7,9]

- A maternal early warning system (MEWS) or hypertension alert system in the electronic health record (EHR) could automatically notify the OB team when an at-risk patient arrives in the ED.
- Utilize a digital messaging or call system (e.g., a dedicated OB-ED hotline) to streamline real-time communication between teams.
- Establish quarterly interdisciplinary meetings to review cases, refine workflows, and address communication gaps.

Recommendation: When in Doubt—Send Them to OB[7]

- If there is any uncertainty about a patient's stability or the severity of their hypertension, the default action should be escalation to OB consultation or transfer to a higher level of care.

Clarifying the Postpartum Period for OB Consultation[7]

- The postpartum period is traditionally defined as 6 weeks (42 days) after delivery for the purpose of consultation with OB.
- However, hypertensive complications can persist beyond this timeframe.

System Integration and Monitoring[7,9]

1. **EHR Integration**: Use electronic health records to flag at-risk patients and embed clinical guidelines.
2. **Data Collection**: Monitor outcomes and track adherence to treatment protocols to identify areas for improvement.

EDUCATION AND AWARENESS:

Develop **consistent programming** and **educational materials** that are standardized across all sites in the organization.[7,9]

Education and Awareness

Staff Training: Conduct regular drills, simulations, and education sessions to improve recognition and management of HDPP.[7,9]

POSTERS FOR ED Education

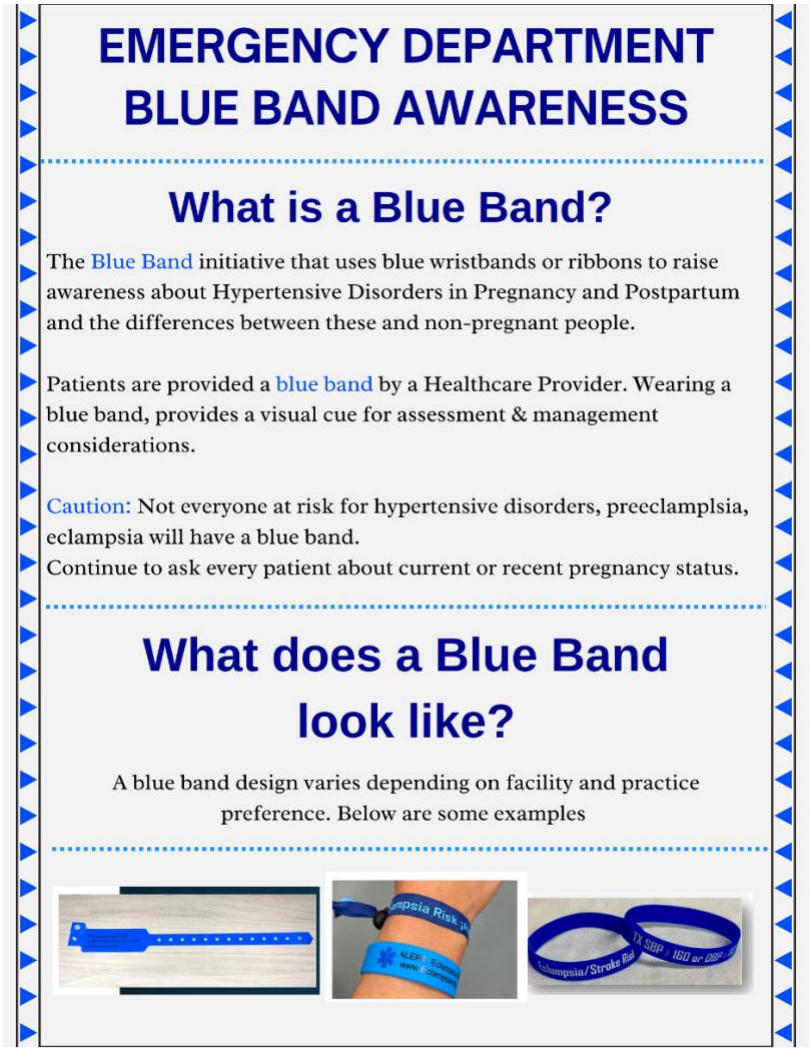


Figure. 8: Emergency Department Blue Band Awareness Poster

Key Points for ED staff

Emergency Department Education

Blue Band Initiative Awareness &

Recognizing Pregnancy and Postpartum Hypertensive Disorders

Identifying Patients at Risk

- **Ask all patients** if they are **pregnant or have recently given birth**
- **Look for and ask** about whether patients were given a **Blue Band** by healthcare provider
- **Up to 26% of eclamptic seizures occur after 48 hours postpartum**, sometimes occurring as late as **4-6 weeks postpartum**.
- **About 50% of women with gestational hypertension** will develop preeclampsia.
- Many postpartum patients **presenting with hypertension are first identified after birth**.

Common symptoms include:

- **Severe headache (most common, in 69% of cases)**
- **Vision changes**
- **Seizures**
- **Chest pain or shortness of breath**
- **Severe abdominal pain**
- **Confusion, altered mental status**
- **History of hypertension or preeclampsia**

Hypertensive Emergencies in Pregnant & Postpartum Patients

Severe range blood pressure:

- **Systolic BP ≥ 160 mmHg**
- **Diastolic BP ≥ 110 mmHg**

- These values are **lower than hypertensive emergency criteria for non-pregnant patients** and require **immediate intervention**.
- **Severe-range BP that persists for 15 minutes or more** must be treated **within 30-60 minutes** to reduce the risk of **stroke.**

Importance of Early Recognition & Patient Communication

- **Postpartum concerns are often taken less seriously**—prioritize rapid evaluation.
- **Educate patients** about the importance of **informing ED staff** if they are pregnant or recently given birth, experiencing concerning symptoms: headache, vision changes, chest pain, shortness of breath, or severe abdominal pain and/or wearing a **Blue Band.**

Figure. 9a: Key Points for ED Staff 1-pager

ED Management & Treatment

Step 1: Recognize & Assess	• Identify **current or recent pregnancy** status. • Use best practice to check blood pressure, check **manually** to confirm. • If severe-range BP is present, initiate **ongoing maternal monitoring**
Step 2: Administer First-Line Antihypertensive Medications	• **DO NOT delay treatment. Treat then consult with OB when needed** • **Labetalol IV** • **Hydralazine IV** • **Immediate-release Nifedipine PO**

Step 3: When to Escalate Care & Transfer	• **Immediate OB consultation is required** for any patient with:
	  ○ **Uncontrolled hypertension despite treatment**
	  ○ **New-onset seizures**
	  ○ **Worsening symptoms (e.g., confusion, chest pain, difficulty breathing)**
	  ○ **Signs of stroke** (weakness, slurred speech, facial droop)
	• **If OB or higher-level care is not available onsite, initiate urgent transfer** to a tertiary care facility.
	• **Consider stroke as part of the differential diagnosis** for postpartum patients with **neurologic symptoms or severe-range BP.**
	• **Patients with a history of HDP are also at risk for postpartum cardiomyopathy.** If a patient presents with **shortness of breath, low oxygen saturation, or dyspnea**, evaluate for cardiac complications (BNP, EKG, CXR, echocardiogram).

Step 4: Seizure Prevention & Eclampsia Management	• **Magnesium sulfate** is the **drug of choice** for eclamptic seizures. • **Protect airway & prevent injury** during seizures. • **Provide oxygen (10 L/min via non-rebreather mask).** • **Monitor BP, HR, O2 saturation, and level of consciousness every 5 minutes** for at least **one hour** post-seizure. • **If cardiac arrest occurs in a preeclamptic/eclamptic patient receiving magnesium sulfate**, give **calcium chloride or gluconate** in addition to **standard ACLS protocols**.

- Postpartum preeclampsia and eclampsia are **life-threatening emergencies.**
- Recheck one **severe-range BP reading (≥160/110 mmHg)** measurement in 15 minutes
- **Treatment within 30-60 minutes** required after second severe-range BP reading (≥160/110 mmHg)
- **Early recognition, rapid antihypertensive treatment, and seizure prevention save lives.**
- **Escalate care** and transfer as needed—stroke is a leading cause of death in preeclampsia.

Relevant Resource Reviewed 2/2025

Alliance for Innovation on Maternal Health. (2022) Severe Hypertension in Pregnancy Patient Safety Bundle. https://saferbirth.org/wp-content/uploads/U1-FINAL_AIM_Bundle_SHP2022.pdf

Mark Meyer, MD, Kaiser Permanente, San Diego Carolyn Maher Overman, MD, Kaiser Permanente, West Los Angeles, Delayed Postpartum Preeclampsia and Eclampsia in the Emergency Department.

California Maternal Quality Care Collaborative (CMQCC). 2021. Improving Health Care Response to Hypertensive Disorders of Pregnancy. https://www.cmqcc.org/resource/improving-health-care-response-hypertensive-disorders-pregnancy

Figure. 9b: Key Points for ED Staff 1 pager

Visual examples: Education

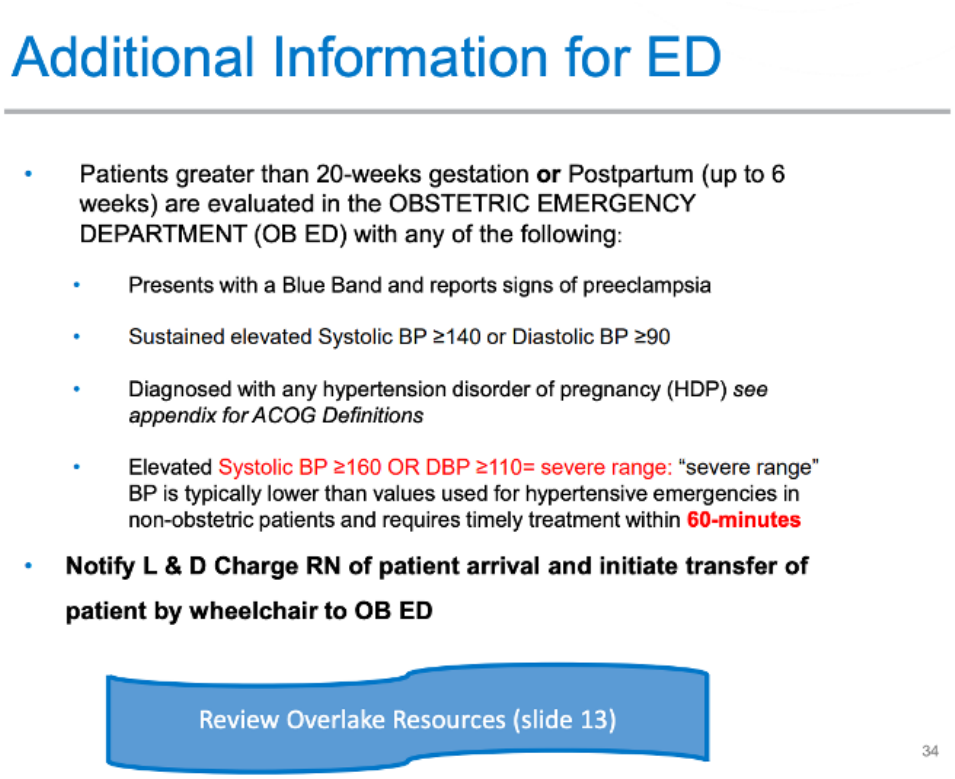


Figure. 10a: Additional Information for the ED
Source: Overlake Medical Center

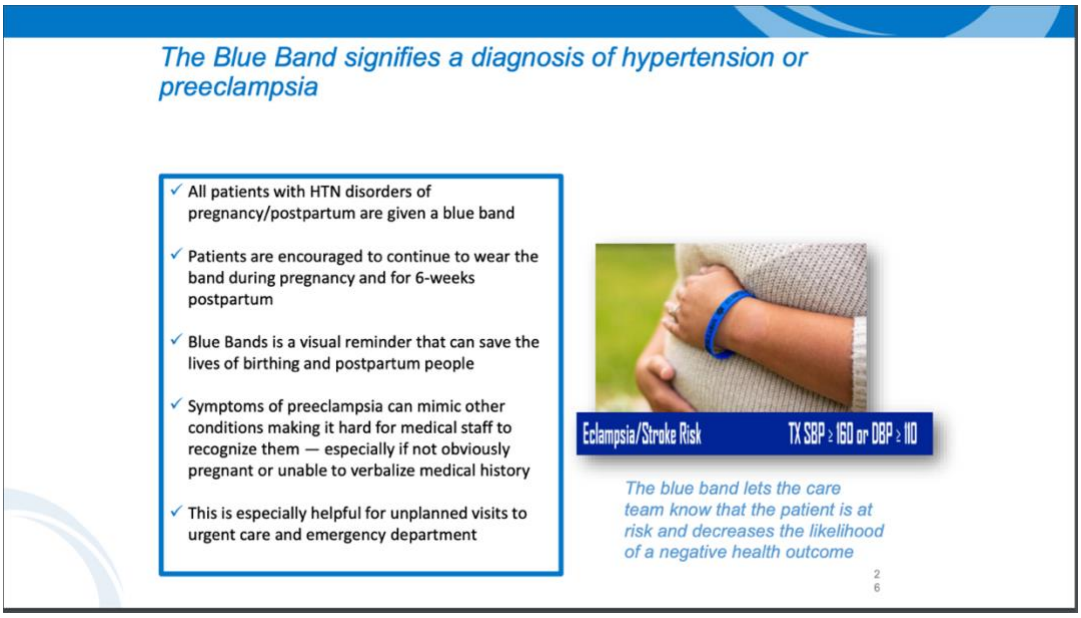


Figure. 10b: Additional Information for the ED

Source: Overlake Medical Center

Figure. 11: Blue Band Initiative for MultiCare Source: MultiCare Health System

Visual example: Practice Alerts

PRACTICE ALERT

BLUE BAND INITIATIVE FOR PREECLAMPSIA AWARENESS
AUDIENCE: ED PROVIDERS, NURSE, FRONT DESK

Blue Band Recognition

Pregnant and postpartum patients at-risk for preeclampsia may be given special patient educational materials and provided with bracelet (Blue Band) by prenatal providers or upon discharge from their hospital stay.

Statewide Initiative: The Washington State Department of Health Blue Bands Initiative increases awareness for healthcare personnel and Emergency Medical Services (EMS) regarding the significance of the Blue Band as a visual cue for preeclampsia risk. for patients around the state.

Why This Matters in the ED:

The emergency department is often where pregnant or postpartum patients with symptoms or signs of severe hypertension present for care. For this reason, education should be provided to staff and providers in emergency departments regardless of the hospital's ability to provide labor and delivery services.

Patient Safety:

Preeclampsia can rapidly progress to severe complications. Recognizing patients at risk for Preeclampsia ensures timely evaluation and intervention.

If a symptomatic patient with or without a "Blue Band" presents to the ED, refer to hospital guidelines or policies for algorithms and treatment recommendations for evaluation and management of severe perinatal hypertension.

Time-Sensitive Treatment Window

- Patients with severe-range blood pressure (SBP ≥ 160 and/or DBP ≥ 110) require antihypertensive treatment within 60 minutes of identification.
- Early intervention improves outcomes for both the birthing parent and baby.

Action for ED Staff:

When a patient wearing a Blue Band presents to the ED:

- Assess immediately for preeclampsia-related concerns.
- Follow hospital guidelines for evaluation and treatment of severe perinatal hypertension.
- Consider transfer to Obstetrics (OB) if needed, particularly if the hospital has a Birth Center.

Education & Resources

The Joint Commission R3 Report - Issue 24 - PC Standards for Maternal Safety
Standard PC.06.03.01: Reduce the likelihood of harm related to maternal severe hypertension/preeclampsia.
EP 3: Provide role-specific education to all staff and providers who treat pregnant/ postpartum patients about the hospital's evidence-based severe hypertension/preeclampsia procedure. At a minimum, education occurs at orientation, whenever changes to the procedure occur, or every two years.

ED staff should:

- Review and post updated algorithms Severe Perinatal Hypertension Guidelines.
- Complete annual Relias training on preeclampsia recognition and management.
- Participate in Joint Commission-required drills in collaboration with OB and ED teams.

Additional Resources:

- Washington Blue Band Initiative | WA State Department of Health
- The Preeclampsia Foundation
- Preeclampsia | March of Dimes

EHR Alerts

- An automatic alert may appear in the patient's chart if they have a history of preeclampsia or risk factors.
- The BP threshold for intervention in preeclamptic patients starts at SBP ≥ 140 and/or DBP ≥ 90.

Figure. 12: Practice Alert Template

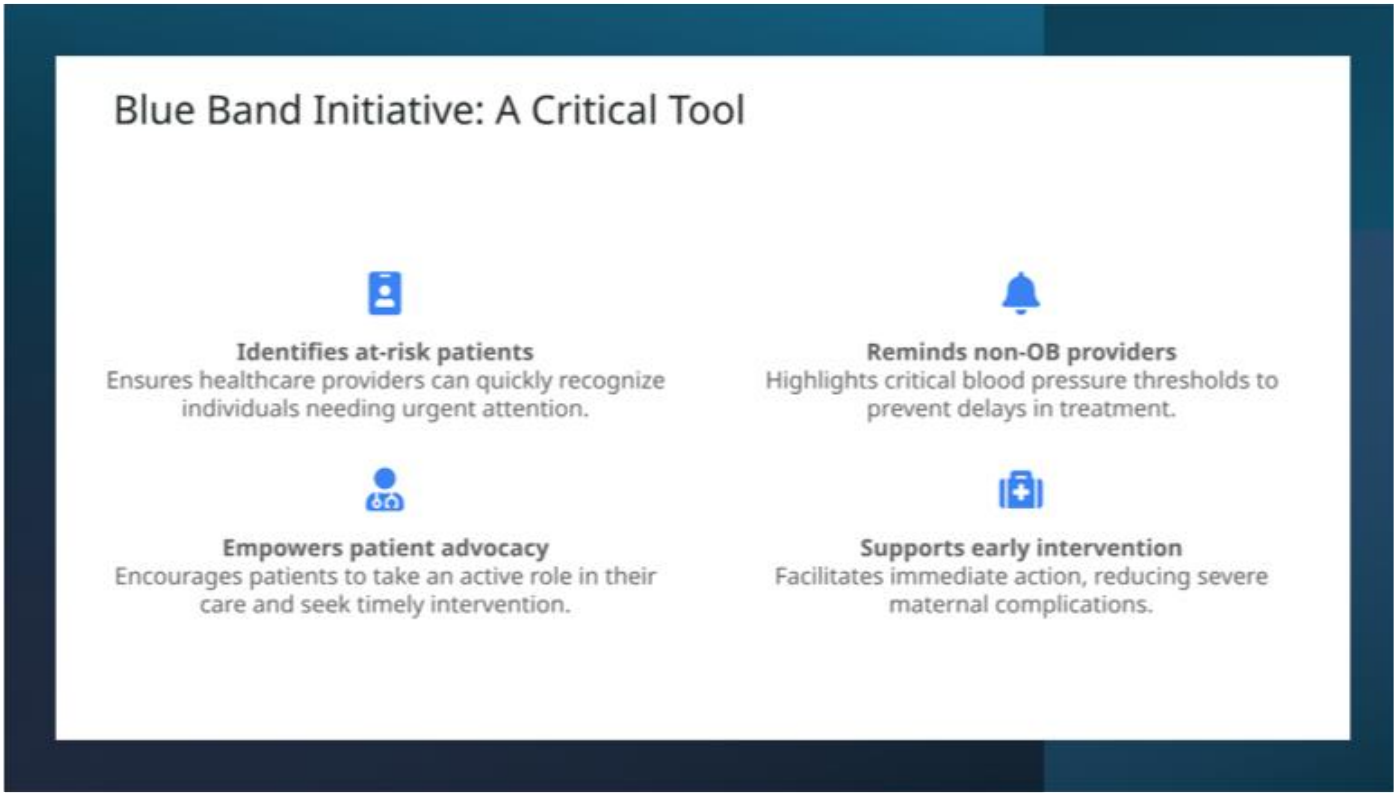
PowerPoint Slide Summary Points – RN Education Talking Points

Early treatment of HDPP reduces episodes of severe hypertension and improves maternal and newborn outcomes.
Severe hypertension is a medical emergency—initiate treatment within 30-60 minutes of confirmatory BP to prevent complications.
Education, protocols, and algorithms are essential but must be supported by system-wide implementation and accountability.
Successful intervention requires addressing systemic barriers to ensure timely recognition and treatment.
Make the right action the easiest action—streamline workflows to support best practices.

Blue Band Initiative: A simple but powerful tool[8,18]

- Identifies at-risk patients
- Reminds non-OB providers of critical BP thresholds
- Empowers patients to advocate for their care

Figure. 13a: Slides "Early Recognition and Treatment of HDPP and Blue Band"



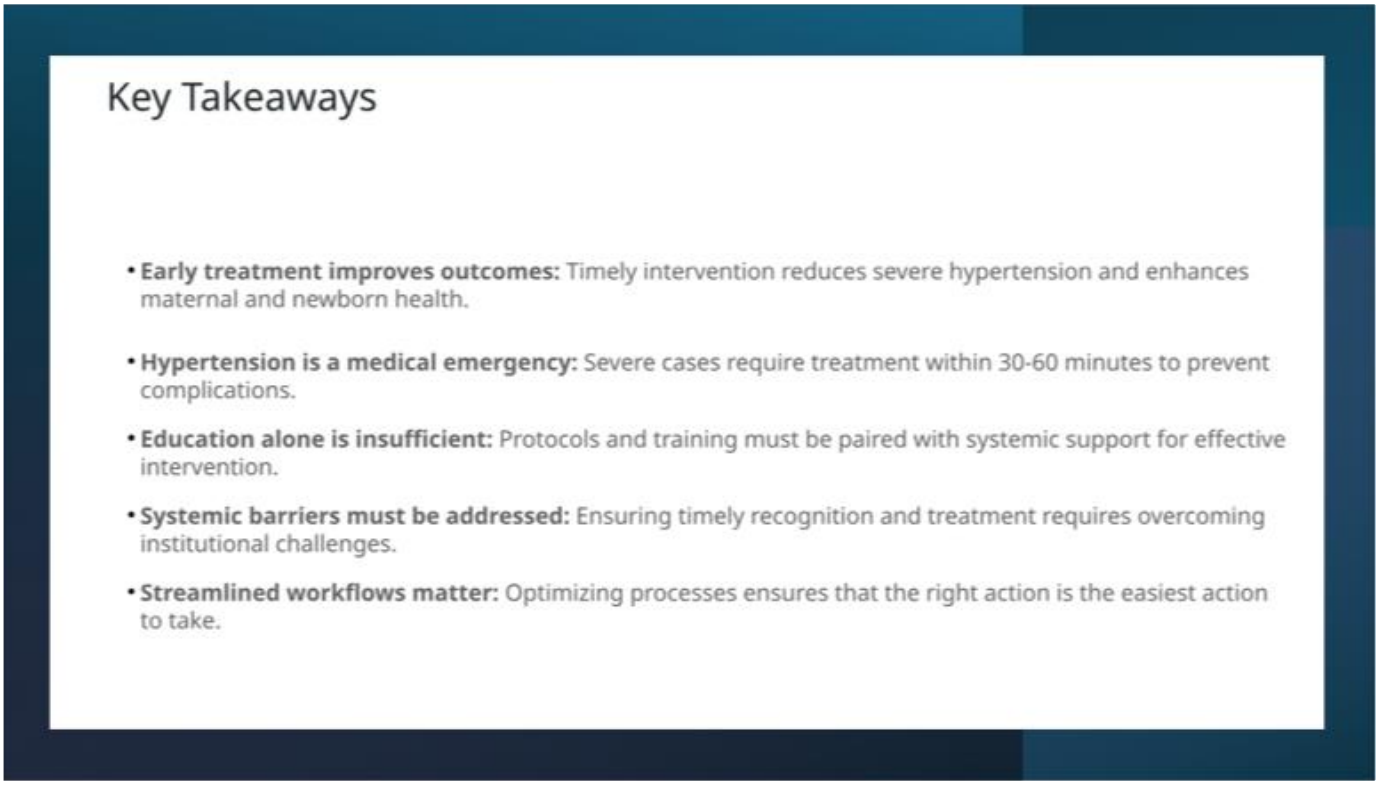


Figure. 13b&c: Slides “Early Recognition and Treatment of HDPP and Blue Band”

Single Slide to add to existing ED HDPP education PowerPoint

Figure. 14: Blue Band Initiative: Single slide

Additional Staff Education Strategies:

- Daily structured team huddles enhance communication and facilitate sharing key updates, discussing obstetric emergency preparedness, and reinforcing clinical guidelines.[9]
- Integrate obstetric emergency topics into routine ED staff meetings.[7]
- Use quick-reference checklists, nurse talking points, and practice alerts to reinforce best practices for HDPP management.[13]
- Visible leadership involvement in safety initiatives, including the Blue Band Initiative to raise awareness of maternal hypertension risks.[7]
- Use short, targeted microlearning modules on hypertensive disorders, postpartum maternal mortality rates, and maternal mental health.[9]
- Utilize small group learning and online training modules on maternal hypertension recognition and management.[7]
- Regular team-based drills should be conducted to reinforce rapid response strategies for hypertensive crises.[9]
- Employ case-based simulations to train ED and OB staff in recognizing and responding to preeclampsia and eclampsia.[7]

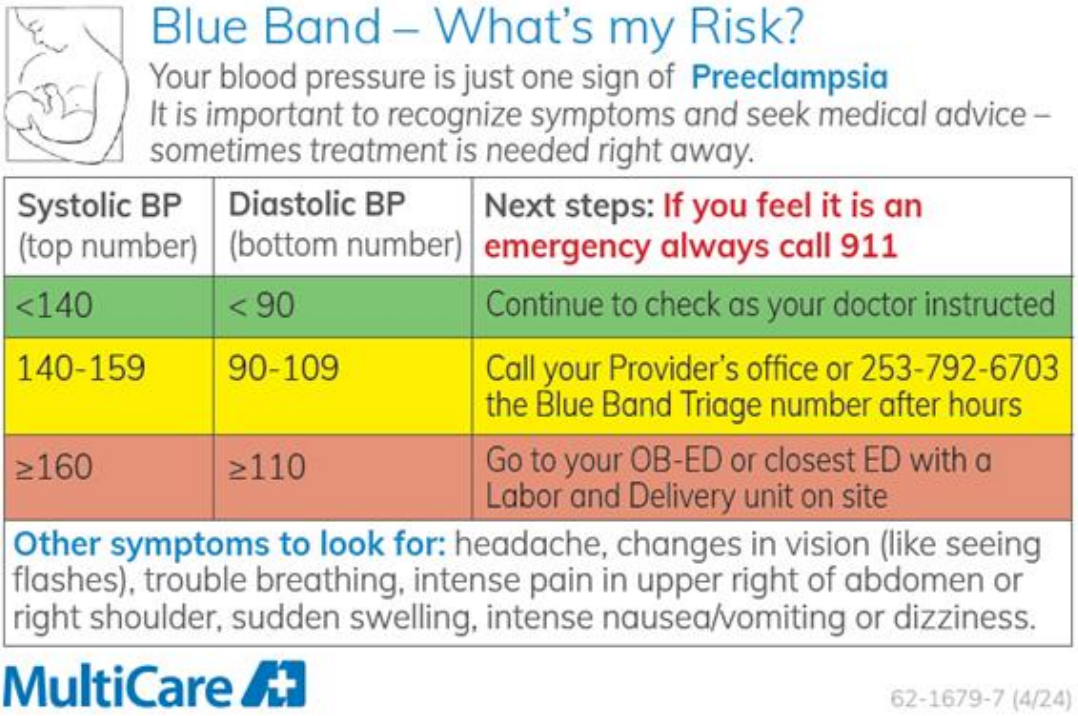
- Leveraging virtual training sessions can ensure all staff in your area, including those in rural and Critical Access Hospitals (CAHs), have access to maternal hypertension education and Blue Band awareness.[9]
- Placing visual aids, such as HDPP quick-reference posters and emergency treatment guides, in ED triage.[7,9]
- Consider outreach to EMS providers to provide educational information on pregnant and postpartum hypertensive emergencies and Blue Blan awareness to improve pre-hospital recognition and response.[1,21]
- Obstetric Emergencies during the Pregnant and Postpartum Period: Information for Emergency Medical Services Providers

Patient Education:

Pregnant and postpartum individuals need clear education and instructions to notify ED staff of recent pregnancies and understand the importance of recognizing HDPP symptoms.[1,4,7–9,18]

Wallet cards or other patient resources examples

Figure. 15: Patient Emergency Card
Source: Overlake



Blue Band – What's my Risk?

Your blood pressure is just one sign of **Preeclampsia**

It is important to recognize symptoms and seek medical advice – sometimes treatment is needed right away.

Systolic BP (top number)	Diastolic BP (bottom number)	Next steps: **If you feel it is an emergency always call 911**
<140	< 90	Continue to check as your doctor instructed
140-159	90-109	Call your Provider's office or 253-792-6703 the Blue Band Triage number after hours
≥160	≥110	Go to your OB-ED or closest ED with a Labor and Delivery unit on site

Other symptoms to look for: headache, changes in vision (like seeing flashes), trouble breathing, intense pain in upper right of abdomen or right shoulder, sudden swelling, intense nausea/vomiting or dizziness.

MultiCare

62-1679-7 (4/24)

Figure. 16: Blue Band – What's my Risk Card
Source: MultiCare

Figure. 17: ED Alert poster – English

https://www.cmqcc.org/resource/appendix-g-stop-sign-patient-information.

Figure. 18: ED Alert poster – Spanish

https://www.cmqcc.org/files/Appendix_G_HDP_ED_Visit_Stop_Sign_SPANISH_FL.pdf

Other Key Education Considerations for Long-term Success

- Ensure programming and materials are consistent across the organization/ network to standardize best practices.[4,7,13]
- Establish a plan for educating all new staff and ensure an annual review of training materials to keep guidelines current.[4,7,13]
- Develop data collection strategies to assess implementation success and guide quality improvement efforts.[4,9,13]
- Integrate EMR tools such as flags or alerts to enhance provider awareness and streamline response times.[11,13]
- Expand outreach to EMS leadership and local fire chiefs to include HDPP training in prehospital settings, improving early recognition and response.[1,21]

EVALUATION & MEASUREMENT

Data Measures[1,4,7,13]

This framework provides structured measures to guide planning and implementation of HDPP management within an Emergency Department (ED). While some hospitals may have OB units, others may not, and these measures are designed to be flexible based on available resources.

Outcome Measures

These measures focus on early detection and intervention for HDPP:

Screening for Elevated Blood Pressure:

- All pregnant and postpartum patients identified in the ED should be screened for elevated blood pressure (SBP ≥ 140 and/or DBP ≥ 90).

Case Reviews:

- The ED (and OB unit, if available) should conduct case reviews for pregnant and postpartum patients presenting with elevated blood pressure (SBP ≥ 140 and/or DBP ≥ 90) to evaluate management and care coordination strategies.

Structure Measures

These measures evaluate hospital policies, staff training, and preparedness for managing hypertensive disorders of pregnancy and postpartum (HDPP):

Hospital Policies:

EDs should have standardized policies outlining:

- Triage, consultation, admission, and treatment protocols for postpartum patients with elevated blood pressure (SBP ≥ 140 and/or DBP ≥ 90).
- Hypertensive emergency response for patients with severe-range BP (SBP ≥ 160 and/or DBP ≥ 110) and preeclampsia symptoms.

Provider & Staff Education:

- ED providers should receive training on hospital-specific protocols for HDPP management with re-education each year.

- ED nurses should be trained on HDPP symptoms, management, and escalation protocols to ensure rapid identification and response with re-education each year.

Process Measures

These measures track screening, treatment timeliness, and transfer protocols to ensure prompt and appropriate care:

Screening for Pregnancy/Postpartum Status:

- All ED patients of childbearing potential should be screened for pregnancy or postpartum status to ensure early identification of those at risk for preeclampsia**.**

Timely Treatment for Severe Hypertension:

- All postpartum patients with severe hypertension (SBP ≥ 160 and/or DBP ≥ 110) should receive treatment within 60 minutes of the first recorded elevated blood pressure.

Optimized Transfer Protocols:

- Hospitals should develop or refine protocols to ensure timely transfer of postpartum patients with persistent severe hypertension (SBP ≥ 160 and/or DBP ≥ 110), especially if higher-level maternal care is needed.

Data Stratification & Equity Considerations

To identify and address disparities in care**,** Outcome and Process Measures should be analyzed by:

- **Race, Ethnicity, and Language:** To identify differences in screening, treatment, and maternal outcomes**.**
- **Geographic Location:** Including urban vs. rural settings and Level of Maternal Care to assess variations in access to hypertension management and transfer capabilities.

RESOURCES SECTION

General Resources

Alliance for Innovation on Maternal Health (AIM):
- Obstetric Emergency Readiness Resource Kit

American College of Obstetricians and Gynecologists (ACOG):
- Identifying and Managing Obstetric Emergencies in Non-obstetric Settings

MCH Innovations Database:
- Practice Summary & Implementation Guidance: Cuff Kit

Minnesota Perinatal Quality Collaborative (MPQC):
- The Blue Band Booklet
- Blue Band Project: Provider & Patient Overview
- Hypertension in Pregnancy Care Process Model

Missouri Perinatal Quality Collaborative (MO PQC):
- OB Emergency Triage and Care Resource Workbook

Washington State Department of Health (WA DOH):
- Washington Blue Band Initiative Example Forms
- Washington Perinatal Quality Collaborative: Postpartum Follow-Up Care Schedules

Severe Hypertension in Pregnancy and Postpartum

Alliance for Innovation on Maternal Health (AIM):
- Severe Hypertension in Pregnancy Patient Safety Bundle
- Element Implementation Details
- Element Implementation Resources

American College of Obstetricians and Gynecologists (ACOG):
- ED Postpartum Preeclampsia Checklist
- Acute Hypertension in Pregnancy and Postpartum Algorithm
- Eclampsia Algorithm

California Maternal Quality Care Collaborative (CMQCC):
- Accurate Blood Pressure Measurement Toolkit
- Preeclampsia Screening Tools
- Sample Acute-Onset, Severe Hypertension and Eclampsia Medication Kit

Centers for Disease Control and Prevention (CDC):
- Hypertension in Pregnancy Change Package

Institute for Health Care Improvement (IHI) & Alliance for Innovation on Maternal Health (AIM):
- Severe Hypertension in Pregnancy Change Package

Cardiac Conditions in Pregnancy and Postpartum

American College of Obstetricians and Gynecologists (ACOG):
- Cardiovascular Disease (CVD) in Pregnancy & Postpartum Algorithm

American Heart Association (AHA):
- Cardiac Arrest in Pregnancy In-Hospital ACLS Algorithm

California Maternal Quality Care Collaborative (CMQCC):

Cardiovascular Disease Assessment in Pregnant and Postpartum Women

Educational Materials

Alliance for Innovation on Maternal Health (AIM):
- Urgent Maternal Warning Signs Poster

American College of Obstetricians and Gynecologists (ACOG):
- Pregnancy Status Poster: English/Spanish

Association of Women's Health, Obstetrics & Neonatal Nurses (AWHONN):
- Post Birth Warning "SAVE YOUR LIFE" Posters (PDF translations in 50+ languages)

Centers for Disease Control and Prevention (CDC):
- "Hear Her" Campaign

Preeclampsia Foundation:
- Patient Education: Postpartum Preeclampsia - English
- Patient Education: Postpartum Preeclampsia - Spanish
- Patient Education: Signs & Symptoms
- Patient Education: Signs & Symptoms - Spanish

Reproductive Health National Training Center (RHNTC):
- Postpartum Pregnancy Status & Urgent Warning Signs Poster

Simulations

Alliance for Innovation on Maternal Health (AIM):
- ED DRILL SCENARIOS

Maternal Health Task Force at the Harvard Chan School:
- Obstetric Emergency Drills Training Kit - English
- Obstetric Emergency Drills Training Kit - French

Perinatal Quality Collaborative Vermont:
- Resource Binder: A Guide to OB Drill Binders

Transport

Indiana Perinatal Quality Improvement Collaborative:
- Maternal Fetal Transport Go-No Go Algorithm

Maine Center for Disease Control and Prevention:
- SBAR for Handoff Communication During Transport

Mental Health Resources

National Maternal Mental Health
Washington State Suicide and Crisis Lifeline
Perinatal Support Washington

Continued Learning

Centers for Medicare and Medicaid Services, Office of Minority Health:
- Advancing Rural Maternal Health Equity 2022

Collaborative for Implementation Practice
- Implementation Teams

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Key Points for ED staff

Emergency Department Education

Blue Band Initiative Awareness &

Recognizing Pregnancy and Postpartum Hypertensive Disorders

Identifying Patients at Risk

- **Ask all patients** if they are **pregnant or have recently given birth**
- **Look for and ask** about whether patients were given a **Blue Band** by healthcare provider
- **Up to 26% of eclamptic seizures occur after 48 hours postpartum**, sometimes occurring as late as **4-6 weeks postpartum**.
- **About 50% of women with gestational hypertension** will develop preeclampsia.
- Many postpartum patients **presenting with hypertension are first identified after birth**.

Common symptoms include:

- **Severe headache (most common, in 69% of cases)**
- **Vision changes**
- **Seizures**
- **Chest pain or shortness of breath**
- **Severe abdominal pain**
- **Confusion, altered mental status**
- **History of hypertension or preeclampsia**

Hypertensive Emergencies in Pregnant & Postpartum Patients

Severe range blood pressure:

- **Systolic BP ≥ 160 mmHg**
- **Diastolic BP ≥ 110 mmHg**

- These values are **lower than hypertensive emergency criteria for non-pregnant patients** and require **immediate intervention**.
- **Severe-range BP that persists for 15 minutes or more** must be treated **within 30-60 minutes** to reduce the risk of **stroke.**

Importance of Early Recognition & Patient Communication

- **Postpartum concerns are often taken less seriously**—prioritize rapid evaluation.
- **Educate patients** about the importance of **informing ED staff** if they are pregnant or recently given birth, experiencing concerning symptoms: headache, vision changes, chest pain, shortness of breath, or severe abdominal pain and/or wearing a **Blue Band.**

ED Management & Treatment

Step 1: Recognize & Assess	• Identify **current or recent pregnancy** status. • Use best practice to check blood pressure, check **manually** to confirm. • If severe-range BP is present, initiate **ongoing maternal monitoring**
Step 2: Administer First-Line Antihypertensive Medications	• **DO NOT delay treatment. Treat then consult with OB when needed** • **Labetalol IV** • **Hydralazine IV** • **Immediate-release Nifedipine PO**

Step 3: When to Escalate Care & Transfer	• **Immediate OB consultation is required** for any patient with:
	  ○ **Uncontrolled hypertension despite treatment**
	  ○ **New-onset seizures**
	  ○ **Worsening symptoms (e.g., confusion, chest pain, difficulty breathing)**
	  ○ **Signs of stroke** (weakness, slurred speech, facial droop)
	• **If OB or higher-level care is not available onsite, initiate urgent transfer** to a tertiary care facility.
	• **Consider stroke as part of the differential diagnosis** for postpartum patients with **neurologic symptoms or severe-range BP.**
	• **Patients with a history of HDP are also at risk for postpartum cardiomyopathy.** If a patient presents with **shortness of breath, low oxygen saturation, or dyspnea**, evaluate for cardiac complications (BNP, EKG, CXR, echocardiogram).

Step 4: Seizure Prevention & Eclampsia Management	• **Magnesium sulfate** is the **drug of choice** for eclamptic seizures. • **Protect airway & prevent injury** during seizures. • **Provide oxygen (10 L/min via non-rebreather mask)**. • **Monitor BP, HR, O2 saturation, and level of consciousness every 5 minutes** for at least **one hour** post-seizure. • **If cardiac arrest occurs in a preeclamptic/eclamptic patient receiving magnesium sulfate**, give **calcium chloride or gluconate** in addition to **standard ACLS protocols**.

- Postpartum preeclampsia and eclampsia are **life-threatening emergencies.**
- Recheck one **severe-range BP reading (≥160/110 mmHg)** measurement in 15 minutes
- **Treatment within 30-60 minutes** required after second severe-range BP reading (≥160/110 mmHg)
- **Early recognition, rapid antihypertensive treatment, and seizure prevention save lives.**
- **Escalate care** and transfer as needed—stroke is a leading cause of death in preeclampsia.

Relevant Resource Reviewed 2/2025

Alliance for Innovation on Maternal Health. (2022) Severe Hypertension in Pregnancy Patient Safety Bundle. https://saferbirth.org/wp-content/uploads/U1-FINAL_AIM_Bundle_SHP2022.pdf

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Early Recognition & Treatment of HDPP

Improving Maternal & Newborn Outcomes

Blue Band Initiative: A Critical Tool

Identifies at-risk patients
Ensures healthcare providers can quickly recognize individuals needing urgent attention.

Reminds non-OB providers
Highlights critical blood pressure thresholds to prevent delays in treatment.

Empowers patient advocacy
Encourages patients to take an active role in their care and seek timely intervention.

Supports early intervention
Facilitates immediate action, reducing severe maternal complications.

Key Takeaways

- **Early treatment improves outcomes:** Timely intervention reduces severe hypertension and enhances maternal and newborn health.
- **Hypertension is a medical emergency:** Severe cases require treatment within 30-60 minutes to prevent complications.
- **Education alone is insufficient:** Protocols and training must be paired with systemic support for effective intervention.
- **Systemic barriers must be addressed:** Ensuring timely recognition and treatment requires overcoming institutional challenges.
- **Streamlined workflows matter:** Optimizing processes ensures that the right action is the easiest action to take.

EMERGENCY DEPARTMENT BLUE BAND AWARENESS

What is a Blue Band?

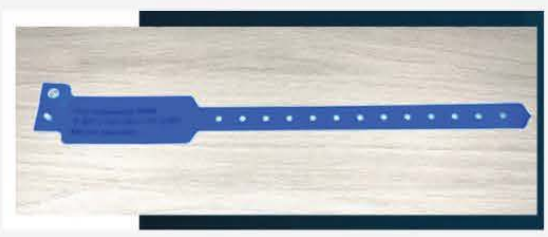
The Blue Band initiative that uses blue wristbands or ribbons to raise awareness about Hypertensive Disorders in Pregnancy and Postpartum and the differences between these and non-pregnant people.

Patients are provided a blue band by a Healthcare Provider. Wearing a blue band, provides a visual cue for assessment & management considerations.

Caution: Not everyone at risk for hypertensive disorders, preeclamplsia, eclampsia will have a blue band.
Continue to ask every patient about current or recent pregnancy status.

What does a Blue Band look like?

A blue band design varies depending on facility and practice preference. Below are some examples



Emergency Department Pregnancy & Postpartum Hypertension Algorithm

15-50 yrs. old presents to ED triage
Ask if they are or were pregnant in the last 6 weeks

References: ACOG, CMQCC, NY State Department of Health ED algo
Revision 2/2025

Is the patient pregnant?

Yes <20 weeks → ED treatment with OB consult as needed for vaginal bleeding, uterine contractions, etc.

Yes >20 weeks → Any of the following patient concerns or clinical features:
New onset headache
visual disturbances
RUQ, epigastric pain
SOB, pulmonary edema
Oliguria
Altered mental status
Seizure
(Blue Band present?)

No → Pregnancy in the past 6 weeks?

Yes → Any of the following patient concerns or clinical features:

No → Consider Cardiac issue if within 1 year postpartum or other differential diagnosis

Plan for potential ED-to-OB consult or transfer

In-house OB?

Yes → Transfer to OB or L&D unit. or request OB medical screening in ED per hospital policy
Communicate:
Suspicion of maternal hypertension and/or preecalmpsia
Symptoms
vital signs including BP
relevant medical history

No → Consult OB in higher level of care and initiate transfer as needed. Communicate the same as above.

Recommended labs for elevated BP:
CBC,
AST, ALT,
serum creatinine;
urine protein/creatinine ratio

Consider Imaging:
Head CT if severe headache or any neurological symptoms
Consider **STROKE** with severe range BP and severe new onset headache

BP measurement

SBP ≥160
OR DBP ≥110

BP Recheck within 15 minutes
≥160/110
HYPERTENSIVE EMERGENCY

Immediate OB Consult (within 30 minutes):
Obtain recommended labs
Initiate anti-hypertensive medications immediately per treatment guidelines
Administer Magnesium Sulfate IV or IM per hospital protocol

SBP 140-159
OR
DBP 90-109
HYPERTENSION

OB Consult within 60 minutes:
Obtain recommended labs
Serial BP q1hr unless significant change in patient condition
Consider anti-hypertensive treatment per guidelines
If BP ≥160/110 at any point, recheck in 15 minutes

SBP <140
OR
DBP <90
NORMAL BP

Routine ED protocol per diagnostic criteria
Notify OB if BP changes. Plan for transitional care management.
OB notification about patient seen in ED upon admission and/or discharge

Treatment Recommendations for Sustained SBP ≥160 or DBP ≥110: 1st Line Anti-Hypertensive Treatment:
Target BP: 130-150/80-100 (If pregnant, dropping BP too fast may result in decreased fetal perfusion)
Antihypertensive treatment and magnesium sulfate should be administered simultaneously. If unable to administer both, prioritize antihypertensive therapy first
If patient has a history of asthma or is bradycardia, choose hydralazine as first line IV medication.

LABETALOL as Primary Antihypertensive

1. Initial dose: **Administer Labetalol 20 mg IV over 2 min**
2. **Repeat BP in 10 min**
   - If SBP ≥160 or DBP ≥110
   - **Administer Labetalol 40 mg IV over 2 minutes**
3. **Repeat BP in 10 min**
   - If SBP ≥160 or DBP ≥110
   - **Administer Labetalol 80 mg IV over 2 minutes**
4. **Repeat BP in 10 min**
   - If SBP ≥160 or DBP ≥110
   - **CONVERT TO hydralazine 10 mg** IV over 2 min
   - **Obtain emergent consultation** from OB, maternal-fetal medicine, internal medicine, anesthesiology, or critical care
5. **Repeat BP in 20 min**
   - If SBP ≥160 or DBP ≥110 while awaiting additional support
   - Administer **Hydralazine 10 mg** IV over 2 min

HYDRALAZINE as Primary Antihypertensive

1. Administer **hydralazine 5 or 10 mg IV over 2 minutes**
2. **Repeat BP in 20 min**
   - If SBP ≥160 or DBP ≥110
   - **administer hydralazine 10 mg IV over 2 minutes**
3. **Repeat BP in 20 min**
   - If SBP ≥160 or DBP ≥110
   - **CONVERT TO labetalol 20 mg IV over 2 minutes**
   - Obtain emergent consultation from maternal-fetal medicine, internal medicine, anesthesiology, or critical care
4. **Repeat BP in 10 min**
   - While awaiting additional support If SBP ≥160 or DBP ≥110
   - Administer **Labetalol 40 mg IV** over 2 minutes
5. **Repeat BP in 10 min**
   - If SBP ≥160 or DBP ≥110 while awaiting additional support
   - Administer **labetalol 80 mg IV** over 2 minutes

PO Nifedipine as Primary Antihypertensive if no IV access

1. Administer **nifedipine immediate release (IR) 10 mg PO**
2. **Repeat BP in 20 min**
   - If SBP ≥160 or DBP ≥110
   - **administer nifedipine 20mg (IR) PO**
3. **Repeat BP in 20 min**
   - If SBP ≥160 or DBP ≥110
   - **administer nifedipine 20mg (IR) PO**
4. **Repeat BP in 20 min**
   - If SBP ≥160 and DBP ≥110
   - **CONVERT TO Labetalol 20 mg IV over 2 minutes**
   - Obtain emergent consultation from OB, maternal-fetal medicine, internal medicine, anesthesiology, or critical care
5. **Repeat BP in 10 minutes**
   - While awaiting additional support If SBP ≥160 or DBP ≥110
   - Administer **Labetalol 40 mg IV** over 2 minutes
6. **Repeat BP in 10 minutes**
   - If SBP ≥160 or DBP ≥110 while awaiting additional support
   - Administer **labetalol 80 mg IV** over 2 minutes

Magnesium Sulfate Administration

Initial Treatment:
1.Loading Dose: 4-6 gm over 15-20 min
2. Maintenance 1-2 gm/hour
3. Close observation for signs of toxicity:
   - Disappearance of deep tendon reflexes
   - Decreased RR, shallow respirations, shortness of breath
   - Heart block, chest pain
   - Pulmonary edema

IF INABLE TO INITIATE IV ACCESS consider IM injection

If Patient Seizes While on Magnesium:
1. Secure airway and maintain oxygenation
2. Give 2nd loading dose of 2 gm magnesium over 5 min
3. If patient seizes after 2nd magnesium bolus, consider one of the following:
   - Midazolam 1-2 mg IV; may repeat in 5-10 min
   - Lorazepam 2 mg IV; may repeat
   - Diazepam 5-10 mg IV; may repeat q15 min to max of 30 mg
   - Phenytoin 1g IV over 20 min

If Seizures Resolve:
1. Maintain airway and oxygenation
2. Monitor VS, cardiac rhythm/ECG for signs of medication toxicity
3. Consider brain imaging for:
   - Head trauma
   - Focal seizure
   - Focal neurologic findings
   - Other neurologic diagnosis is suspected

TARGET BP: 130-150/80-100 mmHG
Once target BP achieved, monitor BP closely
q10 min for 1 hour, q15 min for 2nd hour, q30 min for 3rd hour, then Q1hoiur for 4 hours
If at any point BP >160/110, readminister antihypertensives

References: Adapted from 2023 ACOG Acute Hypertension in Pregnancy & Postpartum algorithm