

The Blue Band Booklet



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Blue Band Overview

In October 2020, MNPQC partnered with CentraCare St. Cloud to collaborate on the Blue Band Project. In the Blue Band Project, providers in hospitals and clinics screen pregnant and postpartum patients to determine current and future risk factors for Hypertensive Disorders of Pregnancy (HDP). Patients determined to be at risk are given a blue bracelet that identifies them as being at risk for eclampsia and stroke and provides internet resources for the patient, as well as any providers or healthcare professionals they may interact with.

WHAT ARE BLUE BANDS?

Blue Bands are bracelets given to patients diagnosed with preeclampsia to identify them as at risk for eclampsia and stroke. They provide resources for patients, healthcare professionals, and first responders.

WHY ARE THEY USED?

Hypertensive Disorders of Pregnancy (HDP) are increasing and are a leading cause of severe maternal morbidity and mortality in the United States, with a large majority of cases being preventable. Recognizing the urgency of timely intervention, the Blue Bands serve as a visual cue to not only highlight risks but also act as an indicator to healthcare professionals who may interface with the patient to prioritize prompt and comprehensive care.

PURPOSE

The Blue Band Project aims to enhance communication among healthcare providers about the unique risks faced by patients with preeclampsia. The project seeks to reduce morbidity and mortality associated with Hypertensive Disorders of Pregnancy by ensuring patients receive timely and appropriate care.

This document provides suggested processes for implementing the Blue Band Project in birthing facilities, outpatient practices, and clinics.

Implementation: 2 Options

Option 1: Using MNPQC Website Support

- To create your own custom branded bands, contact:
 - [Wristband Bros](#)
 - Or another company of your choice
 - Below is an example of a blue band design
 - Include the QR code below to link back to MNPQC website if desired
 - Distribute bands to Hospitals and Clinics



- Create Patient Education Handout Materials
 - [See Washington State examples here](#)
 - See Aspirus St. Luke's Duluth [example 1](#) and [example 2](#) here
 - Link to [MNPQC's Blue Band Website](#)
 - When linking to MNPQC, be sure to include the QR code above on the bands for scannable access to the resource page
- Educate Clinical Staff
 - Standardized approach to BP measurement
 - Standardized approach to hypertensive treatment in peripartum women
 - Multidisciplinary simulation of emergency treatment in all healthcare entry points
 - Potential long term health issues for those with hypertensive disorders of pregnancy
- Communicate to:
 - Clinical team (nurses and staff etc.)
 - Providers
 - OB providers and midwives
 - Family practice providers
 - Emergency services
 - Internal medicine
 - Hospitalists
 - Laborists
 - Clinic personnel
 - Doulas
 - Media
 - Local newspapers
 - Local news media
 - Your facility communications or social media sites
 - Your facility website
 - Media release examples:
 - [Aspirus St. Luke's Duluth](#)
 - [CentraCare St. Cloud](#)
 - [Star Tribune: CentraCare St. Cloud](#)

- Critical Access Hospitals (affiliated or non)
- Emergency Medical Services
 - Ambulance and first responders
 - Fire departments

Before giving the Blue Band to a patient, please verify that the QR code on the patient's band works properly. Additionally, demonstrate to the patient how to access the necessary information by scanning the QR code on the band.

Option 2: Using Your Facility Website

- To create your own custom branded bands, contact:
 - [Wristband Bros](#)
 - Or another company of your choice
 - Below is an example of a blue band design
 - Distribute bands to Hospitals and Clinics





- Create Patient Education Handout Materials
 - [See Washington State examples here](#)
 - See Aspirus St. Luke's Duluth [example 1](#) and [example 2](#) here
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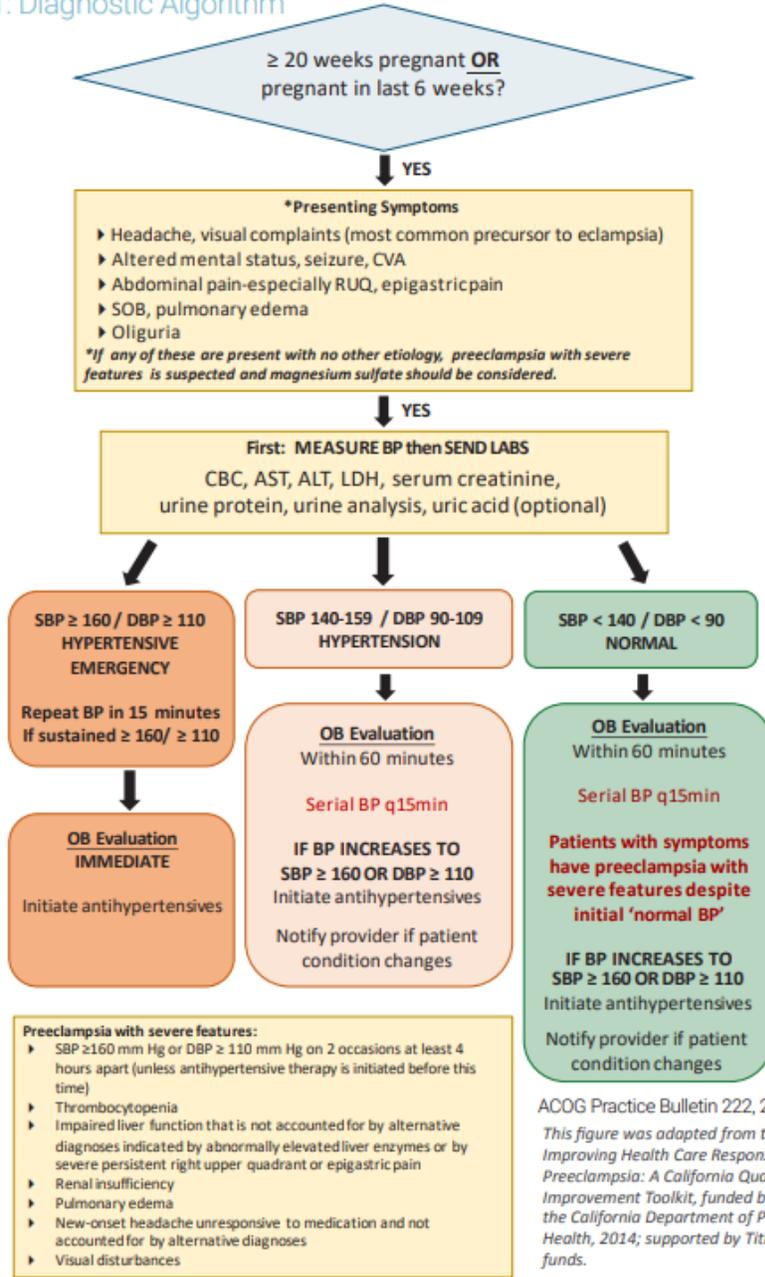
- Patient Education Online Resource Link
 - Create your own patient education online resource
 - [See CentraCare St. Cloud Example Here](#)
 - If creating your own, include links to other resources
 - Other resources:
 - [ACOG Guidance: Emergency Treatment for Severe Hypertension in Pregnancy](#)
 - [ACOG Preeclampsia and High Blood Pressure During Pregnancy](#)
 - [CMQCC Hypertensive Disorders of Pregnancy Toolkit](#)
 - [AWHONN POST-BIRTH Warning Signs Education Program](#)
 - [March of Dimes Preeclampsia](#)
 - [CDC HEAR HER Campaign](#)
 - [MoMMA's Voices](#)

CMQCC Appendix E: Acute Treatment Algorithm

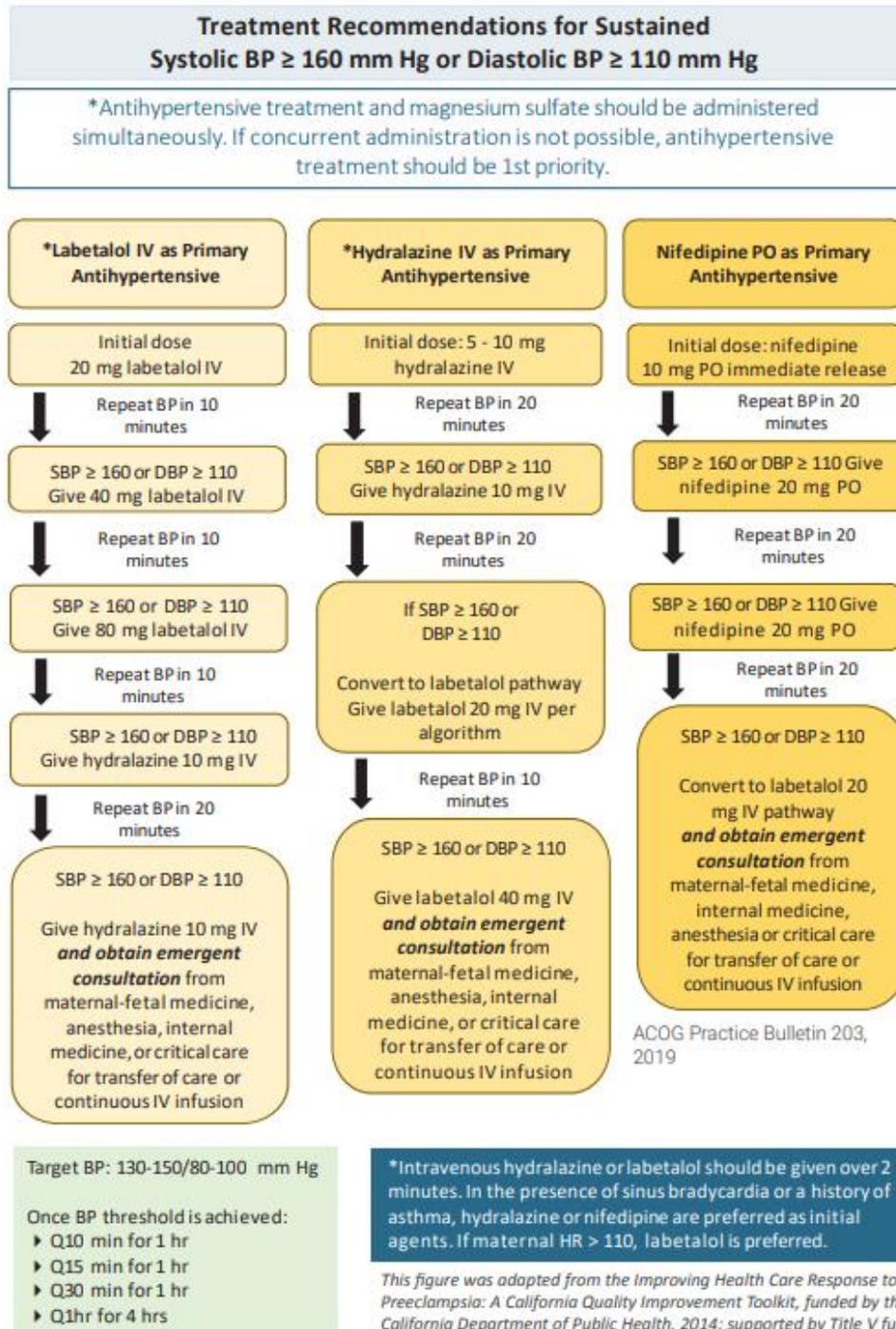
<https://www.cmqcc.org/resource/appendix-e-acute-treatment-algorithm>

*Starting April 30, 2025, access to the CMQCC toolkit requires logging in with an account to download the toolkit items.

Appendix E: Acute Treatment Algorithm Part 1: Diagnostic Algorithm



Part 2: Antihypertensive Treatment Algorithm for Hypertensive Emergencies



Part 3: Magnesium Dosing and Treatment Algorithm for Refractory Seizures

Magnesium: Initial Treatment

1. Loading Dose: 4-6 gm over 20-30 minutes (6 gm for BMI > 35)
2. Maintenance Dose: 1-2 gm per 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
4. Calcium gluconate or calcium chloride should be readily available for treatment of toxicity

For recurrent seizures while on magnesium

1. Secure airway and maintain oxygenation
2. Give 2nd loading dose of 2-4 gm Magnesium over 5 minutes
3. If patient still seizing 20 minutes after 2nd magnesium bolus, consider one of the following:
 - ▶ Midazolam 1-2 mg IV; may repeat in 5-10 min
 - OR**
 - ▶ Diazepam 5-10 mg IV slowly; may repeat q15 min to max of 30 mg
 - OR**
 - ▶ Phenytoin 1,250 mg IV at a rate of 50 mg/min
 - ▶ Other medications have been used with the assistance of anesthesia providers such as:
 - Sodium thiopental
 - Sodium amobarbital
 - Propofol
4. Notify anesthesia
5. Notify neurology and consider head imaging

Seizures Resolve

1. Maintain airway and oxygenation
2. Monitor vital signs, cardiac rhythm/EKG for signs of medication toxicity
3. Consider brain imaging for:
 - ▶ Head trauma
 - ▶ Focal seizure
 - ▶ Focal neurologic findings
 - ▶ Other suspected neurologic diagnosis
4. Reassure patient with information, support
5. Debrief with team before shift end

This figure was adapted from the Improving Health Care Response to Preeclampsia: A California Quality Improvement Toolkit, funded by the California Department of Public Health, 2014; supported by Title V funds.

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Suggested EHR Data/Metric Tracking

| | |
|---------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Patient Demographics & Identifiers | <ul style="list-style-type: none"> • CSN • Ethnicity • Race • Language |
| Hospital Admission & Discharge Details | <ul style="list-style-type: none"> • Admit date/time • Admit day of week • Discharge date/time • Delivery date |
| Pregnancy & Delivery Details | <ul style="list-style-type: none"> • Gestational age • Gestation of induction rates • Newborn outcomes |
| Hypertension Management | <ul style="list-style-type: none"> • Current hypertension diagnosis • Hypertension order set initiated • BP control • BP med dose • Currently on BP meds • Discharged on hypertension meds • First BP \geq 160/110 date/time • MHA: timely treatment of BP's $>$160/110 within one hour |
| Hypertensive Disorders of Pregnancy (HDP) | <ul style="list-style-type: none"> • Readmittance rates for HDP • Induction rates related to HDP • Rate of patients with severe Pre-E on Magnesium both labor/delivery and postpartum |
| Education & Documentation | <ul style="list-style-type: none"> • Hypertension education completed • Blue Band documented |
| Post-Discharge Details | <ul style="list-style-type: none"> • D/C home on BP meds (not taking beforehand) |

CMQCC Preeclampsia Early Recognition Tool (PERT)*

<https://www.cmqcc.org/resource/preeclampsia-early-recognition-tool-pert>

*Starting April 30, 2025, access to the CMQCC toolkit requires logging in with an account to download the toolkit items.

Preeclampsia Early Recognition Tool (PERT)

| ASSESS | NORMAL (GREEN) | WORRISOME (YELLOW) | SEVERE (RED) |
|--------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------|
| Awareness | Alert/oriented | <ul style="list-style-type: none"> Agitated/confused Drowsy Difficulty speaking | <ul style="list-style-type: none"> Unresponsive |
| Headache | None | <ul style="list-style-type: none"> Mild headache Nausea, vomiting | <ul style="list-style-type: none"> Unrelieved headache |
| Vision | None | <ul style="list-style-type: none"> Blurred or impaired | <ul style="list-style-type: none"> Temporary blindness |
| Systolic BP (mm HG) | 100-139 | 140-159 | ≥160 |
| Diastolic BP (mm HG) | 50-89 | 90-105 | ≥105 |
| HR | 61-110 | 111-129 | ≥130 |
| Respiration | 11-24 | 25-30 | <10 or >30 |
| SOB | Absent | Present | Present |
| O2 Sat (%) | ≥95 | 91-94 | ≤90 |
| Pain: Abdomen or Chest | None | <ul style="list-style-type: none"> Nausea, vomiting Chest pain Abdominal pain | <ul style="list-style-type: none"> Nausea, vomiting Chest pain Abdominal pain |
| Fetal Signs | <ul style="list-style-type: none"> Category I Reactive NST | <ul style="list-style-type: none"> Category II IUGR Non-reactive NST | <ul style="list-style-type: none"> Category III |
| Urine Output (ml/hr) | ≥50 | 30-49 | ≤30 (in 2 hrs) |
| Proteinuria (Level of proteinuria is not an accurate predictor of pregnancy outcome) | Trace | <ul style="list-style-type: none"> ≥ +1** ≥300mg/24 hours | |
| Platelets | >100 | 50-100 | <50 |
| AST/ALT | <70 | >70 | >70 |
| Creatinine | <0.8 | 0.9-1.1 | >1.2 |
| Magnesium Sulfate Toxicity | <ul style="list-style-type: none"> DTR +1 Respiration 16-20 | <ul style="list-style-type: none"> Depression of patellar reflexes | <ul style="list-style-type: none"> Respiration <12 |

GREEN = NORMAL
Proceed with protocol

YELLOW = WORRISOME
Increase assessment frequency

| # Triggers | TO DO |
|------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1 | <ul style="list-style-type: none"> Notify provider |
| ≥2 | <ul style="list-style-type: none"> Notify charge RN In-person evaluation Order labs/tests Anesthesia consult Consider magnesium sulfate Supplemental oxygen |

**Physician should be made aware of worsening or new-onset proteinuria

RED = SEVERE
Trigger: 1 of any type listed below

| TO DO | |
|------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <ul style="list-style-type: none"> Immediate evaluation Transfer to higher acuity level 1:1 staff ratio | |
| <ul style="list-style-type: none"> Awareness Headache Visual | <ul style="list-style-type: none"> Consider Neurology consult CT scan R/O SAH/intracranial hemorrhage |
| <ul style="list-style-type: none"> BP | <ul style="list-style-type: none"> Labetalol/hydralazine in 30 min In-person evaluation Magnesium sulfate loading or maintenance infusion |
| <ul style="list-style-type: none"> Chest Pain Respiration SOB O2 SAT | <ul style="list-style-type: none"> Consider CT angiogram O2 at 10 L per rebreather mask R/O pulmonary edema Chest x-ray |

POST-BIRTH Warning Signs Education Program

<https://www.awhonn.org/education/hospital-products/post-birth-warning-signs-education-program/>

SAVE YOUR LIFE: Get Care for These POST-BIRTH Warning Signs

Most women and postpartum people who give birth recover without problems. But anyone can have a complication for up to one year after birth. Learning to recognize these POST-BIRTH warning signs and knowing what to do can save your life.

Trust your instincts.
ALWAYS get medical care if you are not feeling well or have questions or concerns.

| | |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <p>Call 911 if you have:</p> | <ul style="list-style-type: none"> <input type="checkbox"/> Pain in chest <input type="checkbox"/> Obstructed breathing or shortness of breath <input type="checkbox"/> Seizures <input type="checkbox"/> Thoughts of hurting yourself or someone else |
| <p>Call your healthcare provider if you have: (you only need one sign) <small>if you can't reach your healthcare provider, call 911 or go to an emergency room</small></p> | <ul style="list-style-type: none"> <input type="checkbox"/> Bleeding, soaking through one pad/hour, or blood clots, the size of an egg or bigger <input type="checkbox"/> Incision that is not healing <input type="checkbox"/> Red or swollen leg, that is painful or warm to touch <input type="checkbox"/> Temperature of 100.4°F or higher or 96.8°F or lower <input type="checkbox"/> Headache that does not get better, even after taking medicine, or bad headache with vision changes |

Tell 911 or your healthcare provider:

"I gave birth on _____ and
I am having _____"
(Date) (Specify warning sign)



Scan here to download this handout in multiple languages.

These post-birth warning signs can become life-threatening if you don't receive medical care right away because:

- Pain in chest, obstructed breathing or shortness of breath (trouble catching your breath) may mean you have a blood clot in your lung or a heart problem
- Seizures may mean you have a condition called eclampsia
- Thoughts or feelings of wanting to hurt yourself or someone else may mean you have postpartum depression
- Bleeding (heavy), soaking more than one pad in an hour or passing an egg-sized clot or bigger may mean you have an obstetric hemorrhage
- Incision that is not healing, increased redness or any pus from episiotomy, vaginal tear, or C-section site may mean an infection
- Redness, swelling, warmth, or pain in the calf area of your leg may mean you have a blood clot
- Temperature of 100.4°F or higher or 96.8°F or lower, bad smelling vaginal blood or discharge may mean you have an infection.
- Headache (very painful), vision changes, or pain in the upper right area of your belly may mean you have high blood pressure or post birth preeclampsia

This program is supported by funding from Merck, through Merck for Mothers, the company's 10-year, \$500 million initiative to help create a world where women are giving the Merck for Mothers a leg up as MD for Mothers outside the United States and Canada.

AWHONN thanks Merck for commercial support of the development of this handout.

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AIM – Severe Hypertension in Pregnancy Bundle

<https://saferbirth.org/psbs/severe-hypertension-in-pregnancy/>

SEVERE HYPERTENSION IN PREGNANCY

The Severe Hypertension in Pregnancy patient safety bundle revision process began in September 2021. In this revision process, subject matter experts revised existing and included new elements according to evidence-based practices. Additionally, the bundle revision process incorporated Respectful Care elements in a 5th R and throughout the rest of the bundle to ensure whole person, patient-centered, and trauma-informed care for every patient, in every clinical encounter. The revised Severe Hypertension in Pregnancy patient safety bundle was released in June 2022. For state, jurisdiction, and hospital-based teams interested in implementing a patient safety bundle related to severe hypertension in pregnancy, please utilize the revised Severe Hypertension in Pregnancy patient safety bundle.

| | | |
|----------------------------------------------------|---|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| READINESS | + | QUICK LINKS <ul style="list-style-type: none">▪ Patient Safety Bundle (PDF)▪ Element Implementation Details (PDF)▪ Implementation Resources (PDF)▪ Data Collection Plan (PDF)▪ Change Package (PDF)▪ Implementation Webinar (Video)▪ Patient Safety Bundle (2015) (PDF)▪ Complete Resource Listing (2018) (PDF)▪ Bundle Element Context and Reference List (xlsx) |
| RECOGNITION & PREVENTION | + | |
| RESPONSE | + | |
| REPORTING & SYSTEMS LEARNING | + | |
| RESPECTFUL, EQUITABLE & SUPPORTIVE CARE | + | |

Thank you to the Washington Department of Health, Evergreen Health, CentraCare St. Cloud, Aspirus St. Luke’s Duluth, and the MNPQC Hypertension Faculty for helping us create this booklet!

Please contact info@minnesotaperinatal.org with any questions.