FTI: Maternal Warning Signs

Workflow Resources
Standardized DC Summary
POSTBIRTH Resources 5.22
The new PP Model: Recognition & Prevention

Establish
• Establish system for scheduling postpartum care visits & needed immediate specialty care visits prior to discharge

Screen
• Screen each patient for postpartum risk factors and provide linkage to community resources prior to discharge

Assess and Document
• In all care environments assess and document if a patient is presenting pregnant or has been pregnant in the past year

Offer
• Offer reproductive life planning discussions and resources, including contraceptive options
Best Practice Model: Standardized Postpartum Care

POSTPARTUM Screenings should include:

- Medical conditions
  - Pre-PG and PG
- Mental health needs or conditions
- Substance use disorder needs
- Structural and social drivers of health
- Breastfeeding
- Family Planning
Best Practice Model:  
**Standardized Postpartum Care**

All provided resources should align with the postpartum patient’s:

- Health literacy
- Cultural needs
- Language proficiency
- Geographic location and access
AIM: Essential Elements of DC Education

Should include:
- Who to contact with medical and mental health concerns
  - stratified by severity of condition or symptoms
- Physical and mental health needs
- Review of warning signs/symptoms including what conditions they might be related to
  - allowing for advocacy if an approached provider is not obstetrical or of another clinical specialty
- Reinforcement of the value of outpatient postpartum visits
- Summary of birth events
- Home monitoring process and parameters for blood pressure, blood glucose, and/or other monitoring metrics
In every patient, in every birth setting, in every protocol:

- Maternal Warning Signs
  - POSTBIRTH Education & Recognition
  - Screen all
  - Identify Medical/Social Red Flags: refer prior to discharge
- Maternal Mental Health
  - Screen all
  - Refer + Screen
  - Educate All (POSTBIRTH)
- PP Appointment prior to discharge
- Breastfeeding
  - High 5 for Mom & Baby, Baby Friendly
- Family Planning
  - Offer prior to discharge, Refer for services
- SSDOH
  - Screen all
- PP Care Team: Pt included
  - Who? How? When?
- Pt debriefs
- ED/EMS Triage
- Link Up! (MCH, Outpatient clinics, etc)
In every patient, in every birth setting, in every protocol:

- Screen
- Educate
- Identify
- Refer
In every patient, in every birth setting:

- PP Appt prior to DC
- SDOH assessment
- Standardized Discharge Summary
ACOG: Standardized DC Summary

**Should include:**
- Name and age
- Support person contact information
- Gravida/para status
- Date and type of birth, gestational age at birth, relevant conditions and complications
- Name, contact information and appointments for relevant providers, including OB/GYN specialists, mental health provider, etc.
- Positive screening for medical risk factors, mental health, and substance use
- Medications and supplements
- Unmet actual and potential social drivers of health needs
- Suggested community services and supports
- Need for specific postpartum testing such as glucose testing or CBC
It starts at Admission in LABOR

Draft Your Process Flow: Maternal Warning Signs

- Intrapartum Screening
- Immediate PP Screening
- + Screen = Discharge Referral
Draft your Process/Education Flow: PP

Scheduling Early PP Visit

Process Flow for Scheduling Early Postpartum Visit

- Patient meets all discharge criteria
  - Patient counseled on need for early postpartum visit at 2 weeks and will help make appointment before discharge
- Provide patient education materials on the benefit of early postpartum visit, warning signs/symptoms to seek care (e.g. AWHONN handout), and information on benefits of pregnancy spacing/family planning options.
- Able to schedule early postpartum appointment before discharge
  - Yes: Appointment scheduled and appointment date and time added to patient’s discharge paperwork
  - No: Arrange follow up with patient to schedule 2 week postpartum visit after discharge
- Document counseling, education and postpartum care plan in discharge summary / instructions and ensure patient has follow up plan

Confirm patient has early pp visit scheduled and document in record.
Draft your Process/Education Flow

Process map current discharge workflow

- **OB Provider**
  - OB Provider to see patient and place d/c order
  - Prescription plan/orders complete in EMR or e-pharmacy
  - Complete AVS (d/c) instructions and signed off in EMR specific to patient

- **PP Nurse**
  - Verify OB Provider tasks are complete
  - Complete birth record activities or verify parental plan for birth record completion
  - Complete discharge education for mother and baby

- **Secretary**
  - Send admitting notification on patient's discharge
  - Clear chart from EMR system
  - Order for pp room to be cleaned

**Test** – work with patient to call the provider’s office to schedule postpartum visit during postpartum discharge education on early warning sign and importance of early postpartum visit.
Draft Your Process Flow: Medical Risk Factors

Postpartum Care Team
- Inpatient Referral
- Outpatient Referral

Inpatient Referral
- Who
- Completion, further referrals?

Outpatient Referral
- Who
- Navigation needed? SDOH impact?
- Referral & Appt Made prior to discharge
Connecting Dots

Postpartum Visit
• Primary OB Provider, Home Visitor etc
• Breastfeeding, Family Planning
• High Risk Needs: Internal Med, etc
• MWS, MMH referral?

Standardized PP Visit
• Visit Schedule
• Visit Template
• Navigation needed? SDOH impact?
• Referrals
Draft your Process/Education Flow: PP

Education

SAVE YOUR LIFE:
Get Care for These POST-BIRTH Warning Signs
Most women who give birth recover without problems. But any woman can have complications after the birth of a baby. Learning to recognize these POST-BIRTH warning signs and knowing what to do can save your life.

Call 911 if you have:
- Pain in chest
- Obstructed breathing or shortness of breath
- Seizures
- Thoughts of hurting yourself or your baby

Call your healthcare provider if you have:
- Bleeding, soaking through one pad/hour, or blood clots, the size of an egg or bigger
- Incision that is not healing
- Red or swollen leg, that is painful or warm to touch
- Temperature of 100.4°F or higher
- Headache that does not get better, even after taking medicine, or bad headache with vision changes

Tell 911 or your healthcare provider: “I had a baby on _______ and I am having _________. (Describe warning signs)”

KPQC
Kansas Perinatal Quality Collaborative
The “Mom Card”

Mom’s Name: ____________________________

Date of Delivery: _____________

Vaginal Birth  C-Section Birth

Complications in pregnancy:

Asthma  Diabetes

Depression/Anxiety  Hypertension  Thyroid Disease

Other: ____________________________

Medications at discharge: ____________________________

Upcoming Appointments:

Date: _____________  Time: _____________  With: ____________________________

Date: _____________  Time: _____________  With: ____________________________

Date: _____________  Time: _____________  With: ____________________________

What happens at a Postpartum Check? https://www.marchofdimes.org/pregnancy/your-postpartum-checkup

Baby’s Name: ____________________________

Term: ____________________________  Preterm: ________ weeks

Birth Weight: ____________________________  Birth Length: ____________________________

Infant Feeding: Breast Milk  Formula  Both

Upcoming Appointments:

Date: _____________  Time: _____________  With: ____________________________

Date: _____________  Time: _____________  With: ____________________________

Created by: Delivering Change, Inc.
Referrals: Each FTI Site

Steps for completing mapping tool

- Identify local referral services/ resources using provided lists/ databases.
- Begin preliminary list of potential resources for each referral need in your service area.
- Contact resources to gather information and specifics about each resource.
- Complete mapping tool and create process flow to show care team key linkage steps.
- Finalize mapping tool & process flow and distribute per hospital protocol (intranet, EMR, etc.).
- Review and update mapping tool annually.
Maternal Warning Signs: Policy/Protocol

POST-BIRTH WARNING SIGNS: TEACHING GUIDE

This guide is a teaching guide for nurses to use when educating all women about the essential warning signs that can result in maternal morbidity and mortality.

Instructions:
• Instruct ALL women about all of the following potential complications. All teaching should be documented on this form or in your facility's electronic health record.
• Focus on risk factors for a specific complication first; then review all warning signs.
• Emphasize that women do not have to experience ALL of the signs in each category for them to seek care.
• Encourage the woman's significant other or designated family members to be included in education whenever possible.

The information included in this guide is organized according to complications that can result in severe maternal morbidity or material mortality. Essential teaching points should be included in all postpartum discharge teaching.

The parent handout, "Save Your Life," is designed to reinforce this teaching. This handout is organized according to ANHROIN's acronym, POST-BIRTH, to help everyone remember the key warning signs and when to call 911 or a health provider. A portion of this handout is below for reference.

Call 911 if you have:
• Pain in chest
• Obstructed breathing or shortness of breath
• Seizures
• Thoughts of hurting yourself or someone else

Call your healthcare provider if you have:
• Bleeding, soaking through one pad/hour, or blood clots, the size of an egg or bigger
• Incision that is not healing
• Red or swollen leg, that is painful or warm to touch
• Temperature of 100.4°F or higher
• Headache that does not get better, even after taking medicine, or bad headache with vision changes

Below is a suggested conversation-starter:
"Although most women who give birth recover without problems, any woman can have complications after the birth of a baby. Learning to recognize these POST-BIRTH warning signs and knowing what to do can save your life. I would like to go over these POST-BIRTH warning signs with you now, so you will know what to look for and when to call 911 or when to call your healthcare provider."
### Maternal Warning Signs: Policy/Protocol

<table>
<thead>
<tr>
<th>©2019 Association of Women’s Health, Obstetric and Neonatal Nurses. All rights reserved. Reproduction in whole or in part without written permission is prohibited.</th>
</tr>
</thead>
</table>

#### Venous Thromboembolism

**What is Venous Thromboembolism?**
Venous thromboembolism is when a blood clot usually in your leg (calf vein).

**Signs of Venous Thromboembolism**
- Leg pain, tender to touch, burning, or redness, particularly in the calf area.
- Swelling of one leg more than the other.

**Obtaining Immediate Care**
If symptoms worsen or no response from provider/line, call 911 or go to nearest emergency room.

**RN initials**

<table>
<thead>
<tr>
<th>Date</th>
<th>Family/support person present? YES / NO</th>
</tr>
</thead>
</table>

#### Infection

**What is Infection?**
An infection is an invasion of bacteria or viruses that enter and spread through your body, making you ill.

**Signs of Infection**
- Temp > 100°F (38°C)
- Bad smelling blood or discharge from the vagina
- Increase in redness or discharge from episiotomy or C-section site or open wound not healing

**Obtaining Immediate Care**
Call healthcare provider immediately for these signs.

**RN initials**

<table>
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</table>

#### Postpartum Depression

**What is Postpartum Depression (PPD)?**
Postpartum depression is a type of depression that occurs after childbirth. PPD can occur as early as one week up to one year after giving birth.

**Signs of Postpartum Depression**
- Thinking of hurting yourself or your baby
- Feeling out of control, unable to care for self or baby
- Feeling depressed or sad most of the day every day
- Having trouble sleeping or sleeping too much
- Having trouble bonding with your baby

**Obtaining Immediate Care**
Call 911 or go to nearest emergency room if you feel you might harm yourself or your baby.
Call healthcare provider immediately for other signs of depression (sadness, withdrawn, difficulty coping with parenting).

**RN initials**

<table>
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</table>

### Follow-Up Appointment

- Discuss importance of follow-up visit with doctor, nurse practitioner or midwife in 4–6-weeks (or sooner if health status warrants it)
- Provide correct phone number for appointments
- Emphasize importance of notifying all healthcare providers of delivery date up to one year postpartum
- Confirm date for postpartum appointment prior to discharge

**RN initials**

<table>
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</tr>
</thead>
</table>

The patient received the POST-BIRTH Warning Signs education and a copy of the “Save Your Life” handout.

**Patient Signature**

<table>
<thead>
<tr>
<th>Date/Time</th>
</tr>
</thead>
</table>

**Name Initials and Signature**

<table>
<thead>
<tr>
<th>Date/Time</th>
</tr>
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</table>
POST-BIRTH Resources
Accessing the PBWS Implementation Toolkit

[https://www.awhonn.org/page/PBWSDownloads](https://www.awhonn.org/page/PBWSDownloads)

Password: #JR3EvT2018

*Once you have logged in, you will be able to access the items in the Implementation Toolkit.*
POSTBIRTH Resources: Multiple languages

Welcome to PBWS Resources

- 06.1 PBWS Save Your Life Handout Arabic
- 06.2 PBWS Save Your Life Handout Chinese Mandarin
- 06.3 PBWS Save Your Life Handout English
- 06.4 PBWS Save Your Life Handout Spanish
- 06.5 PBWS Save Your Life Handout Haitian Creole
- 06.6 PBWS Save Your Life English Poster Size
- 07 PBWS Teaching Guide
- 08 PBWS References for Online Course

https://www.awhonn.org/pbws-access-administrative-manuals/
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MATERNAL WARNING SIGNS

MATERNAL WARNING SIGNS Patient Education Resources – Description and Ideal Use

<table>
<thead>
<tr>
<th>Symptom</th>
<th>Description</th>
<th>Ideal Use</th>
</tr>
</thead>
<tbody>
<tr>
<td>Headache</td>
<td>Dizziness and fatigue</td>
<td>Prevention care</td>
</tr>
<tr>
<td>Backache</td>
<td>Lumbar pain</td>
<td>Prevention care</td>
</tr>
<tr>
<td>Vomiting</td>
<td>Loss of appetite</td>
<td>Prevention care</td>
</tr>
<tr>
<td>Shortness of breath</td>
<td>Difficulty breathing</td>
<td>Prevention care</td>
</tr>
</tbody>
</table>

At a Glance – Quick Guide to MWS Resources:

- Primary Care/Primary Prevention
- Secondary Care/Secondary Prevention
- Tertiary Care/Tertiary Prevention
- Supportive Care/Supportive Prevention

URGENT MATERNAL WARNING SIGNS

SEÑALES MATERNAS DE ADVERTENCIA URGENTES

- Call 911 if you have:
  - Trouble breathing
  - Sudden severe headache
  - Severe abdominal pain
  - Difficulty breathing
  - Dizziness

- Call your healthcare provider if you have:
  - Any of these symptoms during pregnancy:
  - Difficulty breathing
  - Sudden severe headache
  - Severe abdominal pain
  - Difficulty breathing
  - Dizziness

Action Plan for Depression and Anxiety Around Pregnancy:

- Recognize the signs and symptoms:
  - Difficulty sleeping
  - Changes in appetite
  - Feelings of sadness or hopelessness
- Reach out for help:
  - Contact your healthcare provider
  - Call 911 if you have thoughts of suicide

Plan de acción para la depresión y la ansiedad en el embarazo:

- Reconoce los síntomas:
  - Dificultad para dormir
  - Cambios en el apetito
  - Sensación de tristeza o desesperanza
- Busca ayuda:
  - Contacta a tu proveedor de atención médica
  - Llama a 911 si tienes pensamientos de suicidio

MWS Toolkit
Welcome to PBWS Resources

Introductory Items
- 09 PBWS Audit Final
- 10.1 PBWS Magnet Arabic
- 10.2 PBWS Magnet Chinese Mandarin
- 10.3 PBWS Magnet English
- 10.4 PBWS Magnet Spanish
- 10.5 PBWS Save Your Life Magnet Haitian Creole

Clinical Tools
- 11 PBWS Sample News Release
- 12 PBWS Sample Timeline
- 13 Bulletin Board Communication Materials

Implementation Tools
Maternal Hypertensive Disease PP

POST-BIRTH trained/educated Identification/Diagnosis (aka Screen POSITIVE)
Postpartum Care Team alerted
Maternal Hypertensive Checklist = Protocol
Preeclampsia Checklist = Protocol

PP Discharge Summary
◦ Mom Card completed
Referral from PP Discharge provider to Primary OB Provider
  *Internal Medicine, Cardiology may also be consulted
PP Appointment(s) Made:
3-5 days Post-Discharge
7-10 days by Primary OB Provider
Pt has had POST-BIRTH education for red flags
“Mom Card” utilized
ACOG: HTN Bundles

Maternal Warning Signs: ACOG

Types of Hypertension

Chronic Hypertension
- SBP ≥ 140 or DBP ≥ 90
- Pre-pregnancy or <20 weeks

Gestational Hypertension
- SBP ≥ 140 or DBP ≥ 90 on at least two occasions at least 4 hrs apart after 20 weeks gestation in women with previously normal BP
- Absence of proteinuria or systemic signs/symptoms

Preeclampsia – Eclampsia
- SBP ≥ 140 or DBP ≥ 90
- Proteinuria with or without signs/symptoms
- Presentation of signs/symptoms/lab abnormalities but no proteinuria
*Proteinuria not required for diagnosis eclampsia seizure in setting of hypertension

Chronic Hypertension with Superimposed Preeclampsia
- Preeclampsia in a woman with a history of hypertension before of gestation

Preeclampsia with severe features

(ACOG Practice Bulletin #53, Gestational Hypertension and Preeclampsia, & ACOG Practice Bulletin #203, Chronic Hypertension in Pregnancy)
- SBP ≥ 160 or DBP ≥ 110 (can be confirmed within a short interval with antihypertensive therapy)
- Thrombocytopenia (platelet count less than 100,000/microlitre)
- Impaired liver function that is not accounted for by alternate causes (elevated liver enzymes and/or abnormally elevated blood concentrations of liver enzymes in the absence of normal concentrations), or by severe persistent right upper quadrant pain with abnormalities of liver function test results, and unresponsive to medications.
- Renal insufficiency (serum creatinine concentration more than 1.5 mg/100 mL) or serum creatinine concentration in the absence of other renal function abnormalities
- Pulmonary edema
- New-onset headache unresponsive to medication and not a feature of migraine headache
- Visual disturbances

First Line Therapies

- Intravenous labetalol
- Intravenous hydralazine
- Oral nifedipine

Magnesium sulfate not recommended as antihypertensive agent
- Should be used for: seizure prophylaxis and controlling seizures in eclampsia
- IV bolus of 4-6 grams in 100 mL over 20 minutes, followed by IV infusion of 1-2 grams per hour. Continue for 24 hours postpartum
- If no IV access, 10 grams of 50% solution IM (5 g in each buttock)
- Contraindications: pulmonary edema, renal failure, myasthenia gravis

Anticonvulsants (for recurrent seizures or when magnesium is C/I):
- Lorazepam: 2-4 mg IV x 1, may repeat x 1 after 10-15 min
- Diazepam: 5-10 mg IV every 5-10 min to max dose 30 mg
- Phenytion: 15-20 mg/kg IV x 1, may repeat 10 mg/kg IV after 20 min if no response. Avoid with hypotension, may cause cardiac arrhythmias.
- Keppra: 500 mg IV or orally, may repeat in 12 hours. Dose adjustment needed if renal impairment.

*There may be adverse effects and additional contraindications. Clinical judgement should prevail
Labelolol Algorithm

Trigger: If severe elevations (SBP ≥ 160 or DBP ≥ 110) persist* for 15 min or more OR if two severe elevations are obtained within 15 min and 1x is clinically indicated

1. Labetolol 20 mg IV over 2 minutes
2. Repeat BP in 10 minutes
3. If SBP ≥ 160 or DBP ≥ 110, administer labetolol 80 mg IV over 2 minutes; if BP below threshold, continue to monitor BP closely
4. Repeat BP in 10 minutes
5. If SBP ≥ 160 or DBP ≥ 110 at 2 minutes, obtain emergency consultation from specialist in MFM, internal medicine, anesthesia, or critical care
6. If SBP ≥ 160 or DBP ≥ 110, administer hydralazine 10 mg IV over 2 minutes; if below threshold, continue to monitor BP closely
7. Give additional antihypertensive medication per specific order as recommended by specialist
8. Repeat BP in 20 minutes
9. Once BP thresholds are achieved, repeat BP:

- Every 10 minutes for 1 hour
- Then every 15 minutes for 1 hour
- Then every 30 minutes for 1 hour
- Then every hour for 4 hours

10. Institute additional BP monitoring per specific order

* Two severe readings more than 15 minutes and less than 60 minutes apart
1 Avoid parenteral labetolol with active* asthma, heart disease, or congestive heart failure; use with caution with history of asthma. May cause neonatal bradycardia.
2 "Active asthma* is defined as:
   A symptoms at least once a week, or
   B use of an inhaler, corticosteroids for asthma during the pregnancy, or
   C any history of intubation or hospitalization for asthma.
3 Hydralazine may increase risk of maternal hypotension.

Safe Motherhood Initiative
Revised February 2020
Additional Therapy Recommendations

**IF NO IV ACCESS AVAILABLE:**
- Initiate algorithm for oral nifedipine, or
- Oral labetalol, 200 mg *Repeat in 30 min if SBP remains ≥ 160 or DBP ≥ 110 and IV access still unavailable

**SECOND LINE THERAPIES** (if patient fails to respond to first line tx):
Recommend emergency consult with:
- Maternal Fetal Medicine
- Internal Medicine
- Anesthesiology
- Critical Care
- Emergency Medicine

*May also consider:*
- Labetalol or nicardipine via infusion pump
- Sodium nitroprusside for extreme emergencies *Use for shortest amount of time due to cyanide/thiocyanate toxicity*
Hypertensive Emergency Checklist

Hypertensive Emergency:
- Two severe BP values (systolic taken 15-30 minutes apart. Values do not need to be consecutive.
- May treat within 15 minutes if clinically indicated.
- Call for assistance
- Designate:
  - Team leader
  - Checklist reader/recorder
  - Primary RN
- Ensure side rails are up
- Ensure medications appropriate given patient history
- Administer seizure prophyaxis (magnesium sulfate first line agent, unless contraindicated)
- Antihypertensive therapy within 1 hour for persistent severe range BP
- Place IV; draw PEC labs
- Antenatal corticosteroids
  - (if ≥34 weeks of gestation)
- Re-address VTE prophylaxis requirement
- Place indwelling urinary catheter
- Brain imaging if unrelenting headache or neurological symptoms
- Debrief patient, family, and obstetric team

Magnesium Sulfate
- Contraindications: Metastatic disease; avoid with pulmonary edema, use caution with renal failure
- IV access:
  - Load 4.6 grams 50% 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 ≥180 or DBP ≥110
  - (See SM algorithm for complete management when necessary to move to another agent after 2 doses)
- Labetalol (initial dose: 20mg)
- Avoid intravenous 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 hypertension
- Oral Nifedipine (80 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 (MM, internal medicine, OB anesthesiology, critical care) is recommended

Anticonvulsant Medications
- For remitting seizures or when magnesium sulfate contraindicated
- Lorazepam (Ativan): 2-4 mg IV x 4, may repeat once after 10-15 min
- Diazepam (Valium): 5-10 mg IV x 4, 30 min to maximum dose 30 mg

- Call for assistance
- Designate team leader, checklist reader, primary RN
- Ensure side rails are up
- Administer seizure prophylaxis
- Antihypertensive therapy within 1 hr for persistent severe range BP
- Place IV; Draw PEC labs
- Antenatal corticosteroids is <34 wks gestation
- Re-address VTE prophylaxis requirement
- Place indwelling urinary catheter
- Brain imaging if unrelenting headache or neurological symptoms
- Debrief patient, family, OB team
Postpartum Surveillance

Necessary to prevent additional morbidity as preeclampsia/eclampsia can develop postpartum

**INPATIENT**
- Measure BP every 4 hours after delivery until stable
- Do not use NSAIDs for women with elevated BP
- Do not discharge patient until BP is well controlled for at least 24 hours

**OUTPATIENT**
- For pts with preeclampsia, visiting nurse evaluation recommended:
  - Within 3-5 days
  - Again in 7-10 days after delivery (earlier if persistent symptoms)

**ANTIHYPERTENSIVE THERAPY**
- Recommended for persistent postpartum HTN: SBP $\geq 150$ or DBP $\geq 100$ on at least two occasions at least 4 hours apart
- Persistent SBP $\geq 160$ or DBP $\geq 110$ should be treated within 1 hour
Postpartum Preeclampsia Checklist

If Patient ≤ 6 Weeks Postpartum with:
- BP ≥ 160/110 or
- BP ≥ 140/90 with unrelenting 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
  □ Chemistry Panel
  □ PT
  □ INR
  □ Fibrinogen
  □ Type and Screen
☐ Ensure medications appropriate given patient history
☐ Administer seizure prophyllaxis
☐ 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 unrelenting 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: Hypersensitivity; 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
    - Infuse magnesium sulfate; Connect to labeled infusion pump
    - Magnesium sulfate maintenance 5-6 grams/hour
  - No IV access:
    - 10 grams of 50% solution IM (5 g in each buttck)

- Antihypertensive Medications
  - For SBP ≥ 160 or DBP ≥ 110
    - (See SM algorithms for complete management when necessary to move to another agent after 2 doses.)
  - Labetalol (initial dose: 20mg)
  - Avoid maternal hypotension
  - Milrinone (5-10 mg IV over 2 minutes)
  - May increase risk of maternal hypotension
  - Oral Nifedipine (50 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 23 mg milrinone 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 recurring 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

- Call for assistance
- Designate team leader, checklist reader, primary RN
- Ensure side rails up
- Call OB consult; Document call
- Place IV; Draw PEC labs
- Administer seizure prophylaxis
- Administer antihypertensive therapy
- Consider indwelling urinary catheter. Maintain strict I&O
- Brain imaging if unrelenting headache or neurological symptoms
Postpartum Preeclampsia Checklist

If patient < 6 weeks postpartum with:

• BP > 160/100 or
• BP > 140/90 with unrelenting headache, visual disturbances, epigastric pain

☐ Call for assistance
☐ Designate:
  ○ Team leader
  ○ Checklist reader/recorder
  ○ Primary RN
☐ Ensure side rails up
☐ Call obstetric consultant; Document call
☐ Place IV; Draw preeclampsia labs
  ○ CBC
  ○ Chemistry Panel
  ○ PT
  ○ INR
  ○ Hepatic Function
  ○ Fibrinogen
  ○ 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 unrelenting headache or neurological symptoms

*Mild asthma* is defined as:

① Symptoms at least once a week, or
② Use of an inhaler, corticosteroids for asthma during the pregnancy, or
③ Any history of hospitalization 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 (1 g in each buttck)

### Antihypertensive Medications

For SBP > 160 or DBP > 110

(See SMG algorithms for complete management when necessary to move to another agent after 2 doses.)

☐ Labetalol (initial dose: 20 mg); Avoid parenteral labetalol with active orthostasis, heart disease, or congegetic heart failure; use with caution with history of asthma
☐ Hydralazine (5-10 mg IV over 2 min; May Increase risk of maternal hypertensive
☐ Oral Nifedipine (20 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 specialists (MFM, internal medicine, OR anesthesia/ICU) is recommended.

### Anticonvulsant Medications

For recurrent seizures when magnesium sulfate contraindicated

☐ Lorazepam (Ativan): 2-4 mg IV x 5, may repeat once after 20-30 min
☐ Diazepam (Valium): 5-10 mg IV q 5-10 min
Postpartum triggers:

- SBP ≥ 160 or DBP ≥ 110 or
- SBP ≥ 140-159 or DBP ≥ 90-109 with unremitting headaches, visual disturbances, or epigastric/RUQ pain

- Emergency Department treatment (OB/MICU consult as needed)
- AntiHTN therapy suggested if persistent SBP ≥ 150 or DBP ≥ 100 on at least two occasions at least 4 hours apart
- Persistent SBP ≥ 160 or DBP ≥ 110 should be treated within 1 hour

Good response to antiHTN treatment and asymptomatic

Admit for further observation and management (L&D, ICU, unit with telemetry)

Signs and symptoms of eclampsia, abnormal neurological evaluation, congestive heart failure, renal failure, coagulopathy, poor response to antihypertensive treatment

Recommend emergency consultation for further evaluation (MFM, Internal medicine, OB anesthesiology, critical care)