Assessment of the OB Patient Presenting to the ED

Hypertensive Disorders of Pregnancy

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HRSA State Maternal Health Innovation Program

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Note on Terminology

• Throughout this presentation, the terms “mother” or “maternal” or “she or “her” are used in reference to the birthing person. Recognition that not all birthing people identify as mothers or women. We believe all birthing people are equally deserving of patient-centered care that helps them attain their full potential and live authentic health lives.
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- Send Marleine EMS license #
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- Must attend live Zoom Meeting
Upcoming Topics

- May 16\textsuperscript{th} – TBD
- June 20\textsuperscript{th} - TBD

Open to any and all suggestions!
Simulation Updates

- Henry County (Mt Pleasant)
- April 13th 2022

Photographs used with permission
Henry County
Mt Pleasant

• Simulation Room

Photographs used with permission
Objectives

• Know the impact of Hypertensive Disorders of Pregnancy (HDP) on morbidity and mortality
• Define the current terminology and understand the updated diagnostic criteria for HDP
• Describe the management guidelines for HDP
• Discuss AWHONN Post Birth Warning Signs Brochure
Values to Remember

• Systolic BP ≥ 140
• Diastolic BP ≥ 90
• Systolic BP ≥ 160
• Diastolic BP ≥ 110
Hypertensive Disorders of Pregnancy

Chronic hypertension
Gestational hypertension
Preeclampsia
Chronic hypertension with superimposed preeclampsia

These disorders are among the leading causes of maternal and fetal mortality and morbidity

Often misdiagnosed

Hypertensive Emergency

• Severe Hypertension that is accurately measured using standard techniques and is persistent for 15 minutes or more is considered a hypertensive emergency.

• Severe Hypertension:
  • SBP ≥ 160
    OR
  • DBP ≥ 110
Accurate Blood Pressure Measurement

- Accurate blood pressure (BP) measurement is essential to guide management decisions in order to avoid over- or under-treatment leading to adverse outcomes.
- Minimize factors that decrease the accuracy of BP measurements, and be consistent: same arm, same position, and correct cuff size.
- A severe-range BP obtained with an automated BP device should be validated with a manual measurement for accuracy.
- Evaluate BP trends vs. isolated values.

**Steps**

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Prepare equipment</td>
</tr>
<tr>
<td>2.</td>
<td>Prepare the patient</td>
</tr>
<tr>
<td>3.</td>
<td>Take measurement</td>
</tr>
<tr>
<td>4.</td>
<td>Record measurement</td>
</tr>
</tbody>
</table>
Guidelines for Management of HDP

5 Key Elements

1. Recognize symptoms and diagnose HDP
2. Blood pressure control
3. Seizure prevention
4. Delivery
   - 34 weeks – preeclampsia with severe features
   - 37 weeks – preeclampsia without severe features or gestational hypertension
5. Postpartum surveillance
Appendix G: Stop Sign for Patient Information

Tell us if you
ARE PREGNANT or
HAVE BEEN PREGNANT
within the past 6 weeks

Come to the front of the line if you have:

- Persistent headache
- Visual change (floaters, spots)
- History of preeclampsia
- Shortness of breath
- History of high blood pressure
- Chest pain
- Heavy bleeding
- Weakness
- Severe abdominal pain
- Confusion
- Seizures
- Fevers or chills
- Swelling in hands or face

4 Rs of Quality Improvement
AIM Patient Safety Bundle: Severe Hypertension

Readiness:

*Every Unit*
- Preparations (e.g., rapid availability of meds)
- Education
- Simulations

Recognition & Prevention:

*Every Patient*
- Screening
- Diagnosis and classification
- Prevention approaches

Response:

*Every Event/Case*
- Management and treatment
- Patient education

Reporting and Systems Learning:

*Every Unit*
- Debriefs and multidisciplinary reviews
- QI measures
- Documentation and coding

<table>
<thead>
<tr>
<th>Measure</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Systolic Blood Pressure (mm Hg)</td>
<td>&lt;90 or &gt;160</td>
</tr>
<tr>
<td>Diastolic Blood Pressure (mm Hg)</td>
<td>&gt;100</td>
</tr>
<tr>
<td>Heart rate (beats per minute)</td>
<td>&lt;50 or &gt;120</td>
</tr>
<tr>
<td>Respiratory rate (breaths per min)</td>
<td>&lt;10 or &gt;30</td>
</tr>
<tr>
<td>Oxygen saturation on room air, at sea level %</td>
<td>&lt;95</td>
</tr>
<tr>
<td>Oliguria, mL/hr for ≥2 hrs</td>
<td>&lt;35</td>
</tr>
<tr>
<td>Maternal agitation, confusion, or unresponsiveness</td>
<td></td>
</tr>
<tr>
<td>Woman with reporting a non-remitting headache or shortness of breath</td>
<td></td>
</tr>
</tbody>
</table>
Quality Improvement Opportunities to Improve Recognition of HDP

<table>
<thead>
<tr>
<th>Missed Symptoms: (didn't see it)</th>
<th>Misdiagnosed: (saw it as something else)</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Headache</td>
<td>• Seizure disorder</td>
</tr>
<tr>
<td>• Elevated blood pressures</td>
<td>• Gallstones</td>
</tr>
<tr>
<td>• Abnormal fetal heart rate tracings</td>
<td>• Chronic hypertension</td>
</tr>
<tr>
<td>• Blurred vision</td>
<td>• New onset asthma</td>
</tr>
<tr>
<td>• Low oxygen saturation</td>
<td>• Postpartum psychosis</td>
</tr>
<tr>
<td>• Severe pain, epigastric pain, chest pain</td>
<td></td>
</tr>
<tr>
<td>• Altered behavior (confusion, combative)</td>
<td></td>
</tr>
<tr>
<td>• Tea colored urine, oliguria</td>
<td></td>
</tr>
<tr>
<td>• Bleeding, anemia, coagulopathy</td>
<td></td>
</tr>
<tr>
<td>• Cough, wheezing, shortness of breath</td>
<td></td>
</tr>
<tr>
<td>• Proteinuria</td>
<td></td>
</tr>
<tr>
<td>• Abnormal lab values</td>
<td></td>
</tr>
</tbody>
</table>

Clinical Pearl

Forty percent of patients with new-onset hypertension or new-onset proteinuria will develop preeclampsia.

ACOG Diagnostic Criteria for Preeclampsia in Pregnancy/Postpartum

Gestational Hypertension and Preeclampsia, ACOG Practice Bulletin #222, 2020

**Blood Pressure** AND **Proteinuria**

**Blood Pressure**
- Systolic blood pressure of $\geq 140$ mm Hg OR diastolic blood pressure of $\geq 90$ mm Hg on two occasions at least 4 hours apart after 20 weeks of gestation in a woman with a previously normal blood pressure
- OR
- Systolic blood pressure of 160 mm Hg or more or diastolic blood pressure of 110 mm Hg or more. (Confirmed within a short interval [15 minutes] to facilitate timely hypertensive therapy.)

**Proteinuria**
- 300 mg or more per 24-hour urine collection
  - OR
  - Protein/creatinine ratio of 0.3 or more
  - OR
- Dipstick reading of 2+ (used only if other quantitative methods not available)

*Note: The total amount of proteinuria > 5g in 24 hours has been eliminated from the diagnosis of preeclampsia with severe features as an indication for immediate delivery.*
Laboratory Evaluation of Preeclampsia

- Complete blood count (CBC) with platelet count
- Aspartate aminotransferase (AST)
- Alanine aminotransferase (ALT)
- Lactate Dehydrogenase (LDH)
- Creatinine
- Bilirubin
- Glucose
- Comprehensive metabolic panel (CMP)
- Uric acid (optional)

For patients with acute abdominal pain add:
Serum amylase, lipase, and ammonia
Diagnosis of Preeclampsia with Severe Features

Thrombocytopenia

Impaired liver function

Renal insufficiency

Pulmonary edema

New onset headache unresponsive to medication and not accounted for by alternative diagnoses

Visual disturbances

Systolic blood pressure of 160 mm Hg or more or diastolic blood pressure of 110 mm Hg or more on two occasions at least 4 hours apart “unless antihypertensive therapy is initiated before this time”

ANTIHYPTERTENSIVE TREATMENT SHOULD BE INITIATED WITHIN THE HOUR IF SEVERE BP IS CONFIRMED IN 15 MINUTES

For example: A confirmed BP \( \geq 160/110 \) should be treated with an antihypertensive within one hour and magnesium sulfate started immediately following antihypertensive therapy.
Diagnosis of Chronic Hypertension and Superimposed Preeclampsia

- Chronic HTN
  - Hypertension diagnosed or present before pregnancy or before 20 weeks of gestation

OR

- Hypertension diagnosed for the first-time during pregnancy and does not resolve in the postpartum period

- Superimposed preeclampsia
  - Preeclampsia with a history of hypertension before pregnancy or before 20 weeks gestation

NOTE: Preexisting proteinuria prior to 20 weeks gestation would be suggestive of chronic renal disease, often associated with longstanding hypertension and/or diabetes, or autoimmune disease
The Spectrum of Preeclampsia is Variable

Preeclampsia with severe features

- HELLP Syndrome
  - Hemolysis, Elevated Liver enzymes, Low Platelets
  - Preeclampsia with severe features develops hepatic and hematologic manifestations

Eclampsia

Note: HELLP syndrome can occur without hypertension or proteinuria

ACOG Practice Bulletin #222 Gestational Hypertension and Preeclampsia, 2020
Hypertensive Emergency in Pregnancy/Postpartum

Applies to all forms of HDP: chronic, gestational, and preeclampsia with or without severe features

<table>
<thead>
<tr>
<th>Systolic</th>
<th>Diastolic</th>
<th>Action</th>
</tr>
</thead>
<tbody>
<tr>
<td>≥ 160</td>
<td>≥ 110</td>
<td>Repeat BP within 15 minutes. If BP remains within severe-range - treat within 30-60 minutes (ideally ASAP).</td>
</tr>
</tbody>
</table>

**DO NOT WAIT TO TREAT THE HYPERTENSIVE EMERGENCY**

ACOG Practice Bulletin #222, June 2020
Response

- Blood Pressure Control
- Seizure Prophylaxis and Management
- Delivery and Expectant Management
- Postpartum Surveillance
Clinical Pearl

Controlling blood pressure is the optimal intervention to prevent deaths due to stroke in women with preeclampsia.
Addressing Critical Maternal Blood Pressure

- At the time of presentation whether the patient has preeclampsia with severe features, severe gestational hypertension, superimposed CHTN or an exacerbation of CHTN is not known.
- The initial stabilization of the patient should be timely treatment of BP (labetalol, hydralazine or nifedipine) and prevention of seizure (magnesium sulfate).
# Medication Protocols: First Line Agents in Preeclampsia

<table>
<thead>
<tr>
<th>Medication Agents</th>
<th>Labetalol IV&lt;sup&gt;A&lt;/sup&gt;</th>
<th>Hydralazine IV&lt;sup&gt;B,C&lt;/sup&gt;</th>
<th>Nifedipine (Immediate release)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Route</strong></td>
<td>IV</td>
<td>IV</td>
<td>PO</td>
</tr>
<tr>
<td><strong>Initial therapy</strong></td>
<td>20 mg</td>
<td>5-10 mg</td>
<td>10 mg</td>
</tr>
<tr>
<td><strong>Onset</strong>&lt;sup&gt;E,F,G&lt;/sup&gt;</td>
<td>2-5 minutes</td>
<td>5-20 minutes</td>
<td>5-20 minutes</td>
</tr>
<tr>
<td><strong>Peak</strong>&lt;sup&gt;E,F,G&lt;/sup&gt;</td>
<td>5 minutes</td>
<td>15-30 minutes</td>
<td>30-60 minutes</td>
</tr>
<tr>
<td><strong>Max dose</strong>&lt;sup&gt;D&lt;/sup&gt; (Before switching agents)</td>
<td>140 mg</td>
<td>20 mg</td>
<td>50 mg</td>
</tr>
</tbody>
</table>
| **Mechanism of action** | • Combined α and β-blocking agent  
• Arteriolar dilator  
• Decreases heart rate | • Arteriolar dilator | • Calcium channel blocker  
• Arterial smooth muscle dilator |
| **Side effects** | • Use with caution in patients with known asthma  
• Flushing, light headedness, palpitations and scalp tingling  
• Safe for use after cocaine and amphetamine use (including methamphetamine)<sup>A</sup> | • Tachycardia, headache<sup>E</sup>  
• Upper abdominal pain (rare)  
• Flushing  
• Nausea<sup>B</sup> | • Reflex tachycardia  
• Headache  
• Flushing  
• Nausea  
• Vomiting |

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Preventing Stroke from Preeclampsia
Significance of Systolic Hypertension and Alternative Blood Pressure Triggers

<table>
<thead>
<tr>
<th>Measure</th>
<th>Judy et al. Pre-stroke (mm Hg)</th>
<th>Martin et al. Pre-stroke (mm Hg)</th>
<th>Total N=54</th>
</tr>
</thead>
<tbody>
<tr>
<td>Women with maternal mortality from stroke and preeclampsia N=26</td>
<td>134-238 mm Hg</td>
<td>159-198 mm Hg</td>
<td></td>
</tr>
<tr>
<td>Systolic BP % ≥ 160</td>
<td>96% (n=25)</td>
<td>95.2% (n=27)</td>
<td>N= 52 / 54 (&lt; 160, n=2)</td>
</tr>
<tr>
<td>Diastolic BP range</td>
<td>79-148 mm Hg</td>
<td>81-113 mm Hg</td>
<td></td>
</tr>
<tr>
<td>Diastolic BP % ≥ 110</td>
<td>65% (n=17)</td>
<td>12% (n=3)</td>
<td>n= 20 / 54</td>
</tr>
<tr>
<td>Diastolic BP % ≥ 105</td>
<td>73% (n=19)</td>
<td>20.8 (n=5)</td>
<td>n= 24 / 54 (105-110, n=4)</td>
</tr>
</tbody>
</table>

Borderline Severe-Range Blood Pressure Recommendations

- Physician notification of borderline severe BPs
- Physician evaluation of the patient
- Continuous electronic fetal monitoring
- Inpatient observation for a minimum of **24-48 hours**
- Vital signs and symptom assessment every **2 hours** for a minimum of **24 hours**
- Serial assessment of serum labs at least daily for **2 days**

*Refer to Toolkit Section: Borderline Severe-range Blood Pressures: A Clinical Conundrum

Consider antihypertensive therapy and magnesium sulfate at:
- \( \geq 155-159/\geq 105-109 \text{ mm Hg} \)
Borderline Severe-Range Blood Pressure Recommendations

- Physician notification of borderline severe BPs
- Physician evaluation of the patient
- Continuous electronic fetal monitoring
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*Refer to Toolkit Section: Borderline Severe-range Blood Pressures: A Clinical Conundrum

Consider antihypertensive therapy and magnesium sulfate at
≥ 155-159/
≥ 105-109 mm Hg
**Labetalol 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 tx is clinically indicated

1. **Labetalol 20 mg** IV over 2 minutes
2. Repeat BP in 10 minutes
3. If SBP ≥160 or DBP ≥110, administer labetalol 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, administer labetalol 40 mg IV over 2 minutes; if BP below threshold, continue to monitor BP closely
6. Repeat BP in 20 minutes
7. If SBP ≥160 or DBP ≥110, administer hydralazine 10 mg IV over 2 minutes; if BP below threshold, continue to monitor BP closely
8. Once BP thresholds are achieved, repeat BP:
9. - 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

- Notify provider after one severe BP value is obtained
- Institute fetal surveillance if viable
- Hold IV labetalol for maternal pulse under 60
- Maximum cumulative IV-administered dose of labetalol should not exceed 300 mg in 24 hours
- There may be adverse effects and contraindications. Clinical judgement should prevail.

* Two severe readings more than 15 minutes and less than 60 minutes apart

**Safe Motherhood Initiative**

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1. Avoid parenteral labetalol 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:
   - 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.
3. Hydralazine may increase risk of maternal hypotension.
Hydralazine 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 tx is clinically indicated

1. Administer hydralazine 5 mg or 10 mg IV over 2 minutes

2. Repeat BP in 20 minutes

3. If SBP ≥ 160 or DBP ≥ 110, administer labetalol 20 mg IV over 2 minutes; if BP below threshold, continue to monitor BP closely

4. Repeat BP in 20 minutes

5. If SBP ≥ 160 or DBP ≥ 110, administer labetalol 40 mg IV over 2 minutes, and obtain emergency consultation from specialist in MFM, internal medicine, anesthesiology, or critical care

6. Once BP thresholds are achieved, repeat BP:

7. Institute additional BP monitoring per specific order

- 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

8. Give additional antihypertensive medication per specific order as recommended by specialist

9. Notify provider after one severe BP value is obtained

10. Institute fetal surveillance if viable

11. Hold IV labetalol for maternal pulse under 60

12. There may be adverse effects and contraindications.

Safety should prevail.

* Two severe readings more than 15 minutes and less than 60 minutes apart

* Avoid parenteral labetalol with active asthma, heart disease, or congestive heart failure; use with caution with history of asthma. May cause neonatal bradycardia.

"Active asthma" is defined as:

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

1. Hydralazine may increase risk of maternal hypotension.
Immediate-Release Oral Nifedipine Algorithm

1. Immediate-Release Oral nifedipine 10 mg

2. Repeat BP in 20 minutes

3. If SBP ≥ 150 or DBP ≥ 110, administer oral nifedipine 20 mg; if below threshold, continue to monitor BP closely

4. Repeat BP in 20 minutes

5. If SBP ≥ 160 or DBP ≥ 110, give additional round of oral nifedipine 20 mg

6. Repeat BP in 20 minutes

7. If SBP ≥ 160 or DBP ≥ 110, administer IV labetalol 20 mg

8. If either BP threshold is still exceeded, administer labetalol (20 mg IV for more than 2 minutes) and obtain emergency consultation from maternal-fetal medicine, internal medicine, anesthesia, or critical care subspecialists.

9. If SBP ≥ 160 or DBP ≥ 110, give additional antihypertensive medication per specific order as recommended by specialist

10. Obtain emergency consultation from specialist in MFM, internal medicine, anesthesia, or critical care.

11. 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

Additional BP monitoring per specific order:

- Notify provider after one severe BP value is obtained
- Institute fetal surveillance if viable
- Capsules should be administered orally and not punctured or otherwise administered sublingually
- There may be adverse effects and contraindications. Clinical judgement should prevail.

* Two severe readings more than 15 minutes and less than 60 minutes apart

† Immediate-release oral nifedipine has been associated with an increase in maternal heart rate and may overshoot hypotension.

† Avoid parenteral labetalol with active† asthma, heart disease, or congestive heart failure; use with caution with history of asthma. May cause neonatal bradycardia.

MAY USE NEONATAL BRADYCARDIA.

* “Active 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 intubation or hospitalization for asthma.

Safe Motherhood Initiative

Revised February 2020

(acog.org)
Magnesium Sulfate

Magnesium sulfate for seizure prophylaxis is indicated for:

- Preeclampsia with **severe features** and **severe gestational hypertension**
- **All** cases of severe (≥ 160 mm Hg / ≥ 110 mm Hg), sustained (lasting 15 minutes or more) hypertension **regardless of classification**

Magnesium Sulfate is **not** universally recommended for preeclampsia without severe features
Magnesium Sulfate

Magnesium sulfate for seizure prophylaxis is indicated for:

- Preeclampsia with **severe features** and **severe gestational hypertension**

- **All** cases of severe (≥ 160 mm Hg / ≥ 110 mm Hg), sustained (lasting 15 minutes or more) hypertension **regardless of classification**

Magnesium Sulfate is **not** universally recommended for preeclampsia without severe features
Magnesium Sulfate

- Primary effect is via CNS depression
- Improves blood flow to CNS via small vessel vasodilation
- Blood pressure after magnesium infusion of 4-6 gm loading, then 2 gm/hour

<table>
<thead>
<tr>
<th></th>
<th>sBP mm Hg</th>
<th>sBP 30 min</th>
<th>sBP 120 min</th>
<th>dBP mm Hg</th>
<th>dBP 30 min</th>
<th>dBP 120 min</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mild Group</td>
<td>145 ±10</td>
<td>143 ±13</td>
<td>141 ±14</td>
<td>87 ±10</td>
<td>79 ±9</td>
<td>82 ±9</td>
</tr>
</tbody>
</table>


Magnesium sulfate is not an antihypertensive medication
Eclampsia

Eclampsia is defined as NEW ONSET tonic-clonic, focal, or multifocal seizures in absence of other causative conditions, such as epilepsy, cerebral arterial ischemia, intracranial hemorrhage, or drug use.

- U.S. Incidence - 1 in 1,000 deliveries
- Mortality from eclampsia ranges from ~1% in the developed world, to as high as 15% in the developing world
Characterization of Symptoms Immediately Preceding Eclampsia

- 3,267 deliveries with 46 cases of eclampsia (1.4%)
- Most common prodromal neurological symptoms--regardless of the degree of hypertension OR whether the seizure occurred antepartum or postpartum
  - **Headaches (80%)**
  - **Visual disturbance (45%)**
- 20% of women with eclampsia reported no neurologic symptoms before the seizure

Key Points

• Hypertensive disorders of pregnancy are one of the leading causes of maternal morbidity and mortality.

• The most important first step when a patient presents to the ED is to identify whether they are or have been pregnant in the last 6 weeks.

• Critical or “trigger” BP ≥ 160 systolic OR ≥ 110 diastolic (these values are typically lower than values used for hypertensive emergencies in non-ob patients).

• These patients can deteriorate rapidly – transfer to an appropriate level of care is priority.
Preeclampsia in the Emergency Department

- The “trigger” BP in pregnancy/postpartum (≥ 160/110) is lower than values for hypertensive emergencies in non-OB patients.
- ED personnel should be familiar with risk factors and signs and symptoms of postpartum preeclampsia and eclampsia.
- Develop a workflow for your hospital between ED and OB teams.

ED clinicians should focus on:
- Maternal resuscitation
- BP management
- Seizure prophylaxis
- Notifying OB team
Delivery of the fetus is the cure for pre-eclampsia.
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 giving birth. 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 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

Tell 911 or your healthcare provider:
“I gave birth on _________ and I am having ________”

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.
- Incision that is not healing may mean you have an infection.
- Red or swollen leg, that is painful or warm to touch may mean you have a blood clot or an infection.
- Temperature of 100.4°F or higher may mean you have an infection.
- Headache that does not get better, even after taking medicine, or bad headache with vision changes may mean you have a blood clot or an infection.

GET HELP
My Healthcare Provider/Clinic: __________________________ Phone Number: __________________________
Hospital Closest To Me: __________________________

Available in
- English
- Spanish
- Arabic
- Mandarin Chinese

Post Partum Preeclampsia

- Delivery is not the cure for preeclampsia it is a treatment
What is Postpartum Preeclampsia

- Serious condition related to high blood pressure
- Can happen to any woman who just had a baby
- Has most of the same features of preeclampsia or other hypertensive disorders of pregnancy
- Can be more dangerous than preeclampsia during pregnancy because it can be hard to identify
Signs and Symptoms

- Changes in vision
- Headache that doesn’t go away
- Nausea, vomiting or dizziness
- Pain in the upper right belly area or in the shoulder
- Swelling in the legs, hands or face
- Trouble breathing
- Decreased urination
- Blood Pressure > 140/90
- Too much protein in the urine
What Causes Post Partum Preeclampsia?

Like preeclampsia, no definitive cause

Delivery, in most cases, is the acute treatment, not a cure

Possible that this condition begins during pregnancy but doesn’t show signs or symptoms until after the baby has arrived
When does postpartum preeclampsia occur?

- Most commonly within the first seven days after delivery
- At risk for up to six weeks after delivery
- Can still manifest if no preeclampsia during pregnancy
Late Postpartum Eclampsia

- > 48 hours following delivery, up to 6 weeks PP
- Accounts for approximately 26% of cases of eclampsia
- 78% had no antepartum hypertensive diagnosis
- The magnitude of blood pressure elevation does not appear to be predictive of eclampsia
- The most common presenting symptom was headache, occurring in ~ 70% of patients
  - Other prodromal symptoms included shortness of breath, blurred vision, nausea, vomiting, edema, neurological deficit, and epigastric pain

Long-Term Risk after Hypertensive Disorders of Pregnancy

- Patients with a history of HDP during pregnancy or the postpartum period are at increased risk for:
  - Pulmonary edema
  - Cardiomyopathy
- Those with low oxygen saturation, shortness of breath, or dyspnea should be evaluated and treated
  - BNP, EKG, CXR, cardiac echo, cardiology consultation
- Patients should be counseled that HDP increases risk of future cardiovascular disease and their primary care provider should be made aware of their pregnancy history
Clinical Pearl

Postpartum women who present to the emergency department and have “trigger or critical hypertension” or suspected preeclampsia should be assessed by and/or admitted to obstetrical service.
Resources

• Hypertensive Disorders of Pregnancy Toolkit | California Maternal Quality Care Collaborative (cmqcc.org)


• Home - Preeclampsia Foundation
Thank You!

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