**Evaluation and Diagnosis**

**Female age 15-50 years presents to ED Triage**

- **Is the patient pregnant?**
  - **Yes <20 weeks**
    - ED Treatment with OB consultation as needed for vaginal bleeding, hypertension, etc.
  - **Yes ≥20 weeks**
    - L&D Transfer Protocol?
      - **Yes**
        - Transfer to L&D and Communicate:
          1. Suspicion of Preeclampsia
          2. Symptoms
          3. VS including BP
          4. Any pertinent prenatal and past history
      - **No**
        - Consult OB for OB Medical Screening Exam in ED; initiate transfer to higher level of care as needed

**Clinical Features**
- Headache, visual complaints, altered mental status, CVA, seizure
- Abdominal pain—especially RUQ, epigastric pain
- Persistent nausea, vomiting
- SOB, pulmonary edema

**Measure BP**

- **SBP ≥160 OR DBP ≥110**
  - **HYPERTENSIVE EMERGENCY**
    - Immediate OB Consult
      - Labs: CBC with platelets, AST, ALT, creatinine; urine dip for protein, UA, LDH & uric acid
      - Initiate anti-hypertensives and magnesium immediately per treatment guidelines
    - OB Consult <60 min
      - Labs: CBC with platelets, AST, ALT, urine dip for protein, UA, LDH & uric acid
      - Serial BP q1hr unless significant change in patient condition
      - If patient’s BP increases to SBP ≥160 or DBP ≥110 then initiate anti-hypertensives and magnesium and notify OB if not already present of change in condition

- **SBP 140-159 OR DBP 90-109**
  - **HYPERTENSION**
    - OB Consult <60 min
      - Labs: CBC with platelets, AST, ALT, urine dip for protein, UA, LDH & uric acid
      - Headache, visual complaints, altered mental status, CVA, seizure
      - SOB, pulmonary edema
      - Hypertensive emergency: SBP ≥160 or DBP ≥110
    - OB Consult
      - Labs: CBC with platelets, AST, ALT, urine dip for protein, UA, LDH & uric acid
      - Serial BP q1hr unless significant change in patient condition
      - Abdominal pain—especially RUQ, epigastric pain
      - Persistent nausea, vomiting
      - If patient’s BP increases to SBP ≥160 or DBP ≥110 then initiate anti-hypertensives and magnesium and notify OB of change in condition if not already present

- **SBP <140 AND DBP <90**
  - **NORMAL BP**
    - OB Consult (<30 min) for:
      - Labs: CBC with platelets, AST, ALT, creatinine; urine dip for protein, UA, LDH & uric acid
      - Headache, visual complaints, altered mental status, CVA, seizure
      - SOB, pulmonary edema
      - Hypertensive emergency: SBP ≥160 or DBP ≥110
      - Major trauma
### 1st Line Anti-Hypertensive Treatment: Labetalol & Hydralazine*

**Target BP: 140-160/90-100 (BP<140/90 = decreased fetal perfusion)**

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<tr>
<th>LABETALOL as Primary Anti-Hypertensive</th>
<th>HYDRAZINE as Primary Anti-Hypertensive</th>
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| 1. Administer labetalol 20 mg IV over 2 min  
2. Repeat BP in 10 min  
- If BP threshold is still exceeded, administer labetalol 40 mg IV  
- If SBP<160 and DBP<100, continue to monitor closely  
3. Repeat BP in 10 min  
- If BP threshold is still exceeded, administer labetalol 80 mg IV  
- If SBP<160 and DBP<100, continue to monitor closely  
4. Repeat BP in 10 min  
- If BP threshold is still exceeded, administer hydralazine 10 mg IV over 2 min  
- If SBP<160 and DBP<100, continue to monitor closely  
5. Repeat BP in 20 min; if BP threshold is still exceeded, obtain emergent consultation from maternal-fetal medicine, internal medicine, anesthesiology, or critical care  
6. Once target BP achieved, monitor BP q10 min for 1 hour, q15 min for 2nd hour, q30 min for 3rd hour | 1. Administer hydralazine 5 or 10 mg IV  
2. Repeat BP in 20 min  
- If BP threshold is still exceeded, administer hydralazine 10 mg IV  
- If SBP<160 and DBP<100, continue to monitor closely  
3. Repeat BP in 20 min  
- If BP threshold is still exceeded, administer labetalol 20 mg IV  
- If SBP<160 and DBP<100, continue to monitor closely  
4. Repeat BP in 10 min  
- If BP threshold is still exceeded, administer hydralazine 10 mg IV  
- If SBP<160 and DBP<100, continue to monitor closely  
5. Once target BP achieved, monitor BP q10 min for 1 hour, q15 min for 2nd hour, q30 min for 3rd hour |

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### Magnesium

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<th>Initial Treatment</th>
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| 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 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  

### 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

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Citation: Maurice L. Druzin, MD, Laurence E. Shields, MD, Nancy L. Peterson, RNC, PNNP, MSN, Kathryn Melsoo, MS, Valerie Cape, BS, BA, Preeclampsia Toolkit: Improving Health Care Response to Preeclampsia (California Maternal Quality Care Collaborative Toolkit to Transform Maternity Care) Developed under contract #11-10006 with the California Department of Public Health, Maternal Child, and Adolescent Health Division; Published by the California Maternal Quality Care Collaborative, August 2013.

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