

Elevated Blood Pressure in Pregnancy and up to 6 Weeks Postpartum

General

- Elevated blood pressure (BP) in pregnancy can indicate severe disease and can result in both maternal and fetal morbidity and mortality. Elevated BP after 20 weeks of gestation and up to 6 weeks postpartum requires special attention and treatment.
- Vital signs of concern in a pregnant or postpartum patient:



SBP 140–159 or DBP 90–109 mm Hg: Abnormal, possible preeclampsia



SBP 140–159 or DBP 90–109 mm Hg with ANY of the following: severe headache, blurred vision, or right upper quadrant or epigastric abdominal pain: Abnormal, preeclampsia with severe features
– Requires treatment with **MAGNESIUM SULFATE**



SBP \geq 160 or DBP \geq 110 mm Hg: Abnormal, preeclampsia with severe features, even without other symptoms
– Requires treatment with **ANTIHYPERTENSIVES AND MAGNESIUM SULFATE**

- This is a time-critical disease. Develop a plan or local policy to provide treatment within **30–60 minutes**. This may include requesting an intercept from a paramedic-staffed response or transport vehicle and/or developing clinical protocols and agreements with local hospital facilities.
- In clinical situations in which **antihypertensives** and **magnesium sulfate** are indicated, **antihypertensive** medications are the highest priority.
- An elevated BP may be the only abnormal vital sign. Do not ignore asymptomatic high BP!
- Transport the patient to a hospital with obstetric services or the most appropriate local/regional facility if an obstetric facility is not readily available.
- Although nitroglycerin is widely available in the prehospital environment, there is no evidence to support the use of nitroglycerin in lowering BP in pregnant or postpartum patients.

All EMS Clinicians

- Perform an initial assessment.
- Be prepared to manage the patient's airway, provide supplemental **oxygen** for maternal oxygen saturation \leq 94%, and assist with ventilation.
- Initiate an IV for medication administration, if able.
- Monitor vital signs. Recheck BP at least every 15 minutes.
- If the patient begins seizing, refer to the Eclampsia model guideline.

Advanced EMS Clinicians

May include advanced EMTs, paramedics, and other advanced-level clinicians with medication administration capabilities

1. ADMINISTER ONE OF THE ANTIHYPERTENSIVE AGENTS AS OUTLINED BELOW IF:



SBP \geq 160 or DBP \geq 110 mm Hg is persistent for 15 minutes

- **Labetalol:** Avoid if the patient has a history of asthma OR is bradycardic.
 - Initial dose: 20 mg IV, given over 2 minutes. Allow 10 minutes from the time of administration for the medication to take effect.
 - If BP remains severely elevated (SBP \geq 160 or DBP \geq 110 mm Hg), then give 40 mg IV over 2 minutes. Reassess BP in 10 minutes.
 - If repeat BP is still SBP \geq 160 or DBP \geq 110 mm Hg, then give 80 mg IV over 2 minutes every 10 minutes up to a maximum cumulative dosage of 300 mg or continuous infusion of 1–2 mg/min IV.

OR

- **Hydralazine:**
 - Initial dose: 5 mg IV, given over 2 minutes, or IM. Allow 20 minutes from the time of administration for the medication to take effect.
 - If BP remains severely elevated (SBP \geq 160 or DBP \geq 110 mm Hg), then give 10 mg IV over 2 minutes every 20 minutes to a maximum cumulative dosage of 20 mg or continuous infusion of 0.5–10 mg/h.

OR

- **Nifedipine (immediate release):** If no IV access initially, choose **nifedipine**.
 - Initial dose: 10 mg orally (not sublingual). Allow 20 minutes from the time of administration for the medication to take effect.
 - If BP remains severely elevated (SBP \geq 160 or DBP \geq 110 mm Hg), then give 20 mg every 20 minutes to a maximum daily dose of 180 mg.

Target BP: SBP 130–150 AND DBP 80–100 mm Hg

- Once target BP is achieved, monitor BP per protocol until arrival at destination.
- During monitoring, if BP elevates back up to SBP \geq 160 or DBP \geq 110 mm Hg, readminister antihypertensives using the same medication and dose that previously achieved the target BP.

2. ADMINISTER MAGNESIUM SULFATE AS OUTLINED BELOW IF:



**For SBP \geq 160 mm Hg or
DBP \geq 110 mm Hg**

OR



**SBP 140–159 or DBP 90–109 mm Hg
with ANY of the following: severe
headache, blurred vision, or right upper
quadrant or epigastric abdominal pain**

- **Magnesium sulfate:** 4-g IV loading dose, administered over 20 minutes.
 - If IV access cannot be obtained, a 10-g IM loading dose of **magnesium sulfate** (5 g in each buttock) may be administered. The medication can be mixed with 1 mL of a 2% lidocaine solution, if available, to reduce discomfort. There are no data on IO administration of magnesium sulfate in the setting of preeclampsia with severe features or in eclampsia.
 - **Maintenance dosing:** After administering the loading dose, begin an infusion at a rate of 2 g/h IV. Maintenance infusion of **magnesium sulfate** should be administered via infusion pump, if available.
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Reference

Chronic hypertension in pregnancy. ACOG Practice Bulletin No. 203. American College of Obstetricians and Gynecologists. Obstet Gynecol 2019;133:e26–50.



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