

# Practice Guidelines

## Gestational Hypertension and Preeclampsia: A Practice Bulletin from ACOG

### Key Points for Practice

- Low-dose aspirin therapy should be started between 12 and 28 weeks' gestation for patients with one high risk factor or two moderate risk factors for preeclampsia.
- Any patient with preeclampsia or gestational hypertension at 37 weeks' gestation or greater should proceed to delivery.
- Patients with preeclampsia or gestational hypertension with severe features at 34 weeks' gestation or greater should proceed to delivery, whereas expectant management can be considered at less than 34 weeks' gestation.

From the *AFP* Editors

**Preeclampsia**, a disorder of pregnancy associated with new-onset hypertension, occurs in up to 8% of pregnancies globally, with an incidence that increased by 25% from 1987 to 2004 in the United States. Globally, hypertensive disorders of pregnancy are one of the main causes of maternal death. The American College of Obstetricians and Gynecologists (ACOG) has released a practice bulletin to outline diagnosis and treatment recommendations for these conditions.

### Preeclampsia

Preeclampsia most commonly occurs in healthy women without risk factors or previous delivery; it typically presents after 20 weeks' gestation, usually near term. Risk is increased in patients with the factors noted in *Table 1*.

The presence of hypertension and proteinuria is most commonly used to diagnose preeclampsia. In a woman at 20 weeks' gestation or more whose blood pressure was previously in the healthy range, hypertension is defined as at least 140 mm Hg systolic or at least 90 mm Hg diastolic

twice on measurements taken four or more hours apart. Hypertension is considered severe when blood pressure is at least 160 mm Hg systolic or at least 110 mm Hg diastolic. Severe blood pressure values should be confirmed within a few minutes to facilitate timely intervention.

To diagnose preeclampsia, women with hypertension also will have proteinuria, defined as at least 300 mg per 24-hour urine collection, a protein-to-creatinine ratio of at least 0.3 mg per dL, or urine dipstick test result of 2+. If patients do not have proteinuria, preeclampsia can still be diagnosed if they also have new-onset thrombocytopenia; renal insufficiency; impaired liver function combined with right upper quadrant or epigastric pain unresponsive to medication and not attributed to other etiologies; pulmonary edema; headache not amenable to treatment or that cannot be attributed to another etiology; or vision problems. Eclampsia, which is new-onset seizures not attributed to other etiologies (e.g., epilepsy), is one of the more severe manifestations of hypertensive disorders of pregnancy and also a main contributor to maternal death.

Gestational hypertension is diagnosed in patients with the hypertension criteria for preeclampsia without the proteinuria or severe features. Up to 50% of women diagnosed with gestational hypertension will develop preeclampsia. Gestational hypertension with severe range blood pressures should be managed in the same way as preeclampsia with severe features because of similar risk.

### Recommendations

#### GOOD EVIDENCE

Low-dose aspirin has been shown to reduce the incidence of preeclampsia in high-risk women. Women with one high risk factor or those with at least two moderate risk factors from *Table 1* should take 81 mg of aspirin daily, starting at 12 to 28 weeks' gestation, preferably by 16 weeks, until the infant is delivered.

Women with gestational hypertension or preeclampsia with severe features or eclampsia should receive magnesium sulfate to help prevent and manage seizures during stabilization and until 24 hours after delivery. However, there is debate surrounding the use of magnesium sulfate in women with nonsevere gestational hypertension or preeclampsia due to lower risk of eclampsia; decisions about its use in this patient population should be based on physician and patient preferences, as well as the associated benefits and harms. In

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**This series** is coordinated by Sumi Sexton, MD, editor-in-chief.

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**CME** This clinical content conforms to AAFP criteria for continuing medical education (CME). See CME Quiz on page 607.

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TABLE 1

**Clinical Risk Factors for Preeclampsia**

Risk level	Risk factors
High	Autoimmune disease (e.g., systemic lupus erythematosus, antiphospholipid syndrome) Chronic hypertension Diabetes mellitus – type 1 or type 2 History of preeclampsia Multifetal gestation Renal disease
Moderate	Age 35 years or older Black race or low socioeconomic status Family history of preeclampsia (mother or sister) History of low-birth-weight infant, adverse pregnancy outcome, or more than 10 years between pregnancies Obesity (body mass index > 30 kg per m <sup>2</sup> ) Nulliparity

any patient receiving magnesium sulfate, urine output, respiration, and tendon reflexes should be monitored. Despite interactions with some muscle relaxants used in general anesthesia, the magnesium sulfate infusion should be given to women with preeclampsia undergoing cesarean delivery. Delivery is recommended in women who are diagnosed with gestational hypertension or preeclampsia of any severity at 37 weeks' gestation or later.

Nonsteroidal anti-inflammatory drugs (NSAID) are preferred over opioids for treating pain after delivery, with their safety supported by evidence. Studies of postpartum women receiving magnesium prophylaxis after delivery showed no adverse effects from NSAID use.

**LIMITED OR INCONSISTENT EVIDENCE**

Because of the likelihood of harm to the infant and mother, delivery is recommended in women at 34 weeks' gestation or later who are diagnosed with preeclampsia or gestational hypertension

with severe features, noting that the mother's condition should be stabilized first. Physicians should not delay delivery to complete steroid administration. In a patient who has preeclampsia with severe features before 34 weeks' gestation, expectant management can be considered based on shared decision making and local capabilities. If the mother's or infant's condition worsens, expectant management should be stopped and delivery performed. If the infant is not expected to survive, expectant management is not appropriate because increased maternal risks are not offset by any benefit to the infant.

When a woman presents with severe hypertension lasting at least 15 minutes, antihypertensive treatment, typically with oral nifedipine or intravenous hydralazine or labetalol, should be started as soon as possible and within 60 minutes of presentation to avoid such adverse outcomes as congestive heart failure, myocardial ischemia, renal failure, and stroke.

**CONSENSUS AND EXPERT OPINION**

Epidural and spinal anesthesia are appropriate options during delivery for women who have a stable platelet count of at least  $70 \times 10^3$  per  $\mu\text{L}$  ( $70 \times 10^9$  per L), without coagulopathy, platelet function abnormalities, or active anticoagulant or antiplatelet therapy. The risk of hematoma associated with epidural anesthesia is low.

**Guideline source:** American College of Obstetricians and Gynecologists

**Evidence rating system used?** Yes

**Systematic literature search described?** Yes

**Guideline developed by participants without relevant financial ties to industry?** Not reported

**Recommendations based on patient-oriented outcomes?** Yes

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