# Appendix L: FAQs for Timely Treatment for Acute-Onset Severe Hypertension during Pregnancy and the Postpartum Period

ACOG Practice Bulletin 222 (June 2020) and the AIM Hypertension Bundle are the sources of these guidelines.

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

- It can occur during pregnancy or postpartum
- Either systolic ≥ 160 mm Hg or diastolic ≥ 110*mm Hg
- Can present as new acute-onset, or in women with chronic hypertension who are developing superimposed preeclampsia with acutely worsening, difficult to control, severe hypertension

If severe BP elevations persist for 15 minutes or more, administer antihypertensive medication.

- The 15 minutes is the definition of a hypertensive emergency that needs immediate treatment, NOT the definition of preeclampsia which in other guidelines calls for elevated BPs measured 4 hours apart.
- The second confirmatory blood pressure measurement should be done within 15 minutes. The 15-minute window provides a sufficient gap to formally confirm persistent elevated blood pressure that is independent of other causes, and that the patient requires treatment. More frequent readings (every 5 minute) are acceptable for observation purposes.
- Repeat BP measurement to ensure accuracy. Initial first line management can be with labetalol, hydralazine, or immediate-release PO nifedipine – the most important thing is that antihypertensive medications need to be initiated in a hypertensive emergency.
- Treatment of acute-onset severe hypertension is an emergency and should take precedence over starting magnesium sulfate.
- Two thirds of the preeclampsia deaths in the most recent UK Confidential Enquiries resulted from stroke. Identical findings were noted in the recent California review of maternal deaths. It should be noted that very few women die from seizures.
- Strokes can occur in women with acute-onset hypertension with systolic pressures in the 160s and diastolic pressures in the 110s.*
- Treatment of acute-onset severe hypertension is an emergency and demands an immediate response. Aim for initiation of antihypertensive medications “as soon as possible”, ideally by 30 minutes and not more than 60 minutes after the confirmation. Ultimately, the goal is to not delay care. Hospitals that address the systems issues around immediate treatment have been

able to achieve this goal.

After the second elevated reading, treatment should be initiated ASAP (within 30-60 minutes of verification).

- The emergency begins with the first measurement of severe hypertension. A confirmation blood pressure should be taken at 15 minutes, but calls to the physician and preparation/initiation of the medication can be started while waiting for the confirmatory BP measurement if clinically indicated. For the Maternal Data Center's "Timely Treatment for Severe Hypertension" measure, timely treatment is considered to be treatment within 30-60 minutes of the second (confirmatory) blood pressure.
- **Ultimately, the goal is to not delay care.**

Is there worry about fetal effects of treatment for severe-range BP?

- Following antihypertensive treatment, hypotension is uncommon, and often transient. Fetal heart rate changes are even more rare and respond well to standard intrauterine resuscitation measures.
- Fetal responses to sudden hypotension are more common in women receiving epidural anesthesia.
- In the CMQCC California Preeclampsia Collaborative, among women being treated for acute-onset severe hypertension, < 1% were associated with significant changes in the fetal heart rate pattern in the hour after treatment (and may have been related to other factors such as the preeclampsia itself).
- Severe hypertension is an emergency and requires emergent treatment.
- **The risks associated with untreated hypertensive emergency are greater than the risks of treatment.**

Are manual BP measurements required/recommended with blood pressures 140/90 or 160/110 mm Hg?

- Manual BP measurement is the "gold standard" and is encouraged with BP > 140/90 mm Hg and recommended with severe-range pressures to improve accuracy.
- **Validated** equivalent automated equipment may also be used.
- The most important factor is being consistent: same position, same arm and right-sized cuff. Patients should be sitting or semi-reclined, as described in the Hypertensive Disorders of Pregnancy Toolkit.

Other FAQs: "But what about…"

- …BP measurements that vacillate between severe and nearly severe?

  Women with acute-onset severe hypertension can have strokes. For example, serial measurements of: 162/105, 158/104, 165/100; 159/109 mm Hg shows persistence, and risk, and we recommend antihypertensive treatment.

- …A severe-range BP followed in 15 minutes by less concerning BP (145/95 mm Hg)?

  This scenario does not require treatment BUT does indicate the need for frequent monitoring of BP and observation.

- …if in another hour after the 145/95, the BP rises again to severe-range?

  Here there may be choices: begin treatment or await another BP measurement within 15 minutes to document persistent severe-range (while preparing the medication). This judgment depends, among other factors, on how low the blood pressures were between the two severe-range measurements.

- … if the nurse does not take a confirmatory BP for 30-40 minutes and it is still severe-range? ("It was not within 15 minutes…").

  The severe-range pressure is persistent so treatment should commence immediately.

A key educational point is that one severe-range BP requires the initiation of frequent BP measurements every 15 minutes for at least one hour.

*Clinicians may consider antihypertensive therapy at 155/105 mm Hg given the association with increased maternal morbidities at this threshold in several studies as discussed in the Section: Borderline Severe-Range Blood Pressures: A Clinical Conundrum on page 35.

*Improving Health Care Response to Hypertensive Disorders of Pregnancy, a CMQCC Quality Improvement Toolkit, 2021.*