Cox Health Systems
Preeclampsia Care Guideline

PURPOSE:

- To outline the nursing management of patients with preeclampsia.
- Early recognition of severe or worsening preeclampsia or development of eclampsia.

DEFINITIONS:
Preeclampsia:
New onset of hypertension and proteinuria after 20 weeks gestation in a previously normotensive woman.

- Hypertension: two blood pressure readings of >140 systolic OR >90 diastolic taken at least four hours apart.
- Proteinuria: 300 mg of protein in a 24-hour urine collection.

Or, in the absence of proteinuria, new-onset hypertension with the new onset of any of the following:

- Thrombocytopenia: platelet count <100,000/microliter
- Renal insufficiency: Serum creatinine concentrations greater than 1.1 mg/dL or a doubling of the serum creatinine concentration in the absence of renal disease
- Impaired liver function: Elevated blood concentrations of liver transaminases to twice normal concentration
- Pulmonary edema
- Cerebral or visual symptoms

Hypertensive Emergency:
An acute-onset, severe hypertension (≥160 mmHg systolic or (≥110 mmHg diastolic).

ASSESSMENTS:

1. *Assess for presence/worsening of the following and notify provider if :*
    a. Increasing blood pressure—(≥160 mmHg systolic OR (≥110 diastolic upon two measurements taken at least 15 minutes apart.
    b. Headache
    c. Visual changes—blurred vision, floaters, spots, blind spot.
    d. Altered level of consciousness—agitation, restlessness, lethargy, hallucinations, confusion
    e. Right upper quadrant or epigastric pain
    f. Nausea/vomiting
    g. General malaise
    h. Urine output <30 ml/hr
    i. Significant, rapid weight gain.
    j. Complaints of chest pain
    k. Tachycardia >100 bpm
    l. Shortness of breath

m. SaO2 <95% or cough
n. Adventitious breath sounds—rales, rhonci, wheezing, etc.
o. Tachypnea >26 breaths per minute
p. Abnormal lab values

2. Assess upper or lower deep tendon reflexes.
3. Assess for generalized edema.
4. Assess blood pressure using an appropriately sized blood pressure cuff with patient sitting or in the upright position with the patient's arm at the level of the heart. ***Do not reposition the patient to her left side and retake blood pressure. It will give a false lower reading.***
5. Apply external fetal monitor.
6. Monitor strict intake and output.
7. Ensure oxygen and suction equipment are present and functioning.
8. Implement measures to decrease stress level, such as provision of a quiet environment and low lighting.

MAGNESIUM SULFATE

Consider beginning Magnesium Sulfate for sustained systolic BP of ≥ than 160mm Hg and a Diastolic of ≥110mmHg upon two measurements 15 minutes apart or certain signs and symptoms such as headache, altered mental status, blurred vision, scotoma, photophobia, clonus, and epigastric or right upper quadrant pain.

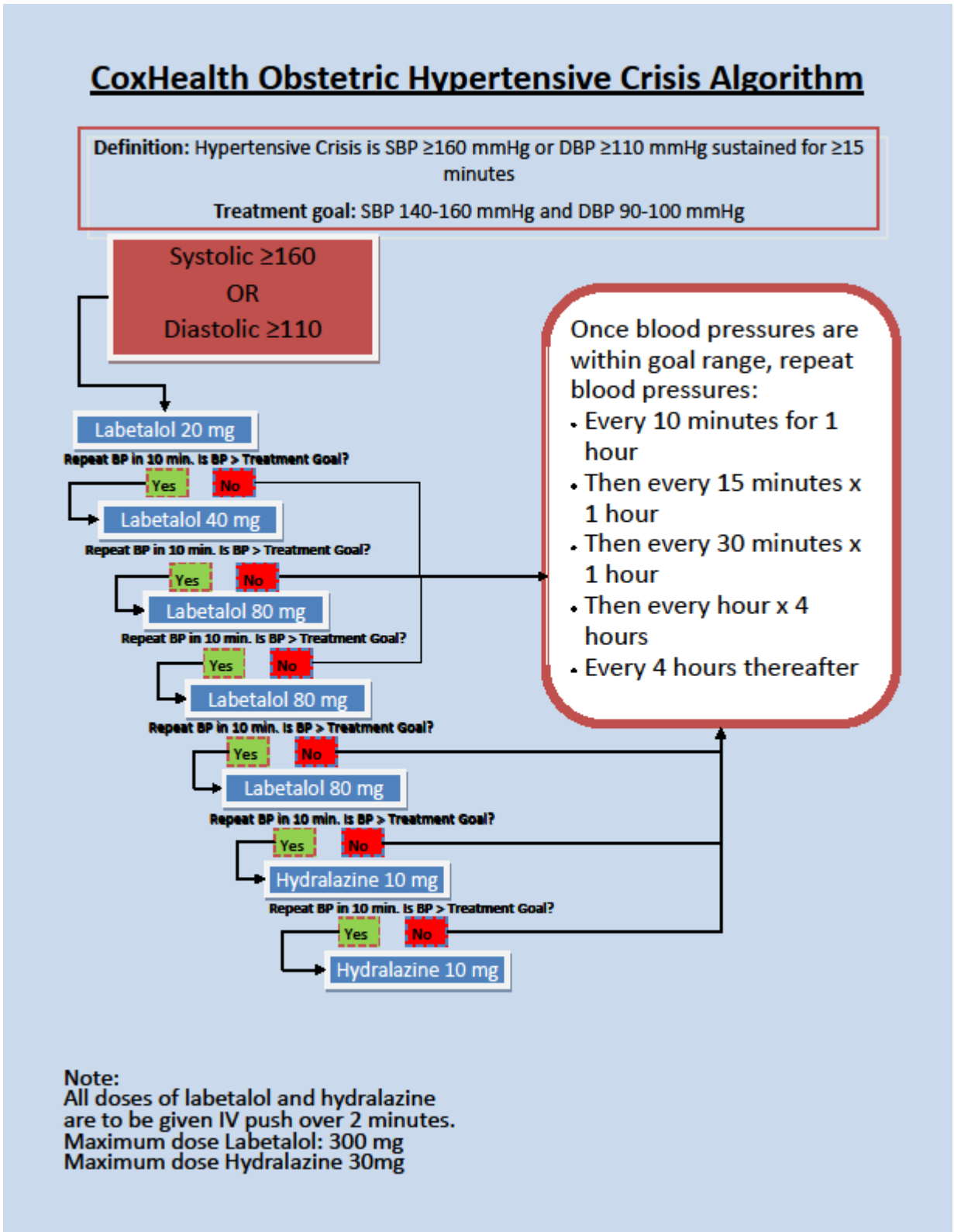
ANTIHYPERTENSIVES

Antihypertensives are given to treat sustained blood pressures ≥160 mmHg systolic OR ≥110 mmHg diastolic to protect the patient from cerebral vascular accident.

Treatment goal is systolic blood pressure BP 140-160 mmHg and diastolic blood pressure 90-100 mmHg.

1. Ensure presence of patent mainline IV infusion.
2. Monitor fetal heart rate continuously.
3. Maintain bedrest during and for 3 hours following medication administration. Assess for postural hypotension prior to ambulation.
4. Notify physician and consider antihypertensive medications when patient has two blood pressures ≥160 systolic OR ≥110 diastolic (taken at least 15 minutes apart).
5. See "***OB Hypertensive Crisis Powerplan" and Algorithm*** *for dosing.*
6. IV hydralazine and labetalol are to be given IV push over 2 minutes.
7. Contact primary physician, perinatology and OB Hospitalist at Cox South regarding consideration of other medications and/or transfer to a higher level of care Notify provider for:
    a. Unable to effectively treat hypertension with use of the OB Hypertensive Orderset and Algorithm.
    b. Diastolic blood pressure less than 80 or greater than ≥110 following medication administration.
    c. Category II or III fetal heart rate tracing following antihypertensive administration.

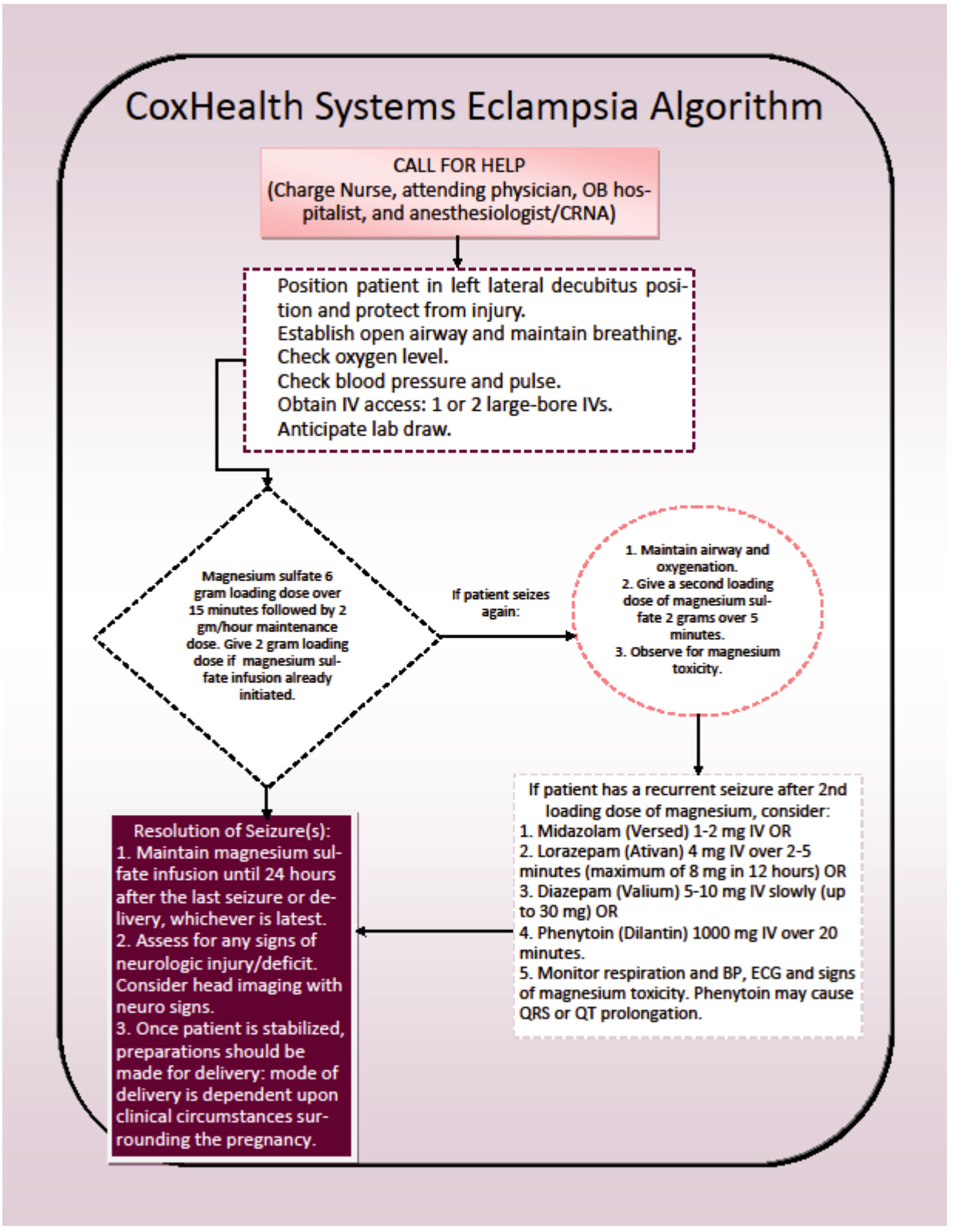
d. Sustained maternal heart rate less than 50 bpm or greater than 120 bpm during or within 30 minutes following medication administration.



ECLAMPSIA MANAGEMENT:

The eclamptic patient is at risk for aspiration and cerebral hemorrhage. Fetal bradycardia frequently occurs during and following an eclamptic seizure. The best treatment for baby is maternal stabilization.

1. Notify charge nurse, attending physician, and anesthesiologist immediately.
2. Position patient on side.
3. Protect from injury.
4. Prepare to administer magnesium sulfate.
5. Anticipate obtaining lab tests.
6. Following seizure:
    a. Suction mouth.
    b. Give oxygen by non-rebreather mask at 10 liters per minute.
    c. Provide ventilatory support as needed.
    d. Assess blood pressure, pulse, and respirations every 5 minutes.
    e. Assess oxygen saturation and level of consciousness every 15 minutes until stable for a minimum of one hour.
    f. Monitor fetal heart rate and uterine activity continuously if viable fetus present.
    g. Observe for signs and symptoms of placental abruption of impending delivery.


CoxHealth Systems Eclampsia Algorithm
CALL FOR HELP
(Charge Nurse, attending physician, OB hospitalist, and anesthesiologist/CRNA)
Position patient in left lateral decubitus position and protect from injury.
Establish open airway and maintain breathing.
Check oxygen level.
Check blood pressure and pulse.
Obtain IV access: 1 or 2 large-bore IVs.
Anticipate lab draw.
Magnesium sulfate 6 gram loading dose over 15 minutes followed by 2 gm/hour maintenance dose. Give 2 gram loading dose if magnesium sulfate infusion already initiated.
If patient seizes again:
1. Maintain airway and oxygenation.
2. Give a second loading dose of magnesium sulfate 2 grams over 5 minutes.
3. Observe for magnesium toxicity.
If patient has a recurrent seizure after 2nd loading dose of magnesium, consider:
1. Midazolam (Versed) 1-2 mg IV OR
2. Lorazepam (Ativan) 4 mg IV over 2-5 minutes (maximum of 8 mg in 12 hours) OR
3. Diazepam (Valium) 5-10 mg IV slowly (up to 30 mg) OR
4. Phenytoin (Dilantin) 1000 mg IV over 20 minutes.
5. Monitor respiration and BP, ECG and signs of magnesium toxicity. Phenytoin may cause QRS or QT prolongation.
Resolution of Seizure(s):
1. Maintain magnesium sulfate infusion until 24 hours after the last seizure or delivery, whichever is latest.
2. Assess for any signs of neurologic injury/deficit. Consider head imaging with neuro signs.
3. Once patient is stabilized, preparations should be made for delivery: mode of delivery is dependent upon clinical circumstances surrounding the pregnancy.

REFERENCES:

Task Force for Hypertension in Pregnancy of the American College of Obstetricians and Gynecologists. (2013). *Hypertension in pregnancy.* ACOG.

California Maternal Quality Care Collaborative. (2013). *Improving health care response to preeclampsia: A California quality improvement toolkit.* CMQCC.