ANTE, INTRA, POSTPARTUM NURSING MANAGEMENT AND ASSESSMENT OF PREECLAMPSIA: MATERNAL/FETAL ASSESSMENT AND MONITORING RECOMMENDATIONS

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BACKGROUND

Antepartum management as an outpatient can be considered for select women who have preeclampsia without severe features (mild), who have access to follow-up appointments and can adhere to the treatment plan.[1] Management of preeclampsia without severe features (mild) preeclampsia at term, severe preeclampsia, or those whose conditions have worsened will require frequent monitoring of blood pressure, urinary output, cardiac and respiratory status, and central nervous system status. Because early recognition of changes in maternal-fetal status is imperative, women with preeclampsia should be cared for by a nurse who is experienced in caring for high-risk patients and has the experience to recognize worsening signs of preeclampsia. Specific preventable errors contributing to maternal deaths include failure to control blood pressure for hypertensive women, and failure to adequately diagnose and treat pulmonary edema in preeclampsia.[2-4]

Maintaining a quiet, calm atmosphere and controlling environmental stressors are important for the patient and the family. Frequent updates for the family on the condition of the mother help them to maintain a focus on the mother and infant rather than on the illness.[5] Postpartum preeclampsia/eclampsia can develop four to six (4-6) weeks after birth among women who had no evidence of preeclampsia during their pregnancy or at the time of delivery.[6] Women and their family members should be given specific instructions prior to discharge on signs and symptoms that warrant immediate follow up.

KEY LEARNING POINTS

1. Assess for signs and symptoms of worsening or severe preeclampsia and notify provider if any of these are present:
   - Increasing blood pressure
   - Headache
   - Altered level of consciousness – agitation, restless, lethargy, hallucinations, confusion
   - Visual disturbances – blurred vision, floaters, spots, blind spot
   - Upper abdominal pain
   - Urine output <30 ml/hr
   - Shortness of breath
   - Complaints of chest pain
   - SaO2 < 95%
   - Cough

- Tachypnea > 26 breaths per minute
- Tachycardia > 100 bpm
- Adventitious breath sounds
- Eclamptic seizure
- Magnesium toxicity

2. Patient care assignments should take into account the level and expertise of the clinician or nurse assigned to care. Patients diagnosed with severe preeclampsia should be staffed with a 1:1 nurse to patient ratio, with the most experienced nurse available.

1. Women with severe preeclampsia should receive care by a multi-disciplinary team. The team should consist of an obstetric provider credentialed to perform cesarean sections, nursing, anesthesia, NICU, laboratory, blood bank, social work, and other sub-specialties as needed.

2. Utilize the following as parameters (Table 1) as recommended guidelines for the frequency of nursing assessment. The recommended assessment frequencies listed in Table 1 are guidelines and additional or more frequent assessments can be done as needed based on patient condition.[7]

Table 1. Nursing Assessment Frequency

A. Preeclampsia Without Severe Features (Mild)

	Preeclampsia without Severe Features (mild)		
	Antepartum*	Intrapartum*	Postpartum*
BP, Pulse, Respiration, SaO2	Every 4 hours	Every 60 min	Every 4 hours
Lung sounds	Every 4 hours	Every 4 hours	Every 4 hours
Deep consciousness Edema Assessment for headache, visual disturbances, epigastric pain	Every 8 hours	Every 8 hours	Every 8 hours
Fetal status and uterine activity	Every shift	Continuous	N/A
Temperature	Per facility protocol		
Intake and output	Every 1 hour with totals every 8 and 24 hours		

*This is the minimum frequency recommended for the patient NOT on magnesium sulfate.

B. Severe Preeclampsia Nursing Assessment Frequency

	Severe Preeclampsia Intrapartum and Postpartum for women on Magnesium Sulfate

BP, Pulse, Respiration, SaO2	• Every 5 mins during loading dose and q30 mins during maintenance of magnesium sulfate infusion
	• Can change to every 60 mins if any one or more of the following criteria are met:
	  ○ Preeclampsia without severe features (mild)
	  ○ BP stable without increases for a minimum of 2 hours
	  ○ No antihypertensives within last 6 hours
	  ○ Antepartum patient
	  ○ Latent phase of labor
	• Continuous SaO2 during magnesium infusion for intrapartum. For postpartum patient, check with vital signs

Lung sounds	Every 2 hours
Deep tendon reflexes & clonus, Level of consciousness Edema Assessment for headache, visual disturbances, epigastric pain	Every 4 hours
Temperature	Per facility protocol
Intake and output	Intake: • IV solutions and medication drips should all be on a pump • Total hourly intake should be ≤ 125 ml/hr • NPO with ice chips or as permitted by practitioner Output: • Insert foley with urometer Calculate hourly, end of shift, and 24-hour totals
Fetal status and uterine activity	Continuous fetal monitoring

C. Post Eclamptic Seizure and Magnesium Sulfate Toxicity

Post Eclamptic Seizure and Magnesium Sulfate Toxicity for Ante, Intra and Postpartum	
BP, Pulse, Respiration	Every 5 min until stable
O2 Sat & LOC	Every 15 min for a minimum of 1 hour
Fetal Assessment and Uterine Activity	Continuous

D. Acute BP Treatment with IV Medication

Acute BP Treatment with IV Medication: Ante, Intra and Postpartum	
BP, Pulse, Respiration	Every 5-15 min until stable
SAO2 and LOC	Every 5-15 min for a minimum of 1 hour
Fetal assessment and uterine activity	Continuous

EVIDENCE GRADING
Level of Evidence: III-C

REFERENCES

1. Sibai BM. Diagnosis and management of gestational hypertension and preeclampsia. *Obstet Gynecol.* Jul 2003;102(1):181-192.
2. Turner J. Diagnosis and management of pre-eclampsia: an update. *International Journal of Women's Health.* 2010;2:327-337.
3. The Joint Commission. Preventing Maternal Death. Sentinal Event Alert. Issue 44. 2010; http://www.jointcommission.org/sentinal_event_alert_issue_44_preventing_maternal_death. Accessed January 26, 2010.
4. Clark SL, Belfort MA, Dildy GA, Herbst MA, Meyers JA, Hankins GD. Maternal death in the 21st century: causes, prevention, and relationship to cesarean delivery. *Am J Obstet Gynecol.* Jul 2008;199(1):36 e31-35; discussion 91-32 e37-11.
5. Perry I, Beevers D. The definition of preeclampsia. *Br J Obstet Gynaecol.* 1994;101(7).
6. Yancey L, Withers E, Bakes K, Abbot J. Postpartum preeclampsia: emergency department presentation and management. *J Emerg Med.* 2011;40(4):380-384.
7. Eggleston N, Trojano N, Harvey C, Chez B. *Clinical care guidelines*. Philadelphia: Wolters Kluwer/Lippincott Willilams & Wilkins; 2013.