

APEC Guidelines
Preeclampsia

Definitions			
	BP	Proteinuria	Other
Pre-eclampsia	SBP \geq 140 mm Hg or DBP \geq 90 mm Hg after 20 weeks GA on 2 occasions 4hrs apart in women with a previously normal BP OR SBP \geq 160 mm HG or DBP \geq 110 mm Hg confirmed within a short interval to facilitate timely antihypertensive therapy	\geq 300mg/24hr. Or P/C ratio \geq 0.3 mg/dL Dipstick \geq 1+ (use only if other quantitative methods not available)	Or in the absence of proteinuria, new-onset HTN with new-onset of any of the following: <ul style="list-style-type: none"> • Thrombocytopenia: Platelet ct $<$ 100,000/μL • Renal insufficiency: serum creatinine $>$1.1 mg/dL or a doubling • Impaired liver function: Liver transaminases 2x normal • Pulmonary edema • Cerebral or visual symptoms
Severe PreE	SBP \geq 160 mm Hg or DBP \geq 110 mm Hg on 2 occasions at least 4 hrs apart on bed rest	Not required	<ul style="list-style-type: none"> • Thrombocytopenia: Platelet ct $<$ 100,000/μL • Renal insufficiency: serum creatinine $>$1.1 mg/dL or a doubling • Impaired liver function: Liver transaminases 2x normal, severe right upper quadrant or epigastric pain • Pulmonary edema • New onset cerebral or visual symptoms
Eclampsia	SBP \geq 140 mm Hg or DBP \geq 90mm Hg	Not required	<ul style="list-style-type: none"> • New-onset grand mal seizures
HELLP	SBP \geq 140 mm Hg or DBP \geq 90mm Hg	Not required	<ul style="list-style-type: none"> • LDH $>$600 IU/L • Bilirubin $>$ 1.2mg/dL • AST $>$ 70 IU/L • Platelets $<$100,000/μg

Preeclampsia Management

Gestational hypertension or preeclampsia without severe features at or beyond 37 weeks GA:

- **Delivery** rather than continued observation.
- Once delivery planned, MgSO4 for seizure prophylaxis.

Women with preeclampsia prior to 37 weeks GA:

- Hospitalization with daily assessment: HA, visual disturbances, epigastric pain, wt, intake and output, fetal movement.
- Blood pressure readings every 4-8 hrs or more often as needed.
- Baseline labs: AST, CBC with plt count, serum creatinine; repeat weekly or sooner if disease progression is suspected.
- 24 hr urine for protein.
- US for growth every 3 weeks.
- Weekly NST or BPP; twice weekly for suspected fetal growth restriction or olighydramnios.
- Weekly assessment for amniotic fluid (modified BPP).
- One course of betamethasone for $<$ 34 weeks GA.

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Severe Preeclampsia Management

- **At or beyond 34 weeks GA: delivery** as soon as maternal status is stabilized.
- Vaginal delivery unless otherwise contraindicated (Preeclampsia is not an indication for cesarean section).
- Severe preeclampsia **before 34 weeks GA: stabilized** maternal and fetal condition, **transfer** to a tertiary care facility and **consult** with MFM specialist.
- Control HTN: antihypertensive therapy SBP \geq 160-165 mm Hg (goal <155) or DBP \geq 105-110 mm Hg (goal: <100-105).
- Limit fluids to 150cc/hr.
- MgSO₄ for seizure prophylaxis.
- < 34 weeks GA: administer a course of betamethasone.

Quality Indicators/Benchmarks

- Antenatal corticosteroids < 34 wks GA
- Delivery at appropriate facility

Postpartum

- Monitor in the hospital 48-72 hrs pp and again 7-10 days (or earlier) after delivery.
- Continue MgSO₄ through the first 24 hrs pp for seizure prevention.
- Hydralazine 20mg IM or standard IV dose for SBP >150-155 mm Hg or DBP >90-100 mm Hg.
- Maintain BP with oral nifedipine or labetalol.
- Consider TTP and HUS in pts with continued S&S of preeclampsia after delivery.

Table 1: MgSO₄ Seizure Prophylaxis

Renal Function	MgSO ₄ Loading Dose	Constant infusion rate	Monitoring	Toxicity treatment
Normal, no evidence of pulmonary edema	4-6 grams/20 min	2 grams/hour Continue 24 hours postpartum	Magnesium levels not indicated unless signs of toxicity Monitor for evidence of toxicity: <ul style="list-style-type: none"> • deep tendon reflex • lethargy • respirations 	Check magnesium level Discontinue infusion If respiratory or EKG changed are noted: administer calcium gluconate (1 ampule=4.64 mEq IV x 1 dose)
Mild renal insufficiency	4 grams/20 min	1 gram/hour Continue 24 hours postpartum	Serial magnesium levels every 6 hours, target range 5-7 Monitor for evidence of toxicity: <ul style="list-style-type: none"> • deep tendon reflex • lethargy • respirations 	Check magnesium level Discontinue infusion If respiratory or EKG changed are noted: administer calcium gluconate (1 ampule=4.64 mEq IV x 1 dose)
Significant renal impairment	4 grams/20 min	Individualize, may not be needed	Serial magnesium levels every 6 hours, target range 5-7 Monitor for evidence of toxicity: <ul style="list-style-type: none"> • deep tendon reflex • lethargy • respirations 	Check magnesium level Discontinue infusion If respiratory or EKG changed are noted: administer calcium gluconate (1 ampule=4.64 mEq IV x 1 dose)

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Table 2: Antihypertensive Drugs

Drug	Dosage	Repeat	Precautions
Hydralazine	5-10 mg IV over 2 min	May repeat every 20 min	<ul style="list-style-type: none"> • If after 30-40mg has been administered and the BP remains above the target range, switch to Labetalol. • If maternal heart rate >120 bpm, discontinue hydralazine.
Labetalol	10 mg IV every 10-15 min in a dose-escalating fashion: 10mg followed by 20mg, then 40mg, then 80mg	Repeat every 10-15 min to a maximum total dose of 220mg for initial response	<ul style="list-style-type: none"> • IM administration should be avoided with a viable IUP due to an inability to titrate dosing effectively. • Once an initial response has been achieved (even if 40 or 80mg were required), subsequent doses should be no greater than 20mg to avoid hypotension.
Nifedipine Use in the setting of limited or no IV access or in patients with contraindication to Labetalol	10 mg orally ; if in 20 min the BP threshold is exceeded administer 20 mg orally .	May repeat 20 mg orally in 20 min for a total dose of 50 mg	<ul style="list-style-type: none"> • Use IV hydralazine or labetalol as first line option if possible. • May cause neonatal bradycardia. • Avoid in women with asthma, heart disease, or congestive heart failure. • May cause increase in maternal heart rate and/or overshoot hypotension.