PIPADOR REVISION

MRCOG Part 1 Revision Notes

Pre-eclampsia, Eclampsia and HELLP Syndrome

CLINICAL MANAGEMENT • LECTURE 469

VISUAL EXAMINATION REVISION NOTES

2026 Edition

469

MRCOG PART 1 REVISION NOTES | CLINICAL MANAGEMENT

Pre-eclampsia, Eclampsia and HELLP Syndrome

Definitions, prevention, assessment and management of hypertensive disorders of pregnancy (NICE NG133)

≥ 140/90	Aspirin	$MgSO_4$	Target
After 20 weeks	75–150 mg from 12 weeks	4 g → 1 g/h	135/85 mmHg

■ KEY FACTS: Learning objectives

- Define the hypertensive disorders of pregnancy, pre-eclampsia, severe pre-eclampsia, eclampsia and HELLP syndrome.
- Describe prevention, diagnosis and assessment (NICE NG133, NICE DG49).
- Describe antenatal, intrapartum and postnatal management, including eclampsia and HELLP.

469.1 Key definitions

Term	Definition (NICE NG133)
Chronic hypertension	Hypertension present at booking or before 20 weeks, or on treatment before pregnancy
Gestational hypertension	New hypertension after 20 weeks WITHOUT significant proteinuria or other features of pre-eclampsia
Pre-eclampsia	• New-onset hypertension (≥ 140/90) after 20 weeks with ≥ 1 of: proteinuria • Maternal organ dysfunction (renal, liver, neurological, haematological) • Uteroplacental dysfunction (FGR, abnormal UA Doppler, stillbirth)
Severe hypertension	BP ≥ 160 mmHg systolic or ≥ 110 mmHg diastolic
Severe pre-eclampsia	• Pre-eclampsia with severe hypertension not responding to treatment • Or ongoing/recurring severe headaches, visual scotomata, nausea/vomiting, epigastric pain, oliguria • Deteriorating bloods (creatinine, ALT, platelets), HELLP • Or fetal compromise
Eclampsia	Convulsive condition associated with pre-eclampsia
HELLP syndrome	Haemolysis, Elevated Liver enzymes and Low Platelet count

■ IN PLAIN ENGLISH: Pre-eclampsia

Pre-eclampsia is a **placental disease that damages the mother's blood vessels** throughout the body. Delivery of the placenta is the only cure; everything else — BP control, magnesium, monitoring — keeps mother and baby safe until birth is timed correctly.

469.2 Definition and prevention

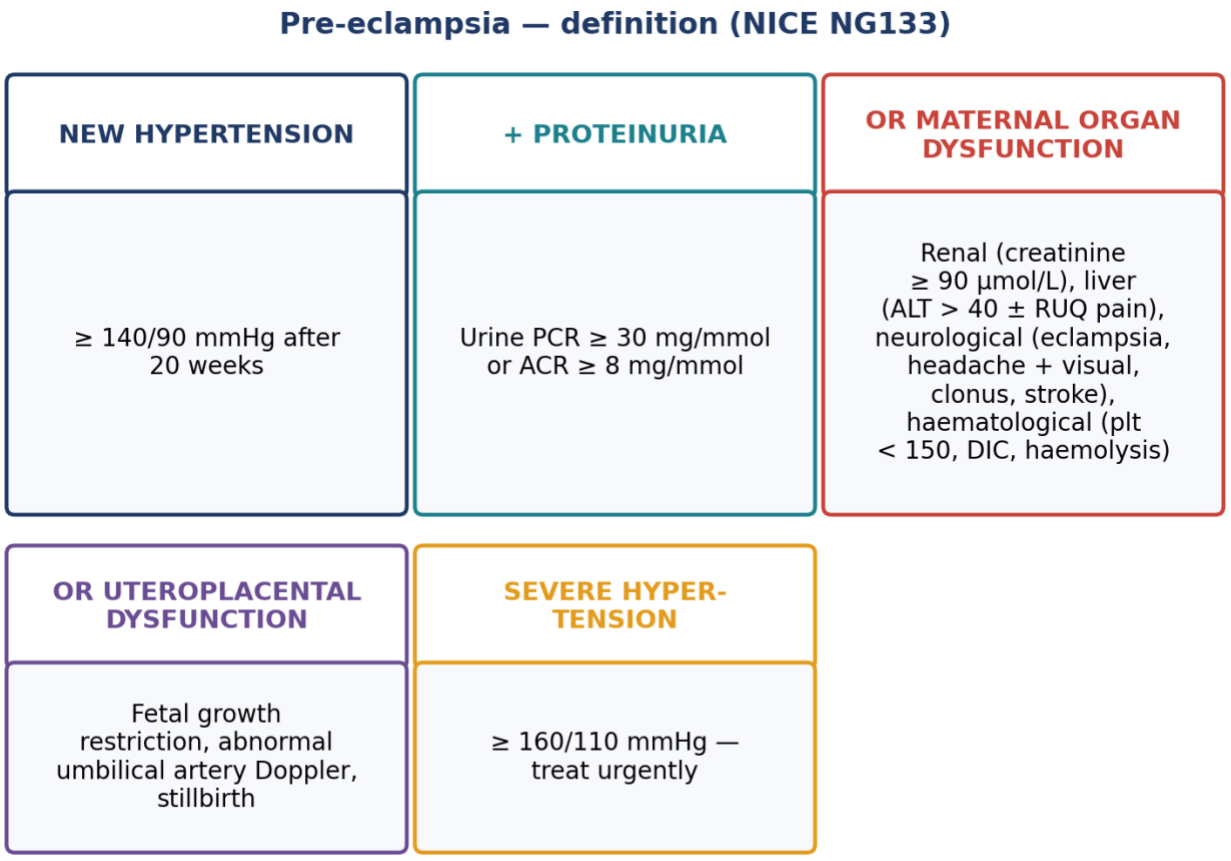


Figure 469.1 — Definition of pre-eclampsia

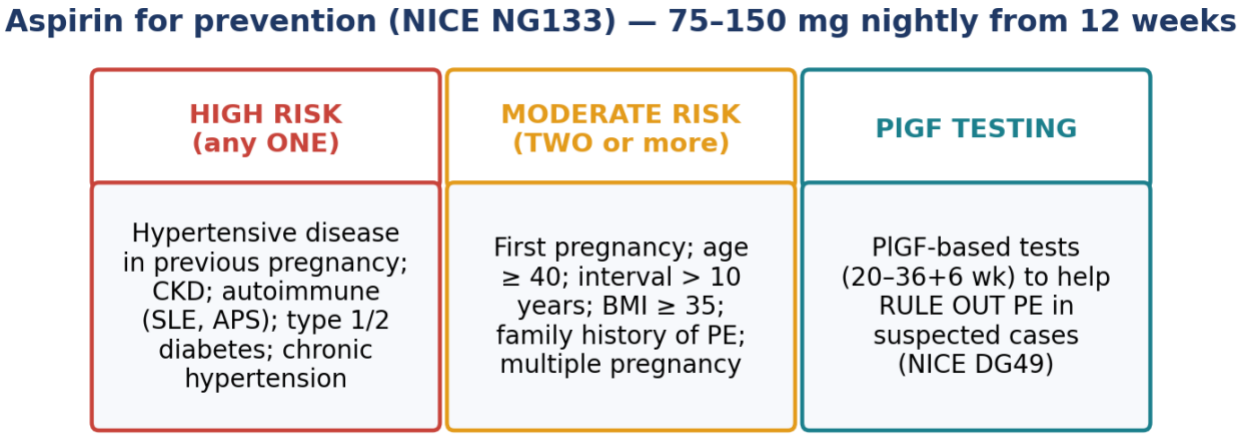


Figure 469.2 — Aspirin and PlGF testing

- Also: calcium supplementation where dietary intake is low (WHO); manage chronic hypertension (target 135/85); avoid ACEi/ARBs/thiazides in pregnancy.

469.3 Assessment

Element	Details
Blood pressure	Correct cuff size, seated; repeat measurements
Urine	Dipstick ≥ 1+ → quantify with PCR (≥ 30 mg/mmol) or ACR (≥ 8 mg/mmol)

Element	Details
Bloods	FBC (platelets), U&E/creatinine, LFTs (ALT/AST), ± LDH, coagulation if platelets < 100
PlGF-based test	Once, 20–36+6 weeks, when PE suspected — helps rule out PE (e.g. sFlt-1/PlGF ≤ 38)
Symptoms	• Headache, visual disturbance, epigastric/RUQ pain, vomiting, sudden oedema • Clonus
Fetal	• USS growth, liquor, UA Doppler at diagnosis and every 2 weeks • CTG if clinically indicated
Risk tools	fullPIERS/PREP-S to help guide decisions

469.4 Management

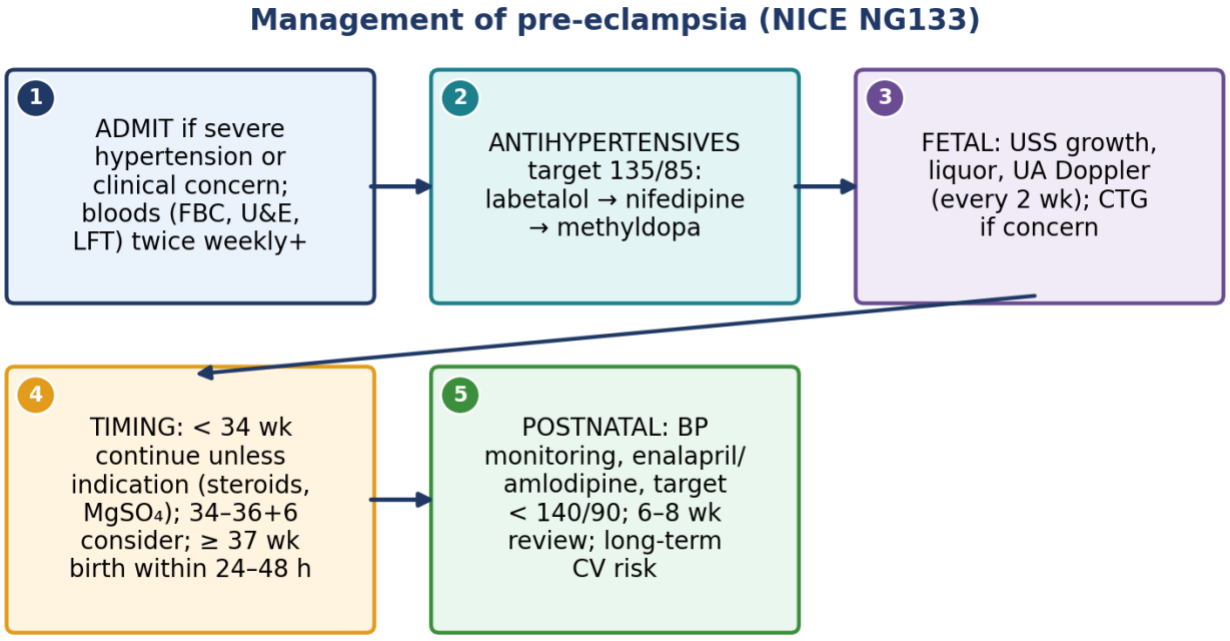


Figure 469.3 — Management of pre-eclampsia

Topic	NICE NG133
Admission	• Admit if severe hypertension or clinical concern • Outpatient management possible for mild/moderate with close monitoring
Antihypertensives	• Labetalol first line (nifedipine if unsuitable, then methyldopa) • Aim BP ≤ 135/85
Severe hypertension (acute)	• Oral labetalol/nifedipine or IV labetalol/hydralazine • Check BP every 15–30 min until < 160/110
Monitoring (PE)	• BP ≥ 4 times/day inpatient • Bloods twice a week (more if severe) • Fluid balance
Timing of birth	• < 34 wk: continue surveillance unless indication for birth (give steroids, $MgSO_4$) • 34+0–36+6: consider birth (PHOENIX) after discussion • ≥ 37+0: birth within 24–48 h
Indications for birth	Uncontrolled BP, rising creatinine/ALT, falling platelets, neurological features, eclampsia, HELLP, abruption, reversed EDF, fetal compromise

Topic	NICE NG133
Fluids	Limit maintenance to ≈ 80 mL/h unless ongoing losses (pulmonary oedema risk)
Anaesthesia	Regional preferred if platelets adequate (often > 75–80 × 10^9/L)
3rd stage	Oxytocin (avoid ergometrine)

469.5 Magnesium sulphate and eclampsia

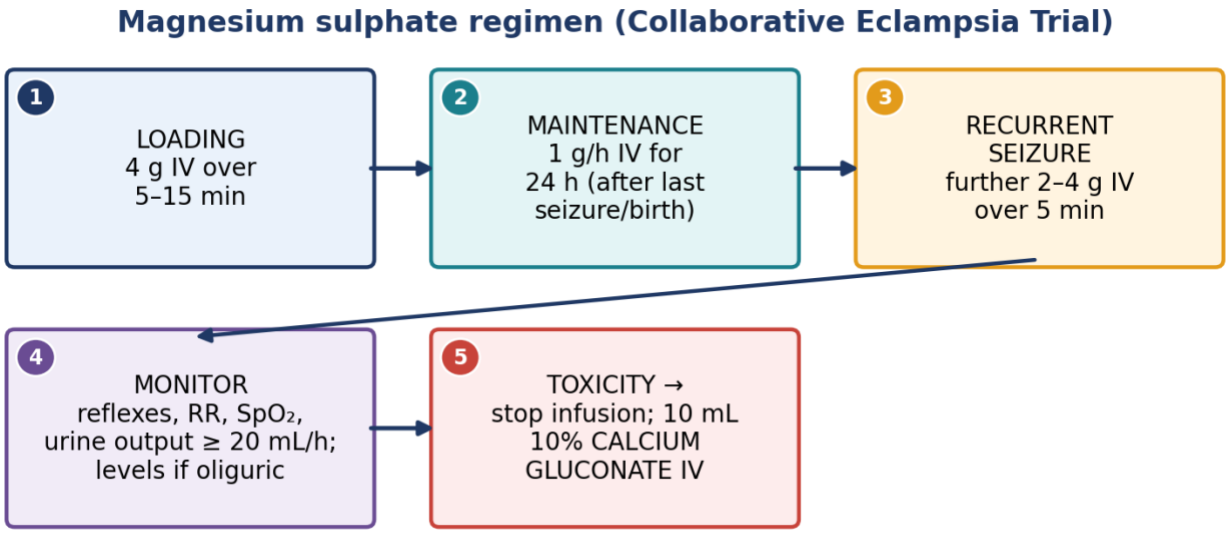


Figure 469.4 — Magnesium sulphate regimen

- **Indications**: eclampsia; severe pre-eclampsia when birth is planned within 24 h or features are severe.
- **Eclamptic seizure**: call for help, ABC, left lateral, oxygen, **$MgSO_4$ 4 g IV over 5–15 min then 1 g/h for 24 h**
  - Recurrent seizure → further 2–4 g
  - Control BP
  - **Stabilise before birth** — then deliver (CS or IOL depending on the situation).
- **Toxicity**: loss of reflexes, respiratory depression (RR < 12), oliguria → stop infusion, give **10 mL of 10% calcium gluconate IV**.

469.6 HELLP syndrome

- Features: RUQ/epigastric pain, nausea, malaise; may have mild hypertension/proteinuria; ≈ 30% present postpartum.
- Bloods: haemolysis (↑ LDH, ↓ haptoglobin, schistocytes), ↑ ALT/AST, platelets < 100 × 10^9/L.
- Management: stabilise BP, $MgSO_4$, correct coagulopathy, **deliver**
  - Platelet transfusion if < 50 × 10^9/L for CS
  - Watch for liver haematoma/rupture, DIC, AKI
  - Steroids for HELLP alone not recommended (only for fetal lung maturity).

469.7 Postnatal care and long-term

- BP measured daily for first 2 days, at least once on days 3–5, and as clinically indicated
  - Continue antihypertensives — switch to **enalapril** (amlodipine first line for Black women; atenolol/labetalol alternatives)
  - Target < 140/90

  - Stop methyldopa within 2 days.
- Bloods 48–72 h after birth (if abnormal); medical review at 6–8 weeks; refer if hypertension or proteinuria persists.
- Recurrence in future pregnancy ≈ 1 in 6 (higher if severe/early); aspirin next pregnancy.
- Long-term ↑ risk of hypertension, cardiovascular disease, stroke, CKD — annual BP, lifestyle advice.

■ COMMON PITFALLS

Treating BP but ignoring rising creatinine/ALT or falling platelets.

Fluid overload (pulmonary oedema).

Giving ergometrine or NSAIDs with renal impairment.

Delivering during an eclamptic fit before stabilisation.

469.8 Must-know summary

■ EXAM TIP

- PE: new HT ≥ 140/90 after 20 wk + proteinuria (PCR ≥ 30) or organ/uteroplacental dysfunction.
- Aspirin 75–150 mg from 12 wk (1 high or ≥ 2 moderate risk factors); PlGF testing to rule out PE.
- Labetalol → nifedipine → methyldopa; target 135/85; birth at 37 wk (consider 34–36+6); severe → $MgSO_4$.
- Eclampsia: $MgSO_4$ 4 g then 1 g/h; toxicity → calcium gluconate; HELLP → deliver; postnatal enalapril, 6–8 wk review.

■ MNEMONIC / MEMORY AID

HELLP — Haemolysis, Elevated Liver enzymes, Low Platelets.