

MATERNAL • OB

NGN NCLEX 2026

HIGH-YIELD

Gestational *Hypertension*

New-onset hypertension after 20 weeks of gestation — the gateway to preeclampsia, eclampsia, and HELLP syndrome. Recognition, prioritization, and magnesium safety dominate the test plan.

SOURCE NOTE: This topic was not found in Diane's uploaded project notes. Content drawn from standard NGN NCLEX 2026 references — Saunders Comprehensive Review (Silvestri), ATI RN Maternal Newborn, Lippincott NCLEX-RN, and ACOG/AWHONN clinical guidelines (2024).

01

DEFINITION & OVERVIEW

What Is Gestational HTN?

DIAGNOSTIC CRITERIA

BP $\geq 140/90$ mmHg on two occasions ≥ 4 hours apart, occurring **AFTER 20 weeks gestation** in a previously normotensive woman — **WITHOUT** proteinuria or end-organ dysfunction.

WHY IT MATTERS

Up to **25%** of cases progress to preeclampsia. Leading cause of maternal/fetal morbidity. Risk extends **6 weeks postpartum**.

RESOLUTION

Typically resolves by **12 weeks postpartum**. Definitive treatment is **DELIVERY** of the fetus and placenta.

The HTN-in-Pregnancy Spectrum

1. Gestational HTN

BP $\geq 140/90$ only



2. Preeclampsia

+ Proteinuria or organ dysfx



3. Eclampsia

+ Seizures



4. HELLP

Hemolysis · $\uparrow$ Liver · $\downarrow$ Platelets

02

PATHOPHYSIOLOGY

The Vasospasm Cascade

1 **Abnormal placental implantation** — trophoblasts fail to fully invade spiral arteries



2 **Placental ischemia** releases antiangiogenic factors (sFlt-1, soluble endoglin)



3 **Widespread endothelial dysfunction** → systemic vasospasm



4 ↑ Vascular permeability → **fluid shifts**, edema, hemoconcentration



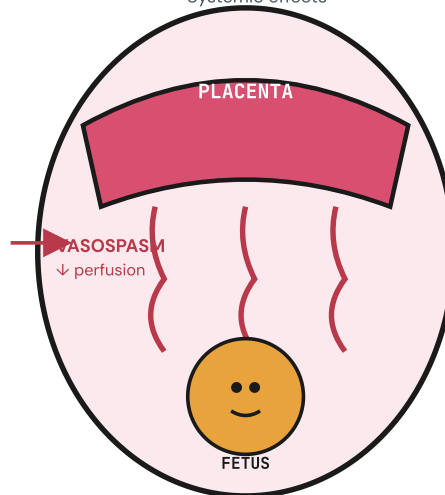
5 **End-organ hypoperfusion**: kidneys, liver, brain, placenta



6 **Clinical effects**: HTN · proteinuria · IUGR · seizure risk · HELLP

Placental Ischemia

- Endothelial injury
- Systemic effects



03

SIGNS & SYMPTOMS

Recognition Cues by Severity

Mild Gestational HTN

- ▶ BP 140–159 / 90–109 mmHg
- ▶ NO proteinuria
- ▶ NO end-organ symptoms
- ▶ Mild dependent edema (ankles)
- ▶ Asymptomatic — caught on prenatal visit

Severe / Preeclampsia

- ✚ BP $\geq 160/110$ mmHg
- ✚ Severe, persistent headache
- ✚ Visual changes (blurring, scotomata)
- ✚ Epigastric / RUQ pain (liver capsule)
- ✚ Hyperreflexia 3+ or 4+, clonus
- ✚ Proteinuria ≥ 300 mg/24 hr or $\geq 1+$ dip
- ✚ Oliguria (<30 mL/hr)
- ✚ Facial/hand edema, sudden weight gain
- ✚ Platelets $< 100,000$
- ✚ AST/ALT $2\times$ normal
- ✚ Pulmonary edema

Eclampsia

- ✚ Tonic-clonic seizure
- ✚ Loss of consciousness
- ✚ Postictal confusion
- ✚ Risk of aspiration, abruption, stroke

HELLP Syndrome

- ✚ **H** — Hemolysis ($\downarrow$ H/H, schistocytes)
- ✚ **EL** — Elevated Liver enzymes (AST/ALT)
- ✚ **LP** — Low Platelets ($<100,000$)
- ✚ RUQ pain, malaise, nausea

✚ IMMINENT SEIZURE WARNING SIGNS

**Severe headache · visual disturbances · epigastric pain · hyperreflexia with clonus · BP $\geq 160/110$.
Notify provider NOW.**

04

PRIORITY NURSING INTERVENTIONS

ABC Framework + Safety

A

AIRWAY

- ▶ Suction setup at bedside
- ▶ Oral airway available
- ▶ Side-lying position if seizing
- ▶ NPO or clear liquids per provider

B

BREATHING

- ▶ O₂ at bedside; SpO₂ monitor
- ▶ Assess RR q1h (Mag → RR ≥12)
- ▶ Auscultate for pulmonary edema (crackles)

C

CIRCULATION

- ▶ BP q1–4h (manual cuff confirmation)
- ▶ Continuous FHR monitoring
- ▶ LEFT lateral position
- ▶ IV access for Mag + antiHTN

SAFETY & ENVIRONMENT

- ▶ Seizure precautions: padded rails, low bed
- ▶ Quiet, dim-lit room; limit visitors
- ▶ Reduce stimuli (lights, noise, touch)
- ▶ Assess DTRs q1–2h while on Mag

MONITORING & LABS

- ▶ Strict I&O — Foley if severe (UO > 30 mL/hr)
- ▶ Daily weights at same time
- ▶ Mag level, CBC, CMP, LFTs, coags
- ▶ Urine dipstick for protein each shift
- ▶ Prepare for delivery — definitive treatment

05

PHARMACOLOGY

Drugs You Must Know Cold

DRUG	CLASS / ACTION	USE & MECHANISM	NURSING CONSIDERATIONS
Magnesium Sulfate	CNS depressant; smooth muscle relaxant	SEIZURE prevention (NOT antihypertensive!). Load 4–6 g IV over 15–30 min, then 1–2 g/hr.	Monitor RR ≥ 12 , UO ≥ 30 mL/hr, DTRs, LOC. Antidote: Calcium gluconate 1 g IV. Therapeutic 4–7 mEq/L.
Labetalol	Non-selective β -blocker + α_1 blocker	1st-line antiHTN in pregnancy. Lowers BP without $\downarrow$ placental flow.	Hold for HR < 60 or SBP < 90 . Avoid in asthma, heart block, decompensated HF.
Hydralazine	Direct arterial vasodilator	5–10 mg IV q20 min for acute severe HTN.	Watch for maternal hypotension $\rightarrow$ fetal distress, reflex tachycardia, headache.
Nifedipine	Calcium channel blocker (oral)	Alternative for severe HTN.	⚠ Synergistic hypotension with Mag — monitor closely.
Betamethasone	Corticosteroid (fetal)	Fetal lung maturity if delivery < 34 weeks. 12 mg IM $\times$ 2 doses, 24 hr apart.	Monitor maternal glucose ($\uparrow$ glucose), assess for infection.
AVOID	ACE inhibitors, ARBs, Diuretics	ACE-I / ARB = teratogenic . Diuretics $\downarrow$ placental perfusion.	Sodium restriction is NOT recommended.

⚡ Magnesium Sulfate — The Star of the Show

Therapeutic range and toxicity thresholds (memorize these!):

THERAPEUTIC 4–7 mEq/L	$\downarrow$ DTRS 8–10 mEq/L	RR DEPRESSION 10–15 mEq/L	CARDIAC ARREST >25 mEq/L
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ANTIDOTE **Calcium Gluconate 1 g IV** over 3 minutes for Mag toxicity. Keep it at the bedside.

First sign of toxicity = LOSS OF DTRs (deep tendon reflexes). This is the earliest, most-tested warning before respiratory depression or cardiac effects appear.

06

NCLEX TEST TRAPS

Wrong vs. Right Thinking !

~~✗ WRONG~~

~~Magnesium sulfate is given to lower BP.~~



✓ RIGHT

Mag prevents **seizures**. Labetalol/Hydralazine lower BP.

~~✗ WRONG~~

~~First sign of Mag toxicity is respiratory depression.~~



✓ RIGHT

First sign is **LOSS OF DTRs** — happens before RR drops.

~~✗ WRONG~~

~~Place client supine to rest.~~



✓ RIGHT

LEFT lateral — improves placental perfusion, off the vena cava.

~~✗ WRONG~~

~~Antihypertensives are the cure.~~



✓ RIGHT

DELIVERY of fetus + placenta is the only definitive treatment.

~~✗ WRONG~~

~~During seizure, insert padded tongue blade.~~



✓ RIGHT

Never put anything in the mouth. Side-lying, suction, O₂, protect airway.

~~✗ WRONG~~

~~GHTN and preeclampsia are the same thing.~~



✓ RIGHT

GHTN = BP only. **Preeclampsia adds proteinuria or organ dysfunction.**

~~✗ WRONG~~

~~Give a diuretic to reduce edema.~~



✓ RIGHT

Diuretics **worsen placental perfusion** — not used routinely.

~~✗ WRONG~~

~~Postpartum BP back to baseline = safe to discharge precautions.~~



✓ RIGHT

Seizure / HELLP risk continues **up to 6 weeks postpartum.**

07

PATIENT & FAMILY EDUCATION

Home Self-Monitoring

Daily Self-Care

- ▶ BP check 2× daily; log readings
- ▶ Daily weight at same time (AM, after voiding)
- ▶ Kick counts: ≥ 10 movements in 2 hours
- ▶ LEFT lateral rest position
- ▶ Adequate protein (60–80 g/day); regular meals
- ▶ No alcohol, no smoking, no caffeine excess
- ▶ Stress reduction, adequate sleep
- ▶ Keep ALL prenatal appointments

Call Provider IMMEDIATELY For:

- ▶ Severe or persistent headache
- ▶ Visual changes (blurring, spots, "stars")
- ▶ Epigastric or RUQ pain
- ▶ Sudden swelling of face/hands
- ▶ Weight gain > 2 lb in 24 hours
- ▶ Decreased fetal movement (< 10 kicks/2 hr)
- ▶ BP $\geq 160/110$
- ▶ Vaginal bleeding or contractions
- ▶ Nausea / vomiting

08

MEMORY BOOSTERS

Mnemonics That Stick

HELLP

WORST-CASE SPECTRUM

- ▶ **H**emolysis
- ▶ **EL**evated Liver enzymes
- ▶ **LP** — Low Platelets

I CAN PREE

PREECLAMPSIA SIGNS

- ▶ **I**ncreased BP
- ▶ **C**onfusion / headache
- ▶ **A**lbuminuria (proteinuria)
- ▶ **N**ausea / visual changes
- ▶ **P**ain (epigastric/RUQ)
- ▶ **R**eflexes hyperactive
- ▶ **E**dema (facial/hand)
- ▶ **E**clampsia (seizure)

L.R.U.D.

MAG TOXICITY SEQUENCE

- ▶ **L**oss of reflexes (first!)
- ▶ **R**espiratory depression (<12)
- ▶ **U**rine output drops (<30 mL/hr)
- ▶ **D**ecreased LOC → cardiac arrest

"4 to 7"

MAG THERAPEUTIC WINDOW

- ▶ **4-7** mEq/L = therapeutic
- ▶ **140/90** @ ≥ 20 weeks = GHTN
- ▶ **≥ 160/110** = severe range
- ▶ **Ca²⁺-Gluc** rescues from Mag

09

NCJMM • NEXT-GEN CLINICAL JUDGMENT

6-Step Case Walk-Through

SCENARIO

A 28-year-old G2P1 at 33 weeks gestation presents to L&D with a 6-hour history of severe headache and "spots in my vision." Vitals: **BP 168/112**, HR 92, RR 20, T 98.6°F. Urine dipstick: **2+ protein**. Reflexes: **3+ patellar with 2 beats of clonus**. Fundal height 32 cm. Fetal HR 145 with moderate variability, no decelerations. Labs pending.

1

RECOGNIZE CUES

BP $\geq 160/110$ ✓ · severe headache ✓ · visual changes ✓ · proteinuria 2+ ✓ · hyperreflexia + clonus ✓ · gestation >20 wks ✓

2

ANALYZE CUES

Vasospasm → end-organ effects (brain, kidneys). Cluster of severe features signals **preeclampsia with severe features**. Clonus = imminent seizure risk.

3

PRIORITIZE HYPOTHESES

Top priority: imminent eclampsia (seizure). Also: stroke, HELLP, abruption, fetal compromise. Rule out other HA causes only after stabilizing.

4

GENERATE SOLUTIONS

Start Mag sulfate bolus + maintenance · IV Labetalol for BP >160/110 · seizure precautions · L lateral · continuous FHR · betamethasone if not given · prep for delivery.

5

TAKE ACTION

Mag 4 g IV bolus over 20 min then 2 g/hr · Labetalol 20 mg IV · Foley · dim lights · suction at bedside · calcium gluconate stocked · notify HCP & prepare for possible delivery.

6

EVALUATE OUTCOMES

BP <160/110 in 30–60 min ✓ · DTRs 2+ (not lost) ✓ · UO ≥ 30 mL/hr ✓ · no seizures ✓ · Mag level 4–7 mEq/L ✓ · FHR reassuring ✓. If any fail → reassess.

Gestational Hypertension — Mastery Snapshot

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