

• ENDOCRINE / MATERNAL-NEWBORN / NCLEX-RN 2026

Gestational *Diabetes* Mellitus (*GDM*)

High-yield infographic: pathophysiology, screening labs, glycemic targets, nursing priorities, pharmacology, and patient teaching — aligned to the 2026 NCLEX-RN Test Plan & NGN Clinical Judgment Model.

★ HIGH YIELD

PHYSIOLOGICAL INTEGRITY

HEALTH PROMOTION

PHARM & PARENTAL THERAPIES

1 SECTION ONE Definition & Overview

- **GDM** = any degree of glucose intolerance *first recognized during pregnancy*, typically diagnosed in the **2nd or 3rd trimester** (after 20 weeks).
- Caused by placental hormones — **human placental lactogen (hPL)**, cortisol, estrogen, progesterone — that create maternal insulin resistance the pancreas cannot overcome.
- Why it matters: ↑ risk of **macrosomia**, **shoulder dystocia**, **preeclampsia**, **neonatal hypoglycemia**, and a **50% lifetime risk** of Type 2 DM in the mother.

6–9%
OF US PREGNANCIES

24–28
SCREENING WEEKS

50%
T2DM LIFETIME RISK

2 SECTION TWO Pathophysiology — Step by Step

- 1 **Placenta secretes** hPL, cortisol, estrogen, progesterone (rises after ~20 wks)
- 2 Hormones **antagonize maternal insulin** → insulin resistance increases
- 3 Maternal pancreatic β-cells **cannot keep up** with insulin demand
- 4 **Maternal hyperglycemia** develops
- 5 Glucose **crosses the placenta** — insulin **does NOT**
- 6 Fetal pancreas **over-produces insulin** → fetal hyperinsulinemia → **macrosomia**
- 7 After delivery: placenta gone → maternal glucose ↓ *rapidly*; newborn keeps making insulin → **neonatal hypoglycemia**

3 SECTION THREE Signs & Symptoms

GDM is often **ASYMPTOMATIC** — universal screening is essential.

CLASSIC MATERNAL

- Polyuria
- Polydipsia
- Polyphagia
- Fatigue
- Recurrent UTIs / yeast infections
- Blurred vision

RED FLAG FINDINGS

- **Fundal height** > gestational age (macrosomia)
- **Polyhydramnios** (AFI > 24 cm)
- ↑ BP, proteinuria, edema (preeclampsia)
- ↓ Fetal movement / non-reassuring FHR
- Glycosuria / ketonuria on dipstick

High-risk profile: BMI ≥ 25/30, age > 25, PCOS, prior GDM, prior macrosomic infant (> 9 lb / 4000 g), 1st-degree family hx T2DM, Hispanic / African American / Native American / South or East Asian / Pacific Islander heritage.

4 SECTION FOUR • DIANE'S REQUEST Labs, Screening & Diagnostic Testing

TWO-STEP APPROACH (ACOG PREFERRED)

STEP	TEST	ABNORMAL VALUE
1	50 g GCT (1-hr glucose challenge) Non-fasting • 24–28 wks	≥ 130–140 mg/dL → proceed to step 2
2	100 g OGTT (3-hr) Fasting required	Need 2+ abnormal values : Fasting ≥ 95 • 1 hr ≥ 180 2 hr ≥ 155 • 3 hr ≥ 140

ONE-STEP APPROACH (IADPSG / WHO)

TEST	TIME	ABNORMAL (ANY ONE)
75 g OGTT Fasting • 24–28 wks	Fasting	≥ 92 mg/dL
	1 hour	≥ 180 mg/dL
	2 hour	≥ 153 mg/dL

△ **Pearl:** Only **ONE** abnormal value is needed to diagnose GDM with the 1-step method (vs. 2 with the 3-hr OGTT).

★ SELF-MONITORING GLYCEMIC TARGETS (ADA / ACOG)

< 95
mg/dL
Fasting / pre-meal

< 140
mg/dL
1 hr postprandial

< 120
mg/dL
2 hr postprandial

< 6.0%
HbA1c
If safely achievable

EARLY SCREEN (1st visit)

High-risk women → screen at **first prenatal visit**; if negative, repeat at 24–28 wks.

ROUTINE MONITORING

SMBG QID (fasting + after each meal), daily kick counts, weekly weight, urine ketones if illness or ↓ intake.

POSTPARTUM RE-TEST

75 g 2-hr OGTT at 4–12 weeks postpartum, then every 1–3 years; ~50% develop T2DM within 5–10 yrs.

5 SECTION FIVE Priority Nursing Interventions

- ASSESS** **Monitor blood glucose** per schedule (QID minimum); recognize values outside target → notify provider.
- ASSESS** **Evaluate fetal well-being**: daily kick counts, weekly/biweekly NST, BPP, fundal height; ultrasound for growth.
- ABC / SAFETY** **Screen for preeclampsia** at every visit — BP, proteinuria, edema, headache, visual changes, RUQ pain.
- SAFETY** **Recognize hypoglycemia < 70 mg/dL** → 15 g rapid carbs (4 oz juice, glucose tabs), recheck in 15 min.
- ADMINISTER** **Insulin** if diet/exercise fail to meet targets — rotate sites, never massage, monitor for hypoglycemia.
- EDUCATE** **Carbohydrate-controlled diet**: 3 meals + 2–3 snacks; complex carbs, lean protein, avoid simple sugars/juice.
- EDUCATE** **30 min moderate exercise** most days (walking after meals lowers postprandial glucose).
- SAFETY** **Plan delivery** — typically by **39–40 wks** if well-controlled; earlier (37–39) if poorly controlled or macrosomic.
- ABC / SAFETY** **Anticipate neonatal hypoglycemia** — feed within 1 hr, check newborn glucose ≤ 30 min after birth, watch for jitteriness.
- ASSESS** **Postpartum**: insulin needs **drop sharply**; D/C insulin in most GDM mothers after delivery; encourage breastfeeding.

6 SECTION SIX Pharmacology

Insulin

+ GOLD STANDARD

CLASS: HORMONE REPLACEMENT

MOA Replaces deficient insulin; **does NOT cross placenta** — safest in pregnancy.
TYPES Rapid: *lispro / aspart*. Intermediate: *NPH*. Long: *detemir* (preferred over glargine).
S/E **Hypoglycemia**, weight gain, injection-site reactions.
NURSING Rotate sites · refrigerate unopened · **insulin demand ↑ in 2nd–3rd trimester, ↓ abruptly postpartum**.

Metformin

2nd-line

CLASS: BIGUANIDE

MOA ↓ Hepatic glucose production, ↑ insulin sensitivity. **Crosses placenta** but generally considered safe.
S/E GI upset (N/V, diarrhea), rare lactic acidosis. **Not for renal impairment**.
NURSING Take with meals. Some patients still need insulin added.

Glyburide

Use limited

CLASS: SULFONYLUREA

MOA Stimulates pancreatic insulin release. **Crosses placenta** in small amounts.
S/E **Maternal & neonatal hypoglycemia**, ↑ macrosomia risk vs. insulin.
NURSING No longer first-line; monitor newborn glucose closely after birth.

7 SECTION SEVEN NCLEX Test Traps — Don't Get Caught

▲ TRAP #1 · INSULIN DIRECTION SHIFT

Insulin requirements **INCREASE** in the 2nd–3rd trimester (placental hormones peak), then **DROP DRAMATICALLY** after delivery. The right answer postpartum is usually **monitor for hypoglycemia / hold or reduce insulin** — NOT "give scheduled dose."

▲ TRAP #3 · INSULIN ≠ ORAL AGENTS

When the question asks "safest" or "preferred" treatment in pregnancy → choose **INSULIN** (does not cross placenta). Don't pick metformin/glyburide if insulin is an option.

▲ TRAP #5 · DKA AT LOWER GLUCOSE

Pregnant patients can develop **DKA at glucose < 200 mg/dL** ("euglycemic DKA"). Treat ketones + acidosis seriously even if glucose looks "not that high."

▲ TRAP #7 · HYPOGLYCEMIA RULE OF 15

If maternal glucose < 70 → **15 g simple carbs, recheck in 15 min**. NOT a big meal, NOT chocolate (too much fat slows absorption), NOT IV D50 unless unconscious.

▲ TRAP #2 · NEWBORN IS HYPO, NOT HYPER

Babies of GDM mothers have **fetal hyperinsulinemia**. After cord clamping the glucose supply stops but insulin keeps flowing → **neonatal HYPOglycemia**. Glucose < 40 mg/dL → feed immediately, recheck.

▲ TRAP #4 · SCREENING WINDOW

Memorize: **24–28 weeks** for routine screening. Earlier (1st visit) only for **high-risk** patients. Distractors love "32 wks" or "after 30 wks" — both wrong.

▲ TRAP #6 · LGA ≠ HEALTHY BIG BABY

Macrosomia (> 4000–4500 g) is a **complication**, not a positive sign. Risks: shoulder dystocia, brachial plexus injury, C-section, birth asphyxia. Anticipate — don't celebrate.

▲ TRAP #8 · GDM DOESN'T END AT BIRTH

Mother needs a **75 g 2-hr OGTT at 4–12 weeks postpartum** to confirm resolution. ~50% develop T2DM within 5–10 yrs. Don't pick "no further follow-up needed."

8 SECTION EIGHT Patient Education & Teaching

DIET & LIFESTYLE

- ✓ **3 meals + 2–3 snacks/day** — never skip; include bedtime snack with protein
- ✓ Complex carbs (whole grain, beans, vegetables); ~**40–45% of calories from carbs**

SELF-MONITORING (SMBG)

- ✓ Check glucose **fasting + 1 or 2 hr after each meal** (QID)
- ✓ Wash hands first; rotate finger sites; record values

9 SECTION NINE Memory Boosters & Mnemonics

S · U · G · A · R

GDM MANAGEMENT BUNDLE

- S** Screen at 24–28 wks
- U** Use diet & exercise first-line
- G** Glucose monitoring QID

B · I · G · B · A · B · Y

NEONATAL COMPLICATIONS

- B** Birth trauma / shoulder dystocia
- I** Insulin excess → hypoglycemia
- G** Growth > LGA / macrosomia

✓ Pair carbs with protein/fat to blunt glucose spikes

✗ **Avoid:** juice, soda, candy, white bread/rice, sweetened cereal

✓ **30 min walking** most days, especially after meals

✓ Adequate hydration; no smoking or alcohol

✓ Know your targets: **FBG < 95, 1-hr < 140, 2-hr < 120**

⚠ Bring log to **every prenatal visit**

✍ **IF INSULIN PRESCRIBED**

✓ Rotate injection sites (abdomen preferred — fastest absorption)

✓ Refrigerate unopened vials; room temp for 28 days once open

⚠ **Carry simple carbs at all times** (glucose tabs)

📞 **CALL PROVIDER IMMEDIATELY IF...**

- **↓ Fetal movement** (< 10 kicks in 2 hr)
- Persistent FBG > 95 or 2-hr > 120
- N/V preventing eating + ketones in urine
- Severe HA, blurred vision, RUQ pain
- Hypoglycemia not corrected by carbs
- Signs of labor or rupture of membranes

👶 **Postpartum teaching:** Breastfeeding ↓ T2DM risk for mom & baby. Repeat 75 g OGTT at **4–12 wks**, then screen every 1–3 yrs. Reach pre-pregnancy weight; ~50% lifetime T2DM risk → maintain diet & exercise habits.

A Add insulin if targets not met

R Re-test postpartum at 4–12 wks

B Bilirubin ↑ (jaundice)

A Asphyxia / RDS risk

B Beta-cell hyperplasia in fetus

Y Y-shaped future T2DM risk (obesity)

➤ **QUICK ASSOCIATIONS**

- **"95 / 140 / 120"** — fasting / 1-hr / 2-hr targets
- **"24–28"** — universal screening window
- **"Glucose crosses, insulin doesn't"** — why insulin is safe in pregnancy
- **"Big baby, low sugar"** — macrosomia → neonatal hypoglycemia
- **"Up then down"** — insulin needs rise in pregnancy, drop postpartum
- **"15 & 15"** — hypoglycemia rule: 15 g carbs, recheck in 15 min