PIPADOR REVISION

MRCOG Part 1 Revision Notes

Diabetes Mellitus

ENDOCRINOLOGY • LECTURE 189

VISUAL EXAMINATION REVISION NOTES

2026 Edition

189

MRCOG PART 1 REVISION NOTES | ENDOCRINOLOGY

Diabetes Mellitus

Type 1, type 2 and gestational diabetes in pregnancy — pathophysiology, NICE NG3 care pathway and complications

< 48	5 mg	5.6 / 7.8	4–7
Pre-conception HbA1c target (mmol/mol)	Folic acid (pre-existing DM)	GDM OGTT thresholds (fasting / 2 h)	Intrapartum glucose target (mmol/L)

■ KEY FACTS: Learning objectives

- Describe type 1, type 2 and gestational diabetes and the physiology of pregnancy that affects them.
- Describe pre-conception, antenatal, intrapartum and postnatal care (NICE NG3).
- Describe maternal, fetal and neonatal complications and their mechanisms.

189.1 Types and pathophysiology

Type	Mechanism	Pregnancy relevance
Type 1	Autoimmune β-cell destruction → absolute insulin deficiency	Hypoglycaemia (1st trimester, hyperemesis, impaired awareness); DKA at lower glucose; insulin needs ↑ ≈ 2–3× by term
Type 2	Insulin resistance + relative β-cell failure; obesity	Rising prevalence; often older, multiparous, higher BMI; ↑ stillbirth and anomalies similar to type 1
Gestational (GDM)	Insulin resistance of pregnancy (hPL, placental GH, progesterone, cortisol) not met by β-cell compensation	≈ 5–15% of pregnancies; ≈ 50% develop type 2 within 5–10 yr
MODY (e.g. GCK)	Monogenic	GCK-MODY: fetal growth depends on fetal genotype — treatment may not be needed

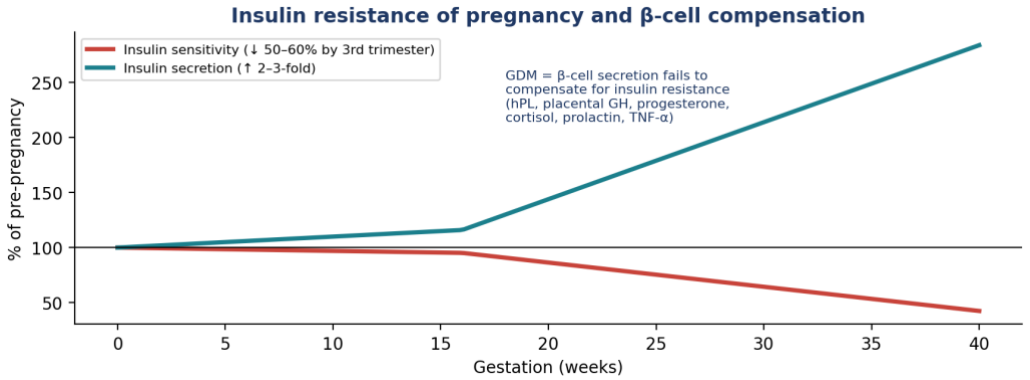


Figure 189.1 — Insulin sensitivity and secretion across pregnancy

189.2 Pre-conception care (pre-existing diabetes)

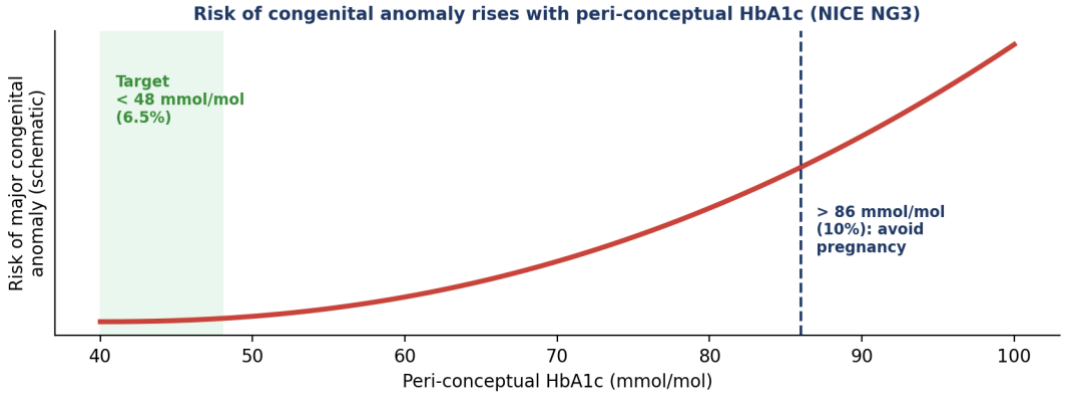


Figure 189.2 — Peri-conceptual HbA1c and congenital anomaly risk

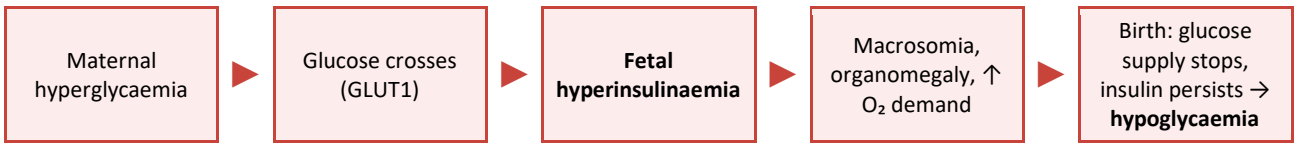
Element	Advice (NICE NG3)
Glycaemic control	HbA1c < 48 mmol/mol without problematic hypoglycaemia; avoid pregnancy if > 86 mmol/mol; contraception until ready
Supplements	Folic acid 5 mg from pre-conception to 12 weeks
Medicines	Stop statins, switch ACE inhibitors/ARBs (continue ACEi until pregnancy confirmed if nephropathy), stop non-insulin agents except metformin
Screening	Retinal assessment (retinopathy may progress), renal (creatinine, ACR); refer if eGFR < 45
Technology	Type 1: real-time CGM offered in pregnancy

189.3 Antenatal, intrapartum and postnatal care

Stage	Key points
Antenatal	Targets: fasting < 5.3, 1-h < 7.8 or 2-h < 6.4 mmol/L; aspirin 75–150 mg from 12 wk; ketone testing if unwell (type 1); retinal screening each trimester; anomaly scan + fetal cardiac views; growth scans 28, 32, 36 wk; antenatal steroids → expect hyperglycaemia (↑ insulin/VRIII)
GDM	OGTT 24–28 wk (earlier if previous GDM); diet/exercise → metformin → insulin; fasting ≥ 7.0 at diagnosis → insulin immediately
Timing of birth	Type 1/2: 37+0 to 38+6 weeks; GDM: no later than 40+6 (earlier if complications)
Intrapartum	Capillary glucose hourly; target 4–7 mmol/L; VRIII/IV dextrose-insulin if outside range (type 1 from established labour)
Postnatal	Reduce insulin immediately (to pre-pregnancy or less) — hypoglycaemia risk, especially breastfeeding; stop GDM treatment; GDM: fasting glucose 6–13 wk or HbA1c after 13 wk, then annually; baby: feed within 30 min, glucose 2–4 h after birth

189.4 Complications

Maternal	Fetal / neonatal
Hypoglycaemia; DKA (infection, vomiting, steroids, β-agonists — fetal mortality high); retinopathy progression; nephropathy (↑ pre-eclampsia); pre-eclampsia; infection; CS; polyhydramnios	Congenital anomalies (cardiac, NTD, caudal regression, renal) ≈ 2–4× ↑; macrosomia → shoulder dystocia; stillbirth; FGR (vasculopathy); preterm birth; neonatal hypoglycaemia, RDS, polycythaemia, jaundice, hypocalcaemia, cardiomyopathy (septal hypertrophy); later obesity/diabetes



189.5 Must-know summary

■ **EXAM TIP**

- Pre-conception: **HbA1c < 48**, avoid if > 86; **folic acid 5 mg**; stop statins/ACEi; retinal and renal checks.
- Targets: fasting < 5.3; 1-h < 7.8; 2-h < 6.4. Aspirin from 12 wk.
- Birth: type 1/2 at **37+0–38+6**; GDM by 40+6. Intrapartum glucose **4–7**.
- GDM: OGTT **≥ 5.6 fasting / ≥ 7.8 2-h**; metformin then insulin; postnatal test 6–13 wk.
- Pedersen hypothesis → macrosomia and neonatal hypoglycaemia.

■ **MNEMONIC / MEMORY AID**

Diabetic pregnancy — 'HbA1c 48, folate 5, aspirin 12, scans 28-32-36, deliver 37–38'.