PIPADOR REVISION

MRCOG Part 1 Revision Notes

Antiepileptics

PHARMACOLOGY • LECTURE 383

VISUAL EXAMINATION REVISION NOTES

2026 Edition

383

MRCOG PART 1 REVISION NOTES | PHARMACOLOGY

Antiepileptics

Mechanisms, teratogenicity and management of antiepileptic drugs in pregnancy

Lamotrigine	Valproate	5 mg	Don't stop
Lowest risk; levels fall in pregnancy	PPP — avoid	Folic acid pre-conception	AEDs abruptly

■ **KEY FACTS: Learning objectives**

- Describe the mechanisms of the main antiepileptic drugs.
- Describe teratogenic risks and pre-conception and antenatal management.
- Describe intrapartum/postnatal care, breastfeeding and contraception.

383.1 Mechanisms

Drug	Mechanism	Notes
Lamotrigine	Na^+ channel blockade	Rash (SJS); UGT-metabolised — oestrogen ↓ levels
Levetiracetam	SV2A synaptic vesicle protein	Mood changes; renal excretion
Carbamazepine, phenytoin	Na^+ channel blockade	• **Enzyme inducers** (COC, implant failure) • Hyponatraemia • Phenytoin zero-order
Sodium valproate	Na^+/T-type Ca^{2+}, ↑ GABA	Weight gain, hepatotoxicity, PCOS-like; major teratogen
Topiramate	Multiple	Weight loss; teratogenic; inducer ≥ 200 mg
Benzodiazepines	GABA-A	Status epilepticus (lorazepam, buccal midazolam)

383.2 Pregnancy

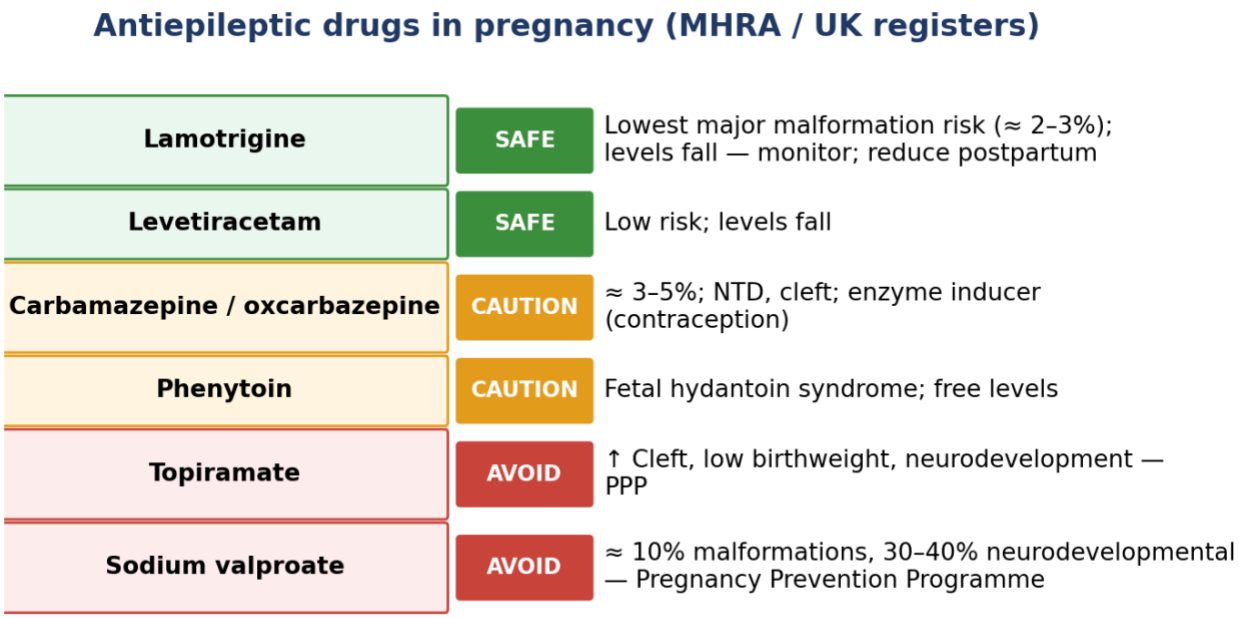


Figure 383.1 — AED safety in pregnancy

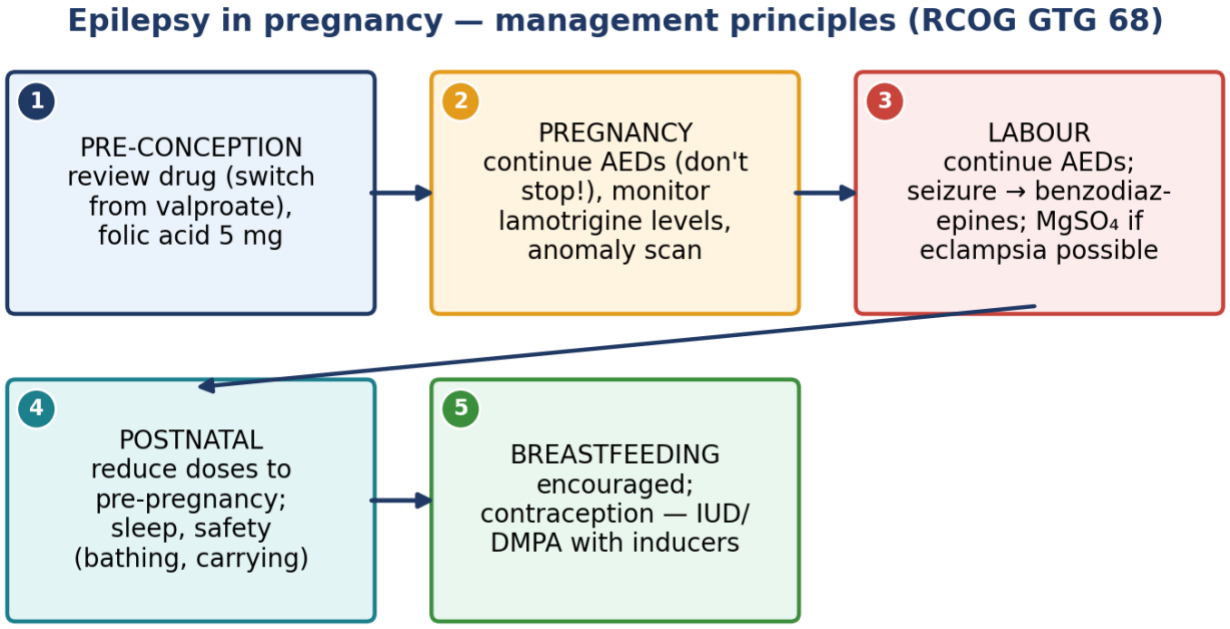


Figure 383.2 — Management principles

- **Epilepsy (SUDEP) is an important indirect cause of maternal death** — never stop AEDs abruptly; involve an epilepsy specialist.
- **Valproate**: must not be used in women of childbearing potential unless a Pregnancy Prevention Programme is in place (MHRA)
  - Also caution with topiramate.
- Status epilepticus in pregnancy: ABC, left lateral tilt, IV lorazepam → levetiracetam/phenytoin; exclude eclampsia ($MgSO_4$).
- Vitamin K for the neonate as routine; no routine maternal vitamin K needed (enzyme inducers — local policy).

383.3 Must-know summary

■ EXAM TIP

- Lamotrigine/levetiracetam preferred; valproate (≈ 10% malformations, 30–40% neurodevelopmental) and topiramate avoided.
- Folic acid 5 mg pre-conception; anomaly scan; monitor lamotrigine levels and reduce dose postpartum.
- Enzyme inducers → IUD/DMPA contraception.
- Breastfeeding encouraged; safety advice postnatally.

■ MNEMONIC / MEMORY AID

'Lamotrigine & Levetiracetam = Least risk; Valproate = Very risky'.