PIPADOR REVISION

MRCOG Part 1 Revision Notes

Chemotherapeutic Drugs

PHARMACOLOGY • LECTURE 388

VISUAL EXAMINATION REVISION NOTES

2026 Edition

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MRCOG PART 1 REVISION NOTES | PHARMACOLOGY

Chemotherapeutic Drugs

Chemotherapy classes and toxicities, methotrexate, chemotherapy in pregnancy and safe handling

Platinum + taxane	MTX	EMA-CO	2nd trimester
Ovarian cancer backbone	Folate antagonist	High-risk GTN	Chemo possible in pregnancy

■ **KEY FACTS: Learning objectives**

- Classify chemotherapy drugs by mechanism and describe their toxicities.
- Describe methotrexate pharmacology and its O&G uses.
- Describe chemotherapy in pregnancy, fertility effects and safe handling.

388.1 Classes

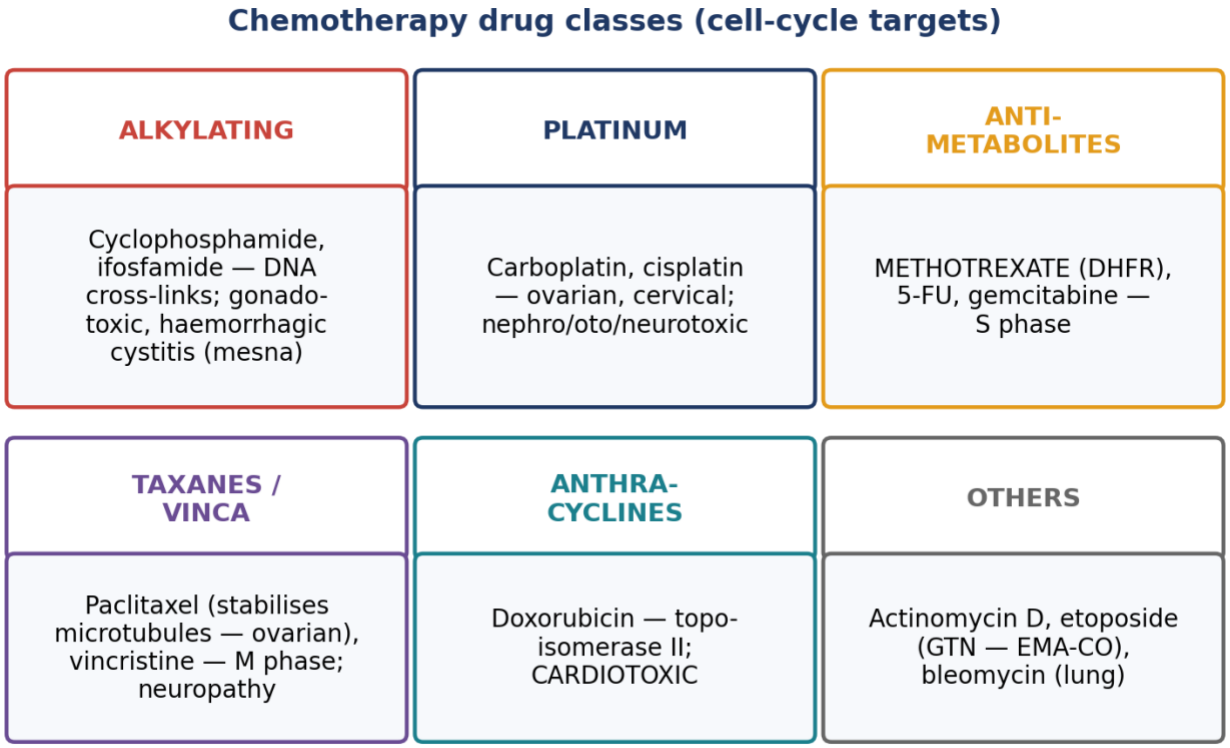


Figure 388.1 — Chemotherapy classes

Toxicity	Examples
Myelosuppression (nadir ≈ 7–14 days)	Most cytotoxics — neutropenic sepsis (treat within 1 h: piperacillin–tazobactam)
Nausea/vomiting	Cisplatin (highly emetogenic) — 5-HT_3 + dexamethasone + NK_1
Neuropathy	Paclitaxel, cisplatin, vincristine

Toxicity	Examples
Organ-specific	Doxorubicin (cardiomyopathy), bleomycin (pulmonary fibrosis), cisplatin (renal, ototoxicity), cyclophosphamide (bladder — mesna)
Gonadotoxicity	Alkylating agents → POI/azoospermia — fertility preservation
Secondary malignancy	Alkylators, etoposide (AML)

388.2 Methotrexate

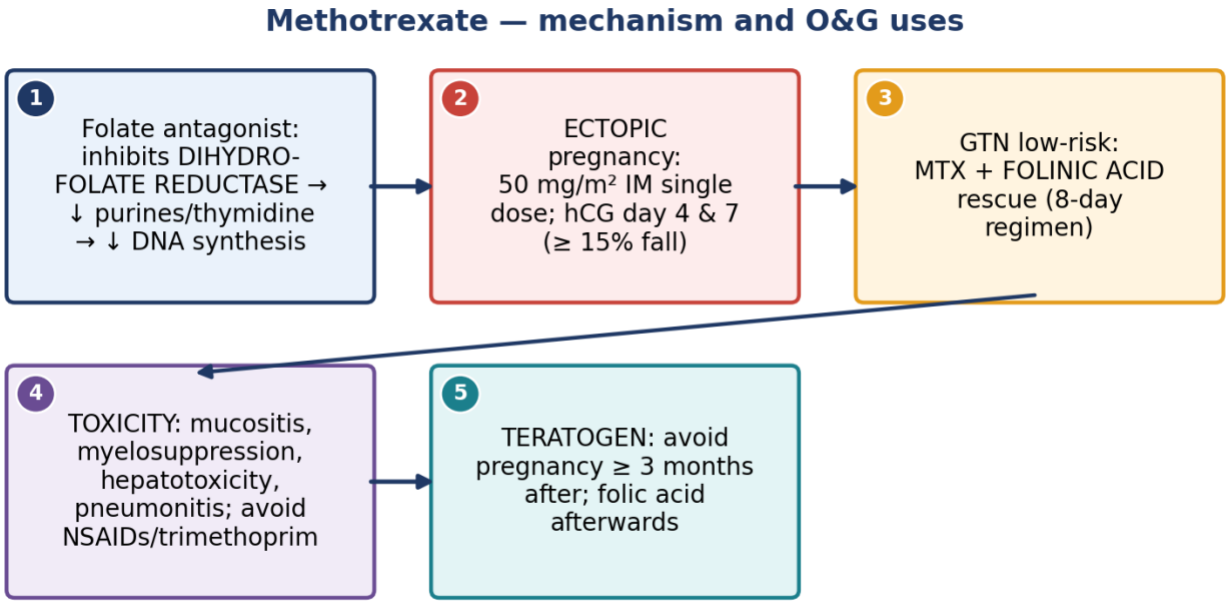


Figure 388.2 — Methotrexate

388.3 Chemotherapy in pregnancy

- Avoid in the 1st trimester (organogenesis — miscarriage, anomalies)
  - **Many regimens possible from the 2nd trimester** (e.g. anthracyclines/taxanes for breast cancer, platinum for cervical/ovarian) — MDT, fetal growth monitoring.
- Plan birth ≥ 3 weeks after the last cycle (avoid neonatal/maternal neutropenia at birth); avoid breastfeeding during chemotherapy.
- Avoid trastuzumab (oligohydramnios), tamoxifen and methotrexate in pregnancy.
- Safe handling: cytotoxic precautions for staff; pregnant staff should not prepare cytotoxics.

388.4 Must-know summary

■ EXAM TIP

- Alkylating (gonadotoxic), platinum, antimetabolites (MTX), taxanes/vinca (neuropathy), anthracyclines (cardiotoxic).
- MTX: DHFR inhibitor — ectopic (50 mg/m²), GTN (with folinic acid); avoid pregnancy ≥ 3 months.
- Chemo possible from 2nd trimester; birth ≥ 3 weeks after last dose.
- Neutropenic sepsis: antibiotics within 1 hour.

■ MNEMONIC / MEMORY AID

'MTX Mops up Trophoblast'.