PIPADOR REVISION

MRCOG Part 1 Revision Notes

Analgesics

PHARMACOLOGY • LECTURE 374

VISUAL EXAMINATION REVISION NOTES

2026 Edition

374

MRCOG PART 1 REVISION NOTES | PHARMACOLOGY

Analgesics

Analgesic classes, multimodal analgesia, labour and post-caesarean analgesia, pregnancy and breastfeeding

Paracetamol	NSAIDs	Codeine	Naloxone
First line — pregnancy & BF	Avoid ≥ 20 wk / 3rd trimester	Avoid in breastfeeding	Opioid reversal

■ **KEY FACTS: Learning objectives**

- Describe the mechanisms of action and adverse effects of the main analgesic classes.
- Describe analgesia in pregnancy, labour, after caesarean and in breastfeeding.
- Describe opioid safety, neonatal effects and reversal.

374.1 Analgesic classes

Class	Mechanism	Adverse effects / notes
Paracetamol	Central COX inhibition, serotonergic	• Hepatotoxicity in overdose (NAPQI — N-acetylcysteine) • Weight-based IV dosing (< 50 kg)
NSAIDs	COX-1/COX-2 inhibition → ↓ prostaglandins	• GI bleeding, renal impairment, asthma, platelet effects • **Fetal ductal constriction, oligohydramnios** • Avoid in pre-eclampsia with renal impairment/PPH-related AKI
Opioids	μ-receptor agonists (↓ cAMP, K^+ efflux, ↓ Ca^{2+} influx)	• Respiratory depression, sedation, nausea, constipation, pruritus, urinary retention • Tolerance/dependence
Weak opioids	Codeine (prodrug — CYP2D6), dihydrocodeine, tramadol (+ SNRI)	Codeine variable; tramadol — seizures, serotonin syndrome
Local anaesthetics	Na^+ channel blockade	• Toxicity: perioral tingling → seizures → arrhythmias — **Intralipid 20%** • Max doses
Neuropathic	Amitriptyline, gabapentin, pregabalin	Sedation; gabapentinoid misuse/respiratory depression with opioids
Entonox	50% N_2O/O_2 — NMDA antagonist	Labour; B_{12} inactivation with prolonged use

374.2 Ladder and multimodal analgesia

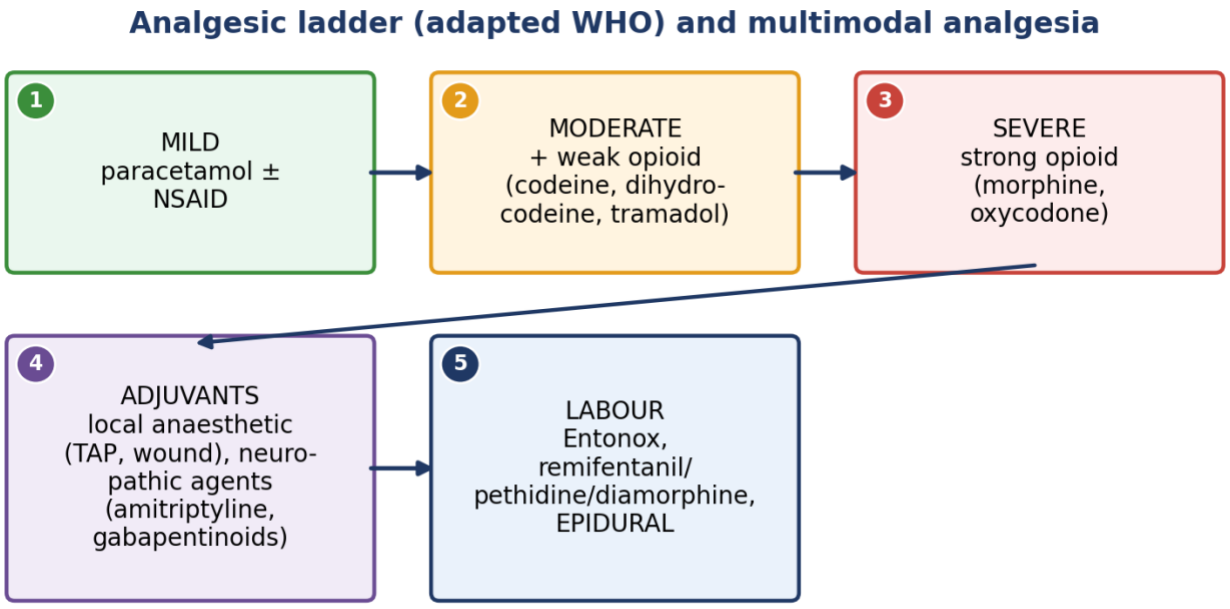


Figure 374.1 — Analgesic ladder

- **Post-caesarean**: regular paracetamol + NSAID (if no contraindication), intrathecal diamorphine/morphine at spinal, oral opioids for breakthrough, TAP/quadratus lumborum blocks or wound infiltration after GA.
- **Labour**: non-pharmacological, Entonox
  - IM/IV opioids (pethidine, diamorphine)
  - Remifentanil PCA (1:1 midwife, respiratory monitoring)
  - **Epidural** (most effective).

374.3 Pregnancy and breastfeeding

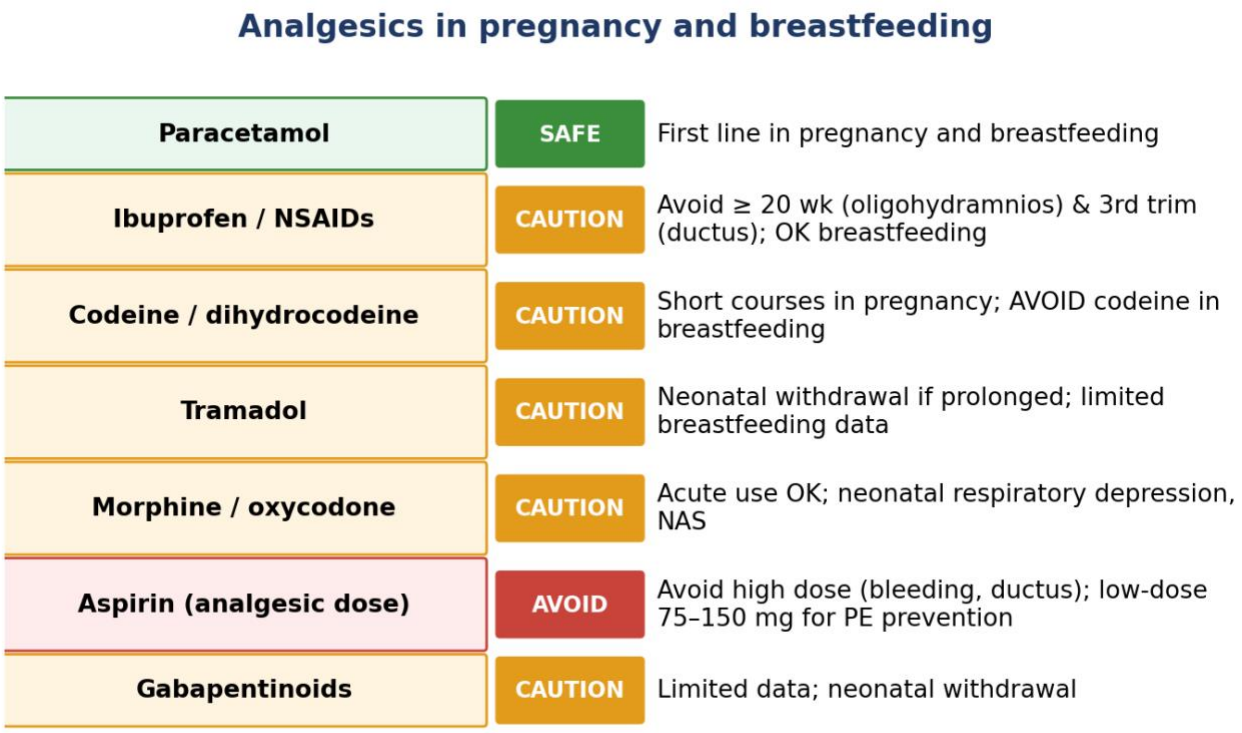


Figure 374.2 — Analgesics in pregnancy and breastfeeding

- **Opioids near birth** → neonatal respiratory depression — naloxone for the neonate if needed (avoid in opioid-dependent mothers' babies — withdrawal).
- Chronic opioid use → **neonatal abstinence syndrome** (irritability, feeding difficulty, seizures) — neonatal team plan.
- **Naloxone** (adult): 100–400 µg IV titrated; short half-life — repeat/infusion.

374.4 Must-know summary

■ EXAM TIP

- Paracetamol first line; NSAIDs avoid from 20 weeks/3rd trimester (ductus, oligohydramnios) — OK postnatally/breastfeeding.
- Codeine — CYP2D6 prodrug; avoid in breastfeeding.
- Multimodal post-CS: paracetamol + NSAID + intrathecal opioid + breakthrough oral opioid.
- LA toxicity → Intralipid; opioid overdose → naloxone.

■ MNEMONIC / MEMORY AID

Opioid side effects — 'Sleepy, Slow-breathing, Sick, Stuck (constipation), Scratchy (itch)'.