PIPADOR REVISION

MRCOG Part 1 Revision Notes

X-ray Results

DATA INTERPRETATION • LECTURE 447

VISUAL EXAMINATION REVISION NOTES

2026 Edition

447

MRCOG PART 1 REVISION NOTES | DATA INTERPRETATION

X-ray Results

Radiation dose, systematic X-ray review and interpretation in O&G — definitions and worked cases

CXR	< 50 mGy	CTPA vs V/Q	ABCDE
Tiny fetal dose	No ↑ anomaly risk	Similar, low fetal doses	Systematic review

■ KEY FACTS: Learning objectives

- Define radiation dose terms and fetal dose thresholds.
- Describe a systematic approach to chest and abdominal X-rays.
- Interpret common X-ray findings in obstetric and gynaecological scenarios.

447.1 Key definitions

Term	Definition
Ionising radiation	Radiation that can damage DNA (X-rays, CT, nuclear medicine) — not ultrasound or MRI
Fetal dose (mGy)	Absorbed radiation dose to the fetus
Deterministic threshold	Dose below which malformations do not occur — fetal doses < 50 mGy (and arguably < 100 mGy) do not increase anomaly risk
Stochastic risk	Small, dose-related increase in childhood cancer risk (no threshold) — very small at diagnostic doses
PA / AP film	X-ray beam back-to-front (PA, standard) or front-to-back (AP, portable — heart looks bigger)
CTR	Cardiothoracic ratio — heart width ÷ chest width (> 0.5 on PA = cardiomegaly)

■ IN PLAIN ENGLISH: X-rays in pregnancy

A chest X-ray gives a fetus less radiation than a few days of natural background radiation. **Never withhold a clinically needed X-ray** in pregnancy — but avoid unnecessary abdominal/pelvic imaging and use ultrasound/MRI where possible.

447.2 Radiation dose

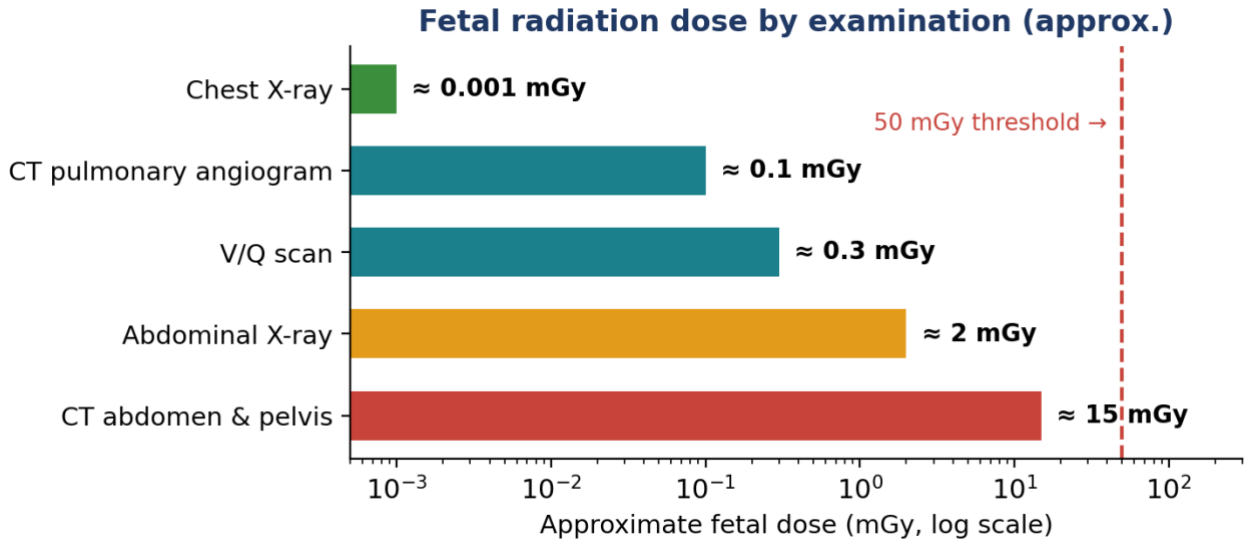


Figure 447.1 — Approximate fetal radiation dose

447.3 Systematic review of a chest X-ray

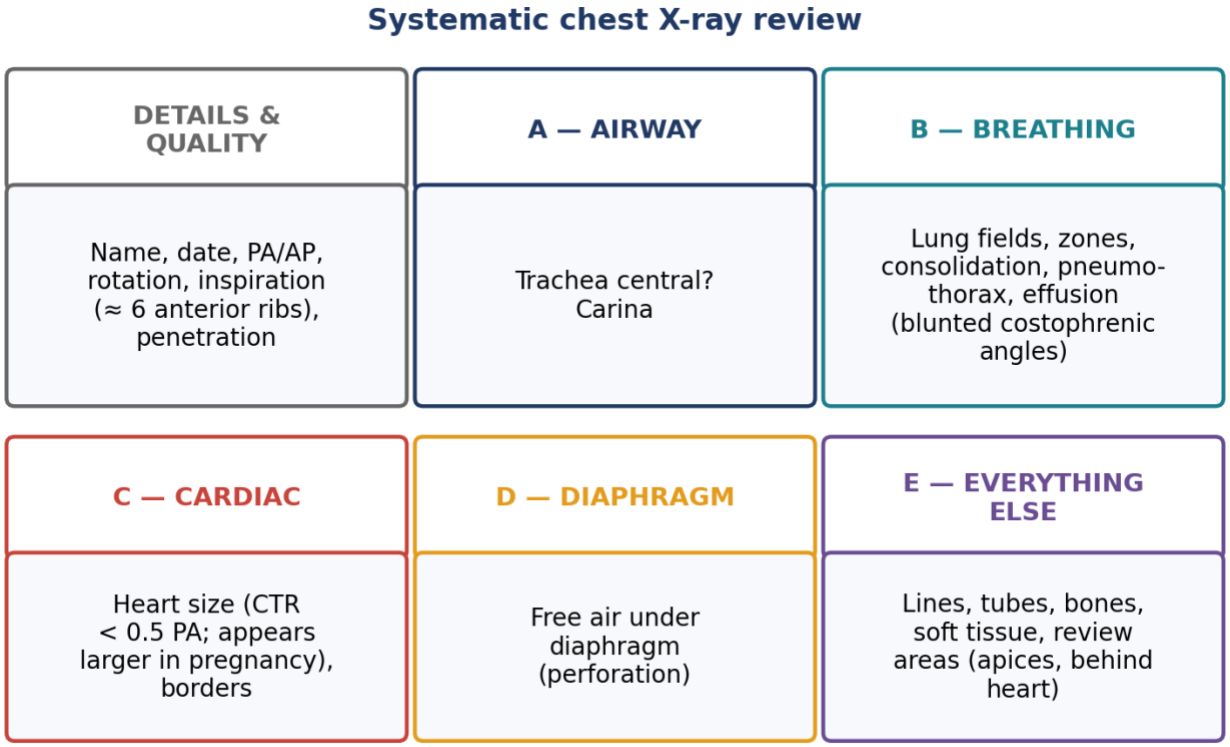


Figure 447.2 — Systematic chest X-ray review

Finding	Interpretation (O&G context)
Bilateral perihilar ('bat-wing') shadowing, Kerley B lines, effusions	Pulmonary oedema — pre-eclampsia, fluid overload, peripartum cardiomyopathy, tocolytics
Lobar consolidation ± air bronchogram	Pneumonia (influenza, COVID-19, aspiration — right lower lobe)
Normal CXR in breathless woman	Consider PE → CTPA or V/Q

Finding	Interpretation (O&G context)
Absent lung markings, visible pleural edge	Pneumothorax
Free gas under diaphragm (erect CXR)	Perforated viscus (or recent laparoscopy)
AXR — dilated loops, air–fluid levels	Bowel obstruction
Radio-opaque object in pelvis	Migrated IUD (if not seen on USS), retained swab marker

447.4 Worked cases

■ WORKED EXAMPLE

Case 1 — 2 days post-CS, breathless, SpO_2 90%: CXR bilateral bat-wing shadowing, Kerley B lines, cardiomegaly; known severe PE with high fluid input → **pulmonary oedema** → oxygen, furosemide, fluid restriction; echo to exclude cardiomyopathy.

Case 2 — 30 wk, pleuritic pain, CXR normal → **PE not excluded** → leg Dopplers if leg symptoms, then CTPA/V/Q; start LMWH while awaiting.

Case 3 — IUD threads missing, no IUD on TVS, negative pregnancy test → **AXR**: IUD in pelvis → uterine perforation → laparoscopic removal.

■ COMMON PITFALLS

Delaying a needed CXR/CTPA because of pregnancy.

Reading cardiomegaly on an AP portable film.

Forgetting pregnancy test before elective pelvic imaging in women of reproductive age.

447.5 Must-know summary

■ EXAM TIP

- CXR fetal dose tiny; < 50 mGy no ↑ anomaly risk; CT abdomen/pelvis highest.
- Systematic CXR: details/quality → airway → breathing → cardiac → diaphragm → everything else.
- Pulmonary oedema (bat-wing, Kerley B), pneumonia, pneumothorax, free gas; normal CXR does not exclude PE.
- AXR finds migrated IUDs and obstruction.

■ MNEMONIC / MEMORY AID

CXR — 'ABCDE': Airway, Breathing, Cardiac, Diaphragm, Everything else.