PIPADOR REVISION

MRCOG Part 1 Revision Notes

Fetal Growth Restriction

CLINICAL MANAGEMENT • LECTURE 470

VISUAL EXAMINATION REVISION NOTES

2026 Edition

470

MRCOG PART 1 REVISION NOTES | CLINICAL MANAGEMENT

Fetal Growth Restriction

Definitions, risk assessment, investigation, surveillance and timing of birth (RCOG GTG 31, SBL v3)

< 10th	< 3rd	UA Doppler	SBL v3
Centile = SGA	Centile = FGR (alone)	Key surveillance	Element 2

■ KEY FACTS: Learning objectives

- Define SGA, FGR (early and late) and constitutionally small fetuses.
- Describe risk assessment, screening and prevention (RCOG GTG 31, Saving Babies' Lives v3).
- Describe investigation, surveillance and timing of birth for SGA/FGR.

470.1 Key definitions

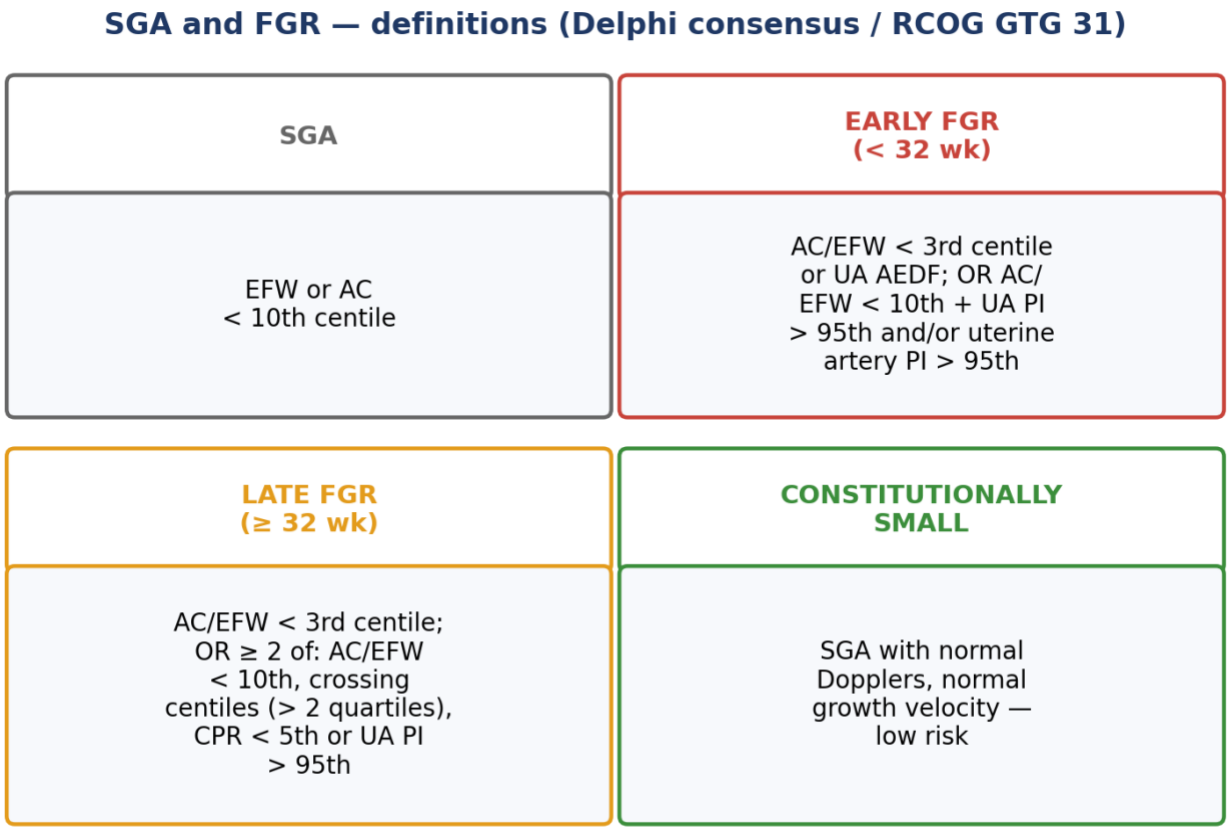


Figure 470.1 — Definitions of SGA and FGR

Term	Definition
Small for gestational age (SGA)	Estimated fetal weight (EFW) or abdominal circumference (AC) below the 10th centile

Term	Definition
Fetal growth restriction (FGR)	A fetus that has not reached its growth potential — usually due to placental dysfunction
Early-onset FGR	• Diagnosed < 32 weeks — strongly placental • UA Doppler abnormalities • ↑ PE
Late-onset FGR	• Diagnosed ≥ 32 weeks — subtle • UA often normal • MCA/CPR changes • ↑ stillbirth
Growth velocity / crossing centiles	Fall in AC/EFW across centiles on serial scans
Cerebroplacental ratio (CPR)	MCA PI ÷ UA PI — low value suggests redistribution ('brain-sparing')
Customised / population charts	Charts adjusted for maternal characteristics (GROW) or standard population charts (e.g. INTERGROWTH, Hadlock)

■ IN PLAIN ENGLISH: SGA vs FGR

Not every small baby is unwell: **SGA** just means small. **FGR** means the baby is not growing as it should — usually because the **placenta is failing** — and carries a much higher risk of stillbirth. Doppler and growth trends tell them apart.

470.2 Risk assessment and prevention

Topic	Details
Booking risk assessment	• Major risk factors: previous SGA/stillbirth, maternal age > 40, smoking ≥ 11/day, drug use • Chronic hypertension, renal disease • Diabetes with vascular disease, APS, heavy bleeding, PAPP-A < 0.4 MoM • Minor: nulliparity, BMI, IVF, low fruit intake etc.
Prevention	• Smoking cessation (CO testing — SBL element 1) • Aspirin 75–150 mg from 12 weeks for women at high risk of placental dysfunction/pre-eclampsia
Low risk	• Serial SFH measurement from 24–28 weeks plotted on a chart • Scan if SFH < 10th centile or static/slow growth
High risk	• Serial ultrasound growth scans (typically from 28–32 weeks, every 2–4 weeks per SBL v3 risk category) • Uterine artery Doppler at 20–24 weeks in some pathways
Detection	Standardised growth assessment, audit of SGA detection rates (SBL v3)

470.3 Investigation

- Confirm dating (CRL); detailed anomaly scan; uterine artery Doppler (early FGR).
- Severe/early FGR or with anomalies: offer karyotype/microarray; screen for infection (CMV, toxoplasmosis, syphilis, malaria in travellers).

- Maternal assessment: BP, urine (PCR), bloods for PE; PlGF testing where PE suspected (low PlGF supports placental cause).

470.4 Surveillance and timing of birth

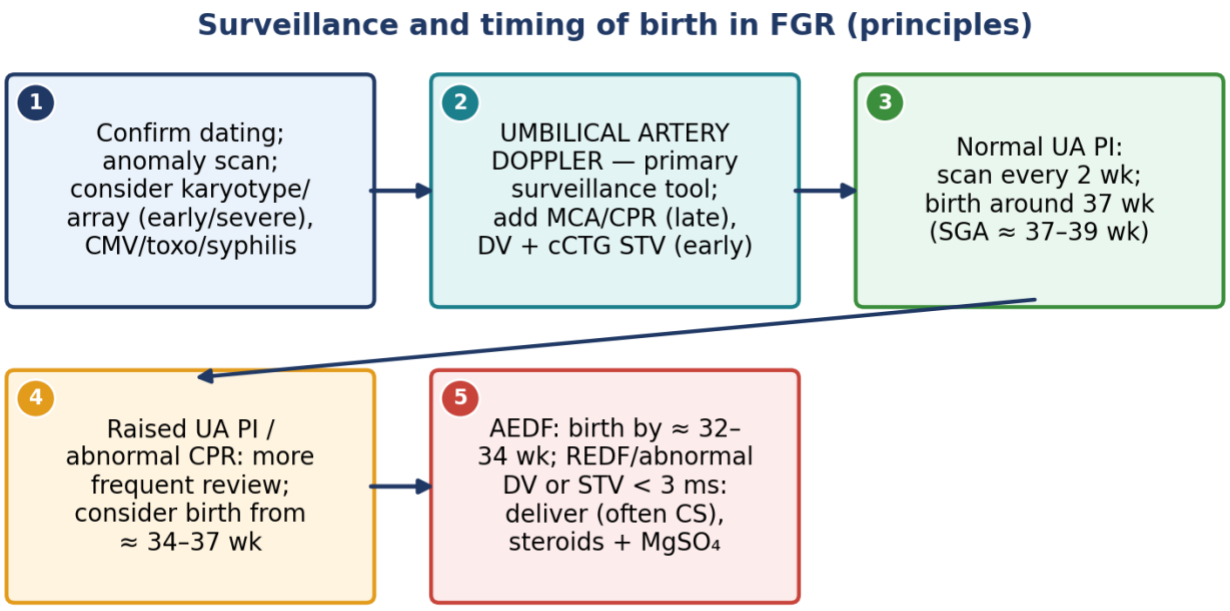


Figure 470.2 — Surveillance and timing of birth

Finding	Management principles
SGA, normal UA Doppler, normal growth velocity	• Growth/Doppler every 2 weeks • Offer birth around 37–39 weeks (individualised)
FGR, raised UA PI (positive EDF)	• Weekly or more frequent Doppler • Consider birth from 34–37 weeks • Steroids if < 35 wk
Late FGR with low CPR/MCA PI	Consider birth from ≈ 37 weeks (earlier if worsening)
UA absent end-diastolic flow (AEDF)	• Admit • Daily cCTG ± DV • Steroids, $MgSO_4$ if < 30–32 wk • Birth by ≈ 32–34 weeks (earlier if other abnormalities)
UA reversed EDF (REDF)	Birth by ≈ 30–32 weeks
Abnormal ductus venosus (absent/reversed a-wave) or cCTG STV < 3 ms (< 2.6 ms at 29–32 wk)	Deliver (TRUFFLE) — usually by CS
Mode of birth	• CS if severe early FGR/abnormal Dopplers • IOL possible in late FGR with continuous CTG in labour

■ COMMON PITFALLS

Reassurance from a normal UA Doppler in late FGR (UA often normal — check MCA/CPR and growth velocity).

Single scan without trend.

Not starting aspirin in high-risk women by 16 weeks.

470.5 Must-know summary

■ EXAM TIP

- SGA = EFW/AC < 10th; FGR = growth restriction (consensus: < 3rd, or < 10th + abnormal Doppler/crossing centiles).
- Risk assess at booking; aspirin for high risk; SFH for low risk; serial USS for high risk (SBL v3).
- UA Doppler is the key surveillance tool; add MCA/CPR (late), DV and cCTG STV (early).
- AEDF → birth ≈ 32–34 wk; REDF → ≈ 30–32 wk; late FGR ≈ 37 wk; steroids + $MgSO_4$ as indicated.

■ MNEMONIC / MEMORY AID

FGR delivery ladder — 'Normal 37, AEDF 34, REDF 32, DV/STV now'.