this & that

11

OBGYN QUICK GUIDES · IF THIS, THEN THAT

NO.

First Stage of Labour

& intrapartum resuscitation

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Obstetrics & Gynaecology

Assessment & management

Verified against ACOG · SMFM · RCOG/NICE · SOGC · WHO — October 2026

First stage of labour & intrapartum resuscitation

At a glance: the numbers to remember

4 · 5 · 6 cm
active phase starts: NICE · WHO · ACOG

<2 cm in 4 h
NICE: suspect delay → ARM, VE 2 h later

4 h / 6 h
ACOG arrest at ≥6 cm + ROM: adequate / inadequate contractions on oxytocin

>5 in 10 min
tachysystole: stop or reduce oxytocin first

250 mL/h
IV rate if oral intake restricted (vs 125 mL/h)

Scope: term, singleton, cephalic, spontaneous or augmented labour, from onset of contractions to full dilation. Where societies disagree, each position carries the society name; follow your local protocol. Abbreviations are listed in Section 11.

01 Definitions

	ACOG / SMFM	NICE NG235	WHO 2018	Williams / Friedman
Latent phase	Onset of regular contractions to 6 cm	Painful contractions + cervical change, up to 4 cm	Painful contractions + cervical change, up to 5 cm	Regular contractions to ≈4 cm
Active phase	From **6 cm**	Established labour: regular painful contractions + progressive dilation from **4 cm**	From **5 cm**	3–5 cm onwards; maximum slope
Prolonged latent phase	>16 h, any parity (CPG 8, 2024); not a CS indication	No time limit given	No standard duration; do not intervene on time alone	>20 h nullipara / >14 h multipara (Friedman 95th centile)
Expected active-phase length	No upper limit; change at least every 4 h = slow but progressive, not a CS indication	Nullipara: average 8 h, unlikely >18 h · Multipara: average 5 h, unlikely >12 h	5 cm→full: usually ≤12 h (first labour), ≤10 h (later labours)	Nullipara mean 4.9 h; 95th centile 11.7 h
Slow progress	Protraction: <1 cm in 2 h (conservative definition)	Suspected delay: <2 cm in 4 h (any parity), or slowing in a multipara	Alert when time at a given cm exceeds the LCG limit	<1.2 cm/h (nullipara), <1.5 cm/h (multipara)
Arrest	≥6 cm + ROM and no change for ≥4 h with adequate contractions, or ≥6 h with inadequate contractions despite oxytocin	Confirmed delay: <1 cm in 2 h; then <2 cm 4 h after oxytocin → consider CS	Not defined by time alone	No change ≥2 h (traditional)

- The three thresholds (4, 5, 6 cm) describe the same curve: dilation is slow and variable before 5–6 cm and accelerates after. Apply active-phase time limits only after the threshold your unit uses.
- Adequate contractions: 3–5 in 10 min on palpation or toco, or ≥200 Montevideo units on an IUPC (Williams, ACOG).

02 Admission & the latent phase

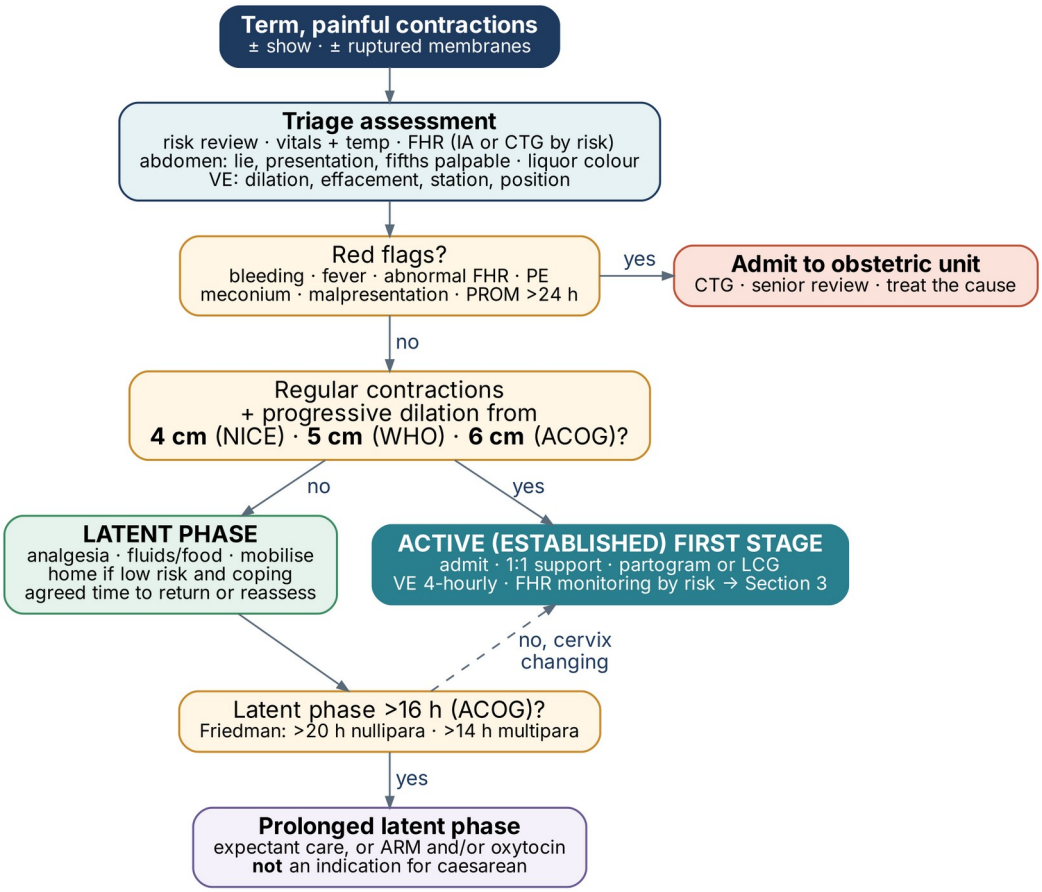


Figure 1. *Is she in labour, and which phase? Admission decisions at term.*

IF	THEN
Low risk, latent phase, coping, reassuring FHR	• Home or remain in triage; agree a time to return or be reviewed (ACOG CO 766, NICE) • Explain the warning signs: bleeding, fluid, reduced movements, constant pain, regular contractions every 2–3 min • Delayed admission → less oxytocin and analgesia, CS not increased (Obstetric EBG); WHO recommends it only within research
Latent phase but not coping, or repeated attendances	Admit for analgesia and support (bath, mobilising, simple analgesia, opioid). Do not label as failure to progress.
Prolonged latent phase (ACOG >16 h; Friedman >20 h nullipara, >14 h multipara)	• Most reach the active phase with expectant care; the rest stop contracting or respond to amniotomy and/or oxytocin (ACOG CPG 8) • Analgesia and rest if exhausted (Williams); exclude malposition, infection and false labour • Not a CS indication while mother and fetus are well (ACOG, WHO)
Ruptured membranes, not in labour, at term	Follow the term PROM pathway: induction now or expectant care, per local protocol; GBS status decides prophylaxis.
Red flags at triage (bleeding, fever, abnormal FHR, hypertension, meconium, malpresentation)	Admit to the obstetric unit, continuous CTG, senior review, treat the cause.
Active phase reached	Admit, one-to-one care, start the partogram or LCG, plan FHR monitoring by risk (Section 3).

03 Monitoring the active first stage

What	Low risk	Higher risk / augmented
Fetal heart	IA every 15 min for 1 min after a contraction (NICE, FIGO); ACOG CPG 10: every 15–30 min; WHO LCG records every 30 min	Continuous CTG; review at least every 15–30 min (hourly systematic review in NICE)
Contractions	Palpate frequency over 10 min every 30 min	Toco; IUPC only if uncertain adequacy (obese, slow progress on oxytocin)
Maternal pulse	Hourly	Hourly, or more often if bleeding, sepsis or tachycardia
BP · temperature · resp. rate	4-hourly (NICE)	BP hourly in hypertension, every 15–30 min if severe (NICE NG133); temperature hourly if ROM >18 h or fever
Vaginal examination	4-hourly (NICE, WHO) or when clinically needed	2–4-hourly; more often when a decision depends on it
Bladder · fluid balance	Encourage voiding; review bladder care at least 4-hourly (NICE)	Fluid balance chart with oral + IV intake if on IV fluids or oxytocin, PE, bleeding, vomiting or not voiding
Record	Partogram once established (NICE NG235; NG192: 4-hour action line ↓ CS) or WHO Labour Care Guide	Same, plus oxytocin rate and fluids; NICE: hourly risk review with "fresh eyes"

IF	THEN
Woman wants to move or eat	Encourage upright positions and mobility: first stage ≈1 h 22 min shorter, CS RR 0.71, fewer epidurals (Cochrane). Light diet and fluids to thirst if low risk.
Membranes intact, labour progressing normally	Do not perform routine amniotomy (NICE, WHO, ACOG): first stage not shortened, CS RR 1.27 (95% CI 0.99–1.63; Cochrane).
Normal progress	No routine oxytocin, early amniotomy + oxytocin, antispasmodics, IUPC or intrapartum ultrasound (NICE, WHO, Obstetric EBG).
Continuous support available	Offer it: CS RR 0.75, more spontaneous births, shorter labour (Cochrane, 26 trials).

04 Judging progress

Progress is the combination of **dilation, descent and rotation**, with contractions adequate to produce them. A centimetre count alone misses half the picture.

IF	THEN
Dilation changing, head descending (fifths palpable falling), position rotating to OA	Progress is normal even if slower than 1 cm/h. Continue.
Dilation static but head descending and rotating	Labour is progressing; reassess in 2 h before calling delay.
Dilation static + rising caput and moulding (+++ = not reducible)	Suspect obstruction / relative disproportion: senior review; oxytocin only after senior assessment; in a multipara do not augment.
Head still 3/5 or more palpable at an advanced dilation	Look for malposition (OP, deflexed, brow) or disproportion; scan for position if unsure.

IF	THEN
Dilation <5–6 cm	Slow progress here is common and does not mean dystocia. Zhang 2010: 4→5 cm can take >6 h, 5→6 cm >3 h.
Cervix oedematous or thickening	Sign of obstruction or OP position; review before further augmentation.
Contractions <3 in 10 min, short or weak (LCG alert: ≤2 in 10 min or <20 s)	Hypotonic uterine activity: the most common and most treatable cause of delay → amniotomy ± oxytocin (Section 5).
Same examiner possible	Use the same examiner for consecutive VEs where possible; record dilation, station, position, caput, moulding, liquor.

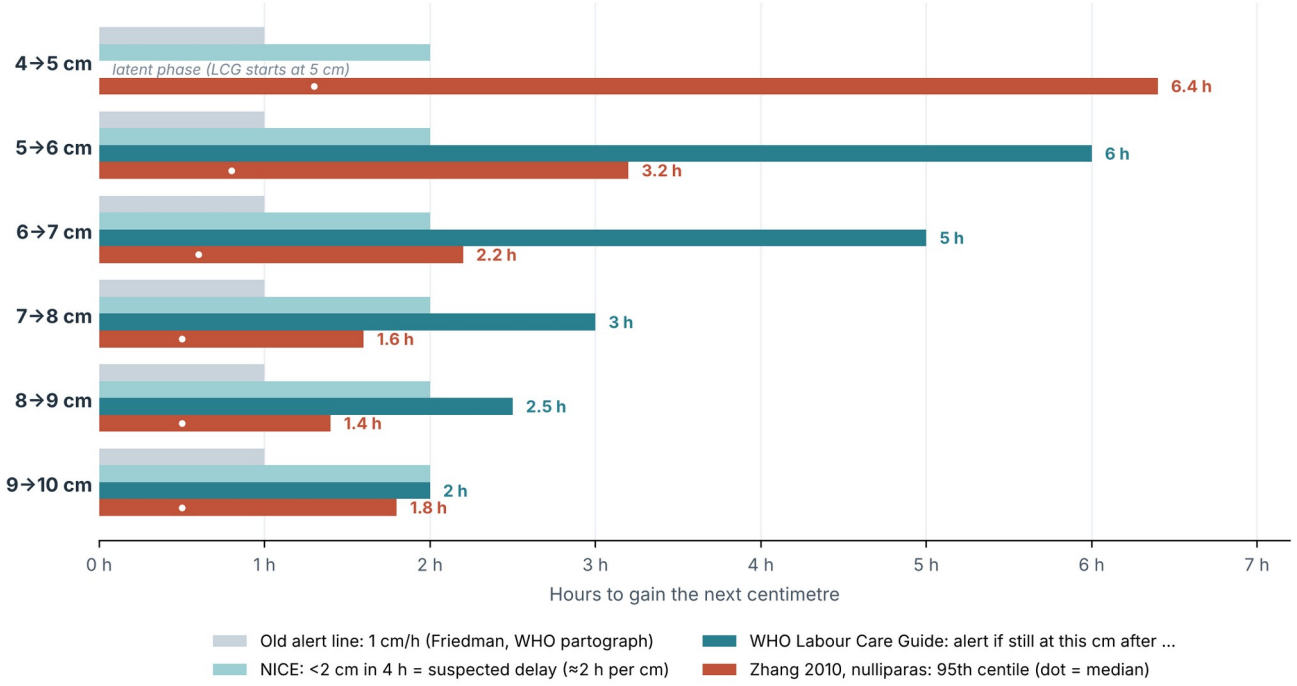


Figure 2. *How long is too long at each centimetre? Old and current thresholds in the active first stage.*

Bedside rule

- Before 5–6 cm: judge by the woman (coping? FHR fine?) not by the clock.
- After 5–6 cm: expect at least 1 cm in 2 h; less is protraction (ACOG) or delay (NICE). Look for the cause before adding oxytocin.
- No change in 4 h despite adequate contractions, ROM and ≥6 cm = arrest (ACOG); NICE: <2 cm in the 4 h after oxytocin has produced regular contractions → review for CS.

05 Slow progress & arrest

IF	THEN
Suspected delay (NICE: <2 cm in 4 h, or slowing in a multipara; also poor descent/rotation or weaker contractions)	• Support, hydration, pain relief first • Membranes intact → consider **amniotomy** (shortens labour ≈1 h); head well applied; check FHR after • Repeat VE 2 h later whether or not ARM was done

IF	THEN
Delay confirmed (<1 cm in 2 h)	• Obstetric-led care and full assessment; **oxytocin** if appropriate • Offer an epidural before oxytocin starts; continuous CTG • No separate IV fluids just because oxytocin is running (NICE) • VE 4 h after oxytocin produces regular contractions: <2 cm → review for CS; ≥2 cm → VE 4-hourly
Multipara with delay	• Senior obstetrician decides before any oxytocin • Exclude malposition and obstruction first; uterine rupture risk • Previous CS: oxytocin only after consultant discussion
Slow but changing labour (cervical change at least every 4 h)	Not an indication for CS on its own (ACOG CPG 8). SOGC: ≥0.5 cm/h is normal in low-risk nulliparas. Support, analgesia, oxytocin if contractions inadequate.
ACOG arrest criteria met (≥6 cm, ROM, no change ≥4 h adequate or ≥6 h inadequate contractions on oxytocin)	Caesarean birth (ACOG). More than 60% still deliver vaginally if oxytocin continues after 2 h of arrest, which is why 4 h is used. SOGC similarly allows 4–6 h of adequate contractions.
OP position	Expect a longer first stage; oxytocin if contractions inadequate; manual rotation belongs to the second stage.
Epidural in place	Prolongs labour slightly; does not raise CS rate. Do not attribute delay to the epidural without assessing contractions and position.

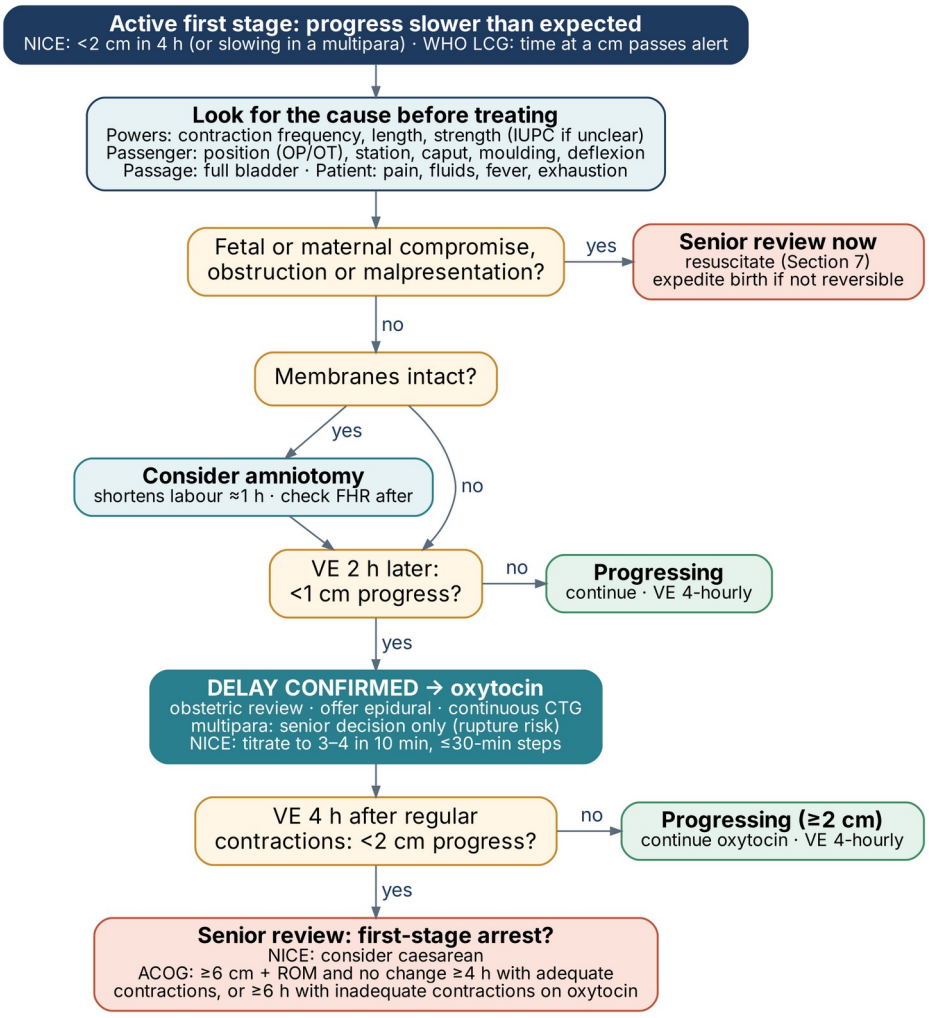


Figure 3. *Delay in the active first stage: amniotomy, oxytocin, and when to call arrest.*

Oxytocin for augmentation

Regimen	Start	Increase	Max	Notes
Low dose (ACOG)	0.5–2 mU/min	1–2 mU/min every 15–40 min	None established (ACOG)	ACOG CPG 8: low or high dose both acceptable
High dose (ACOG)	≥4 mU/min	3–6 mU/min every 15–40 min	None established	Cochrane: CS RR 0.62, not robust on sensitivity analysis; more tachysystole
NICE NG235	Local protocol	No more often than every 30 min	Local protocol	Aim 3–4 contractions in 10 min; >4 → reduce or stop
Obstetric EBG suggestion	2 mU/min (10 mU/mL: 12 mL/h)	2 mU every 30–45 min	16 mU/min (up to 24)	Titrate to adequate contractions

Targets differ: NICE 3–4 contractions in 10 min; ACOG/SOGC adequate = 3–5 in 10 min or ≥200 MVU. Tachysystole is >5 in 10 min averaged over 30 min (ACOG, FIGO). Use your unit's concentration; mU/min and mL/h differ between protocols.

06 Oral intake & IV fluids

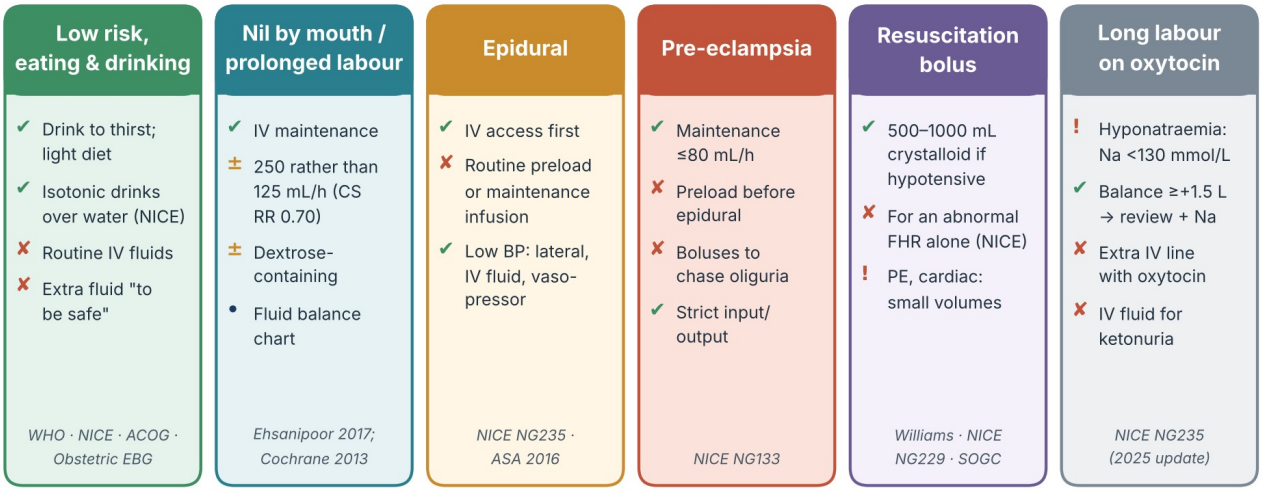


Figure 4. *IV fluid plan by clinical situation.*

IF	THEN
Low risk, no opioids, low chance of GA	• Drink to thirst and eat a light diet; isotonic drinks may help more than water; drinking extra gives no benefit and may harm (NICE) • No routine IV infusion (NICE, WHO); ACOG: spontaneous labour may not need continuous IV fluids • Unrestricted intake: labour ≈16 min shorter, no aspiration events in trials (Obstetric EBG)
Opioids given, or at risk of GA (pre-eclampsia, BMI ≥40, previous CS with risk factors, abnormal FHR)	• Clear fluids only (ASA 2022, ACOG); no solid food • NICE: consider a proton pump inhibitor (e.g. omeprazole) • Start IV maintenance if intake is restricted
Oral intake restricted (nil by mouth)	• IV crystalloid **250 mL/h** rather than 125 mL/h in nulliparas: CS 12.5% vs 18.1% (RR 0.70, NNT 18), labour ≈1 h shorter (Ehsanipoor 2017; Cochrane 2013) • Dextrose-containing fluid shortens the first stage by ≈75 min, total labour unchanged (Riegel 2018); no CS difference vs saline (Cochrane) • No benefit when oral intake is free; WHO advises against IV fluids to shorten labour

IF	THEN
Before or after an epidural	• Secure IV access first; preload and maintenance infusion not needed routinely for low-dose epidural or CSE (NICE NG235; Cochrane: no benefit with low-dose) • Hypotension → left lateral, IV fluid, call the anaesthetist; phenylephrine or ephedrine
Pre-eclampsia	• Maintenance fluids ≤80 mL/h unless ongoing losses such as haemorrhage (NICE NG133) • No IV preload before low-dose epidural in severe PE; do not chase oliguria with boluses
Cardiac disease	Individualise with cardiology/anaesthesia: aortic stenosis and pulmonary hypertension need preload; mitral stenosis and cardiomyopathy need restriction (MF EBG).
Long labour, large volumes or oxytocin	• Hyponatraemia (Na <130 mmol/L) risks maternal and neonatal seizures; >2.5 L total intake → 26% hyponatraemic (Moen 2009) • Positive balance ≥1500 mL or symptoms (headache, vomiting, confusion) → obstetric review + serum Na (NICE 2025) • Na <125 or symptomatic → consultant obstetrician, anaesthetist and neonatal team at once • No IV or extra oral fluid for ketonuria alone (NICE); avoid hypotonic IV fluids

07 Intrauterine resuscitation

Intrauterine resuscitation means correcting what is reducing fetal oxygen supply: too many or too long contractions, maternal position or hypotension, and cord compression. Do it while you assess, not instead of deciding. ACOG CPG 10: a category II tracing gets intrauterine resuscitation before caesarean; a category III tracing that does not respond gets expedited birth.

IF	THEN
Any concerning or abnormal FHR	• Call for help; check maternal pulse (is it the mother's heart rate?), BP, temperature • Read the toco as carefully as the FHR: frequency, duration, resting tone
Supine or semi-recumbent	**Left lateral** (or the other side if no better). Simple, safe, raises fetal SpO_2.
≥5 contractions in 10 min (NICE amber) or >5 averaged over 30 min (ACOG, FIGO tachysystole), or contractions ≥2 min	• **Stop or reduce oxytocin**; remove a dinoprostone insert • Persisting abnormal FHR → **terbutaline 0.25 mg SC** (NICE NG229 suggested regimen; Williams: 250 µg SC or IV); ACOG CPG 10 suggests a rapid-acting relaxant • Not with cardiac disease, poorly controlled hyperthyroidism, or maternal/fetal tachycardia with loss of variability (Williams)
Maternal hypotension (epidural, supine, hypovolaemia)	• IV crystalloid **500–1000 mL** over ≈20 min (Williams; 1000 mL raised fetal SpO_2 more than 500 mL) • After an epidural: left lateral, IV fluid, call the anaesthetist for a vasopressor (phenylephrine or ephedrine) • NICE and SOGC: IV fluid for an abnormal FHR **only if hypotensive or hypovolaemic**; ACOG warns of overload
Recurrent variable decelerations	• Position change; VE to exclude cord prolapse • **Amnioinfusion** after ROM (ACOG CPG 10, SOGC): decelerations RR 0.53, CS RR 0.62 (Cochrane); 500–800 mL warmed saline, then 3 mL/min (Williams) • Not for late decelerations or to dilute meconium

IF	THEN
Maternal fever or sepsis	Treat the cause (cultures, antibiotics, paracetamol). Fever lowers the fetal reserve for hypoxia (Dewhurst).
Oxygen	• **Do not give routinely** for an abnormal FHR: ACOG CPG 10 (strong recommendation against), NICE NG229 ("may harm the baby"), SOGC 396 • 16 RCTs: no change in cord pH; longer exposure linked to lower cord pO_2 • Give for maternal hypoxia or to pre-oxygenate before GA
Cause corrected but pattern persists	• Scalp stimulation: an acceleration is reassuring, none is worrying (NICE) • FBS only where local practice uses it; NICE NG229 now makes no recommendation • Expedite birth if still pathological (NICE) or category III unresponsive (ACOG)

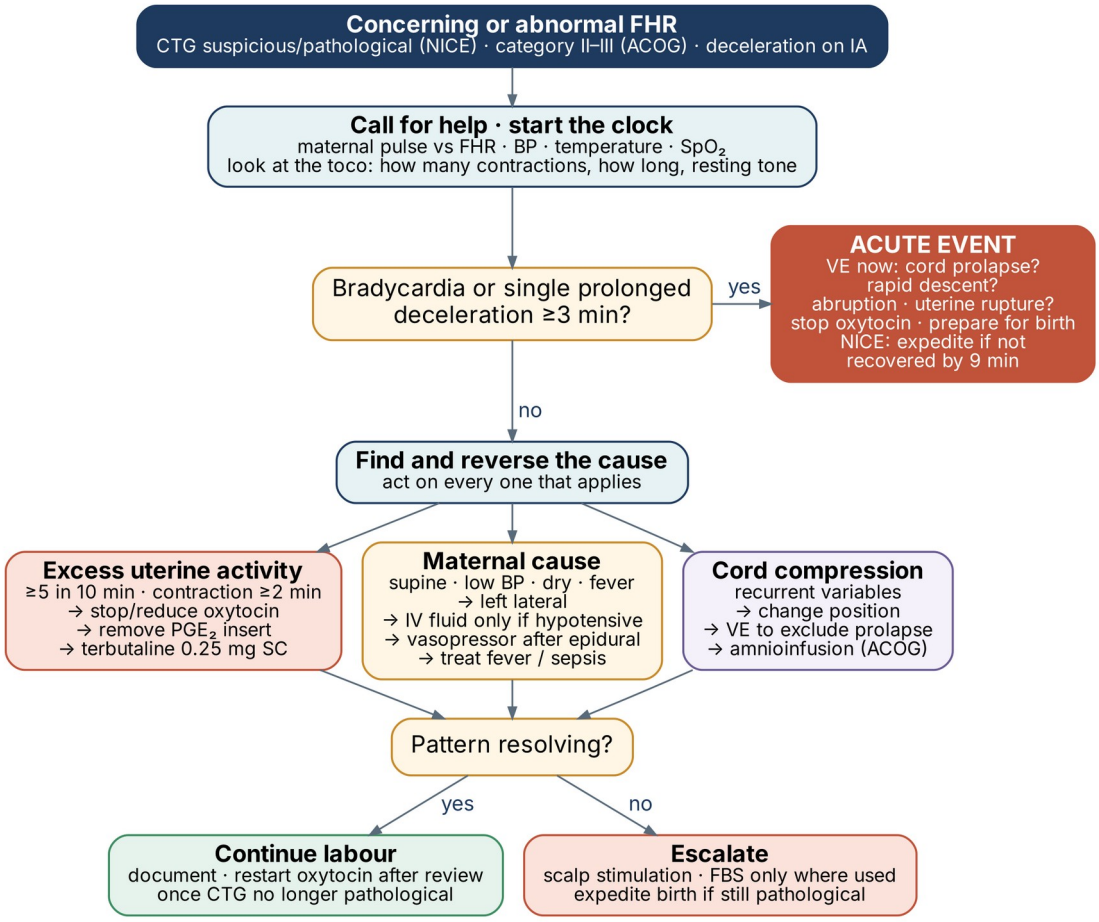


Figure 5. *Concerning or abnormal FHR: find the cause, reverse it, and escalate if it does not resolve.*

Acute bradycardia or a single prolonged deceleration ≥3 min

IF	THEN
Deceleration reaches 3 min	• Urgent obstetric review; prepare for urgent birth and call the neonatal team (NICE) • VE for cord prolapse or rapid descent; look for abruption or uterine rupture • Stop oxytocin, left lateral, tocolysis if hypertonus
Acute event found (prolapse, abruption, rupture)	Expedite birth now; do not wait for 9 min.

IF	THEN
Not recovered by 9 min (sooner with significant risk factors)	Expedite birth (NICE NG229): category 1 CS within 30 min, or OVD if fully dilated and safe.
Recovers before 9 min	Reassess the plan with the woman; continue close review.
Cord prolapse	• Minimal cord handling; elevate the presenting part, or fill the bladder 500–750 mL via catheter • Knee-chest, or left lateral head-down with a pillow under the left hip • Terbutaline 0.25 mg SC if FHR abnormality persists • Category 1 CS if FHR suspicious or pathological; OVD at full dilation if quick and safe (RCOG GTG 50)

Drugs and fluids

Agent	Dose	Avoid if	Watch for
Terbutaline	0.25 mg SC (Williams: SC or IV), single dose	Cardiac disease, poorly controlled hyperthyroidism, maternal or fetal tachycardia with lost variability	Maternal tachycardia (complicates CS), hyperglycaemia
Nitroglycerin	IV 60–180 µg (Williams)	Hypotension, hypovolaemia	Fall in BP
Vasopressor	Phenylephrine (preferred if no bradycardia) or ephedrine, by the anaesthetist (ASA)	—	Reflex bradycardia with phenylephrine
Crystalloid bolus	500–1000 mL Hartmann's / Ringer's lactate over ≈20 min	Pre-eclampsia, cardiac disease, pulmonary oedema	Overload, hyponatraemia

08 Special situations

IF	THEN
Previous caesarean (TOLAC)	• Continuous CTG; watch for scar pain, bleeding, loss of station and new FHR abnormality • Oxytocin only after senior review; avoid prolonged augmentation • Lower threshold for repeat CS when progress stalls
Pre-eclampsia	BP hourly (every 15–30 min if severe); $MgSO_4$ 4 g IV over 5–15 min then 1 g/h if indicated; fluids ≤80 mL/h; no preload before epidural (NICE NG133).
Intrapartum fever	• Suspect intra-amniotic infection if ≥39.0 °C, or 38.0–38.9 °C plus a risk factor such as fetal tachycardia, leucocytosis or purulent fluid (ACOG 2024 update) • Ampicillin 2 g IV 6-hourly + gentamicin 5 mg/kg daily (or 2 mg/kg, then 1.5 mg/kg 8-hourly) • Augment a slow labour rather than wait; do not dismiss as epidural fever
Meconium-stained liquor	Continuous CTG. Thick meconium means reduced liquor and possible chronic compromise; no amnioinfusion to dilute it.
Obesity	First stage 30–60 min longer in nulliparas (Williams); scalp electrode or IUPC if external monitoring fails.
ROM >18 h or temperature >38.0 °C, GBS unknown	Intrapartum GBS prophylaxis (ACOG; Williams).
Malpresentation found in labour	Senior review. Brow: no oxytocin in a multipara; CS if it persists (Dewhurst).

09 Do not

- Perform a caesarean for slow progress in the latent phase, or for a prolonged latent phase alone.
- Use the 1 cm/h line alone to label slow progress (WHO).
- Perform routine amniotomy, or give oxytocin, when labour is progressing normally.
- Start oxytocin in a multipara, or after a previous CS, without senior review.
- Keep increasing oxytocin with >4–5 contractions in 10 min or an abnormal FHR.
- Give IV fluid for an abnormal FHR when she is not hypotensive, or for ketonuria alone.
- Run large volumes of hypotonic fluid, or ignore a positive balance ≥1500 mL.
- Exceed 80 mL/h maintenance in pre-eclampsia, or preload before her epidural.
- Give maternal oxygen as routine fetal treatment.
- Let resuscitation delay birth when the cause is not reversible (prolapse, abruption, rupture).

10 Where the guidelines differ

Topic	ACOG / SMFM	NICE / RCOG	WHO / FIGO	SOGC
Active phase starts	6 cm	4 cm	WHO 5 cm	4 cm
Prolonged latent	>16 h; not a CS indication	No limit	No standard duration	—
Slow progress	Protraction <1 cm in 2 h	Suspect delay <2 cm in 4 h	LCG alert time at each cm	≥0.5 cm/h is normal (nullipara)
Arrest	≥6 cm + ROM; no change ≥4 h adequate or ≥6 h inadequate on oxytocin	<2 cm in 4 h after oxytocin gives regular contractions → consider CS	Time alone is not an indication	4–6 h of adequate contractions before judging oxytocin
Oxytocin target	Adequate = >200 MVU; low or high dose	3–4 in 10 min; step ≤30 min	Not for prevention of delay	3–5 in 10 min or ≥200 MVU
VE frequency	Not specified	4-hourly	WHO 4-hourly	—
IA, active first stage	Every 15–30 min	Every 15 min	FIGO 15 min; LCG records 30 min	Every 15–30 min
Oral intake	Clear fluids; no solids (ASA)	Light diet unless opioids or risk factors	Food and fluids (low risk)	Eat and drink as tolerated
IV fluid for FHR	Bolus listed; caution overload	Only if hypotensive	FIGO: for sudden hypotension	Only for hypovolaemia or hypotension
Maternal oxygen	Against routine use	Do not offer (may harm)	FIGO: no RCT evidence	Not routinely
Amnioinfusion	Recurrent variables	Not in NG229 conservative measures	—	Repetitive variables after ROM
FBS	Rarely available	No recommendation (2022)	—	Scalp lactate supported

11 Abbreviations

Abbr.	Meaning	Abbr.	Meaning	Abbr.	Meaning
ACOG	American College of Obstetricians and Gynecologists	IA	intermittent auscultation	PGE_2	prostaglandin E_2 (dinoprostone)
ARM	artificial rupture of membranes	IUPC	intrauterine pressure catheter	pO_2	partial pressure of oxygen
ASA	American Society of Anesthesiologists	IV	intravenous	PROM	prelabour rupture of membranes
BMI	body mass index	LCG	WHO Labour Care Guide	RANZCOG	Royal Aust. & NZ College of O&G
BP	blood pressure	MF EBG	Maternal-Fetal Evidence Based Guidelines	RCOG	Royal College of Obstetricians and Gynaecologists
CI	confidence interval	$MgSO_4$	magnesium sulphate	RCT	randomised controlled trial
CO	ACOG Committee Opinion	mU	milliunits (oxytocin)	ROM	rupture of membranes
CPG	ACOG Clinical Practice Guideline	MVU	Montevideo units	RR	relative risk
CS	caesarean section	Na	sodium	SC	subcutaneous
CSE	combined spinal–epidural	NG	NICE guideline	SMFM	Society for Maternal-Fetal Medicine
CTG	cardiotocography	NICE	National Institute for Health and Care Excellence	SOAP	Society for Obstetric Anesthesia and Perinatology
EBG	Evidence Based Guidelines (Berghella)	NNT	number needed to treat	SOGC	Society of Obstetricians and Gynaecologists of Canada
FBS	fetal blood sampling	OA	occiput anterior	SpO_2	oxygen saturation (pulse oximetry)
FHR	fetal heart rate	OP	occiput posterior	TOLAC	trial of labour after caesarean
FIGO	Int. Federation of Gynecology and Obstetrics	OT	occiput transverse	VE	vaginal examination
GA	general anaesthesia	OVD	operative vaginal delivery	WHO	World Health Organization
GBS	group B streptococcus	PB	ACOG Practice Bulletin		
GTG	RCOG Green-top Guideline	PE	pre-eclampsia		

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Decision aid only: it does not replace clinical judgement or local protocols. Verify drug doses against your formulary.