INTRAPARTUM FETAL ASSESSMENT

VEAL CHOP
decoding fetal decelerations

Four FHR patterns, four causes, four responses. Master the shape, the timing, and the action — this single mnemonic drives the majority of intrapartum NGN questions.

SYSTEM: MATERNITY / OB | LEVEL: INTRAPARTUM | NGN CLINICAL JUDGMENT | HIGH FREQUENCY

01 Definition & Overview

- **VEAL CHOP** is the gold-standard mnemonic pairing four FHR patterns (V-E-A-L) with their underlying causes (C-H-O-P) during labor monitoring.
- Reading the tracing correctly is a **clinical judgment skill** — the wrong pattern leads to the wrong intervention, and late decelerations demand action within minutes.
- Baseline FHR is **110–160 bpm**. Decelerations are judged by **shape, onset, nadir timing**, and **relationship to contractions**.

THE MNEMONIC

V • E • A • L → C • H • O • P

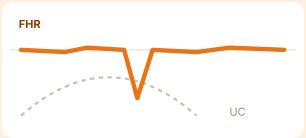
- **V** **Variable** decel → **C**ord compression
- **E** **Early** decel → **H**ead compression
- **A** **Acceleration** → **O**kay / Oxygenated
- **L** **Late** decel → **P**lacental insufficiency

02 Pathophysiology · How Each Pattern Forms

Variable	Cord compression → transient drop in umbilical flow → **abrupt vagal reflex** → sudden V-, W-, or U-shaped dip, **unrelated** to contraction timing.
Early	Fetal head squeezed in pelvis → **vagal nerve stimulation** → gradual FHR dip that **mirrors** the contraction — nadir at the contraction peak. BENIGN
Acceleration	Fetal movement or sympathetic response → rise ≥15 bpm × ≥15 sec (≥10×10 if <32 wk) → reflects **intact CNS + good oxygenation**. REASSURING
Late	Uteroplacental insufficiency → **fetal hypoxia + acidemia** → delayed gradual dip; nadir **after** contraction peak, return to baseline **after** contraction ends. OMINOUS

03 Pattern Recognition · Read the Strip

V
VARIABLE

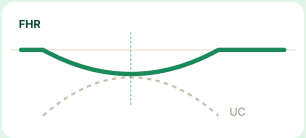


Abrupt V/W-shape drop. ≥15 bpm × ≥15 sec. Timing **unrelated** to contractions.

CAUSE: CORD COMPRESSION

INTERVENE

E
EARLY

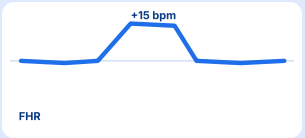


Mirror image of contraction. Gradual. Nadir = contraction peak. Returns to baseline **by end**.

CAUSE: HEAD COMPRESSION

DOCUMENT

A
ACCELERATION

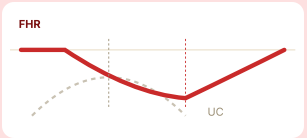


Abrupt rise ≥15 bpm × ≥15 sec. Sign of fetal well-being & intact CNS.

CAUSE: OKAY / OXYGENATED

NO ACTION

L
LATE



Delayed gradual dip. Nadir **after** contraction peak. Non-reassuring.

CAUSE: PLACENTAL INSUFFICIENCY

EMERGENT

RED FLAG findings: Late decelerations · Prolonged decelerations (>2 min) · Recurrent variables · Minimal/absent variability · Bradycardia <110 bpm sustained · Sinusoidal pattern.

04 Priority Nursing Interventions • ABC + Safety

INTRAUTERINE RESUSCITATION

M • I • N • E — *for non-reassuring FHR*

LATE = ACT NOW

M
Move / Reposition
Left lateral first. If no improvement → right side, then knee-chest (especially if cord prolapse suspected).

I
IV Fluid Bolus
Warmed LR or NS — increases maternal volume & placental perfusion. **D/C oxytocin** simultaneously.

N
Notify Provider
Use **SBAR**. Escalate for late, prolonged, or recurrent variables not improving after repositioning.

E
Elevate legs · O_2 · Evaluate
O_2 10 L/min via non-rebreather. Elevate legs. Reassess FHR, contractions, maternal BP, and cervix.

For Variable — CORD COMPRESSION

Reposition to relieve pressure · if cord visible/prolapsed → **knee-chest**, glove hand, lift presenting part off cord, do NOT remove · prepare for **amnioinfusion** if recurrent · notify provider.

For Early — BENIGN · HEAD COMPRESSION

Document and continue routine monitoring · no intervention needed · commonly seen during active descent (stage 2). *If a choice says "notify provider" for early decels — it's a trap.*

For Late — PLACENTAL INSUFFICIENCY

Full MINE protocol. STOP oxytocin first · reposition left lateral · bolus IV · O_2 10 L NRB · notify provider · anticipate **terbutaline** (tocolytic) or **emergent C-section** if unresolved.

05 Pharmacology Snapshot

Oxytocin (Pitocin) — UTEROTONIC · IV INFUSION

MOA	Stimulates uterine smooth-muscle contraction to augment labor.
ADVERSE	Uterine **tachysystole & hyperstimulation** → late decels, fetal distress, uterine rupture; water intoxication (antidiuretic effect).
NURSING	**#1 action for LATE decels = DISCONTINUE oxytocin.** Monitor contraction frequency (>5/10 min = tachysystole), FHR, I&O, maternal BP. Piggyback to mainline.

Terbutaline — B_2-AGONIST · TOCOLYTIC

MOA	Relaxes uterine smooth muscle → **stops contractions** and restores placental perfusion.
ADVERSE	Maternal **tachycardia**, tremor, palpitations, hyperglycemia, pulmonary edema (prolonged use). **Hold if maternal HR >120.**
NURSING	Given SubQ or IV for uterine hyperstimulation or to buy time before C-section. Monitor maternal HR, BG, lung sounds.

Magnesium Sulfate — CNS DEPRESSANT · FETAL NEUROPROTECTANT

MOA	Smooth-muscle relaxation; reduces neurologic injury in preterm fetus <32 wk.
ADVERSE	Respiratory depression, **loss of DTRs**, hypotension — may **decrease FHR variability** (not true distress).
NURSING	Monitor RR ≥12, DTRs, UOP ≥30 mL/hr. Antidote: **calcium gluconate**.

Opioids (Fentanyl/Butorphanol) — LABOR ANALGESIA

MOA	μ-receptor agonist for maternal pain control.
ADVERSE	Can **decrease FHR variability** & reactivity — may mimic a non-reassuring strip. Neonatal respiratory depression if given <1 hr before birth.
NURSING	Time dosing carefully. Neonatal antidote: **naloxone**. Distinguish drug effect vs true fetal compromise.

06 ⚠ NCLEX Test Traps • Where Students Lose Points

01 **"Turn the patient on her left side"** is the **right first step** for late/variable decels — but if the question lists **"stop the oxytocin"** as an option alongside repositioning, **stopping oxytocin comes FIRST** because it removes the cause of hyperstimulation.

02 Students confuse **Early** and **Late** decels because both are gradual. **Key difference:** look at **where the nadir falls**. Nadir with the peak = **Early (benign)**. Nadir **after** the peak = **Late (emergency)**.

03 **Do NOT "notify the provider" as your first action** when you can **fix it at the bedside** (reposition, O_2, D/C Pitocin, bolus). Notify **after** starting intrauterine resuscitation — unless cord prolapse is visible.

04 **Prolapsed cord:** the answer is **not** "turn left side" — it is **knee-chest or Trendelenburg + manually lift presenting part off the cord**. Do NOT attempt to push the cord back in or remove it.

05 **Accelerations are always good** — on NGN drag-and-drop questions, don't place "accelerations" in the "concerning findings" column. They reflect an intact, oxygenated fetal CNS.

06 **Decreased variability** after opioid administration or mag sulfate is often **drug effect**, not true distress. Check timing of the last dose before escalating.

07 Patient Education · What to Teach in Labor

The monitor is watching your baby. "We continuously track your baby's heart rate and your contractions. The numbers and lines are normal — I'll explain any changes."

Repositioning helps. "If I ask you to roll to your left side or change position, it helps your baby get more oxygen — it is a routine adjustment, not an emergency."

Oxygen mask is precautionary. "If I place this mask on you, breathe normally. It delivers extra oxygen to your baby and helps the heart rate recover."

Report these sensations. Gush of fluid, decreased fetal movement, vaginal bleeding, severe pain between contractions, or feeling something in the vagina — **call the nurse immediately.**

Kick counts at home. Prior to admission: **10 movements in 2 hours** is reassuring. Fewer than 10 → drink juice, lie on left side, recount; still fewer → call provider.

Avoid supine position. Lying flat on the back compresses the vena cava → drops maternal BP → drops placental blood flow → can trigger late decels.

08 Memory Boosters · Lock It In

FULL EXPANSION

VEAL CHOP MINE

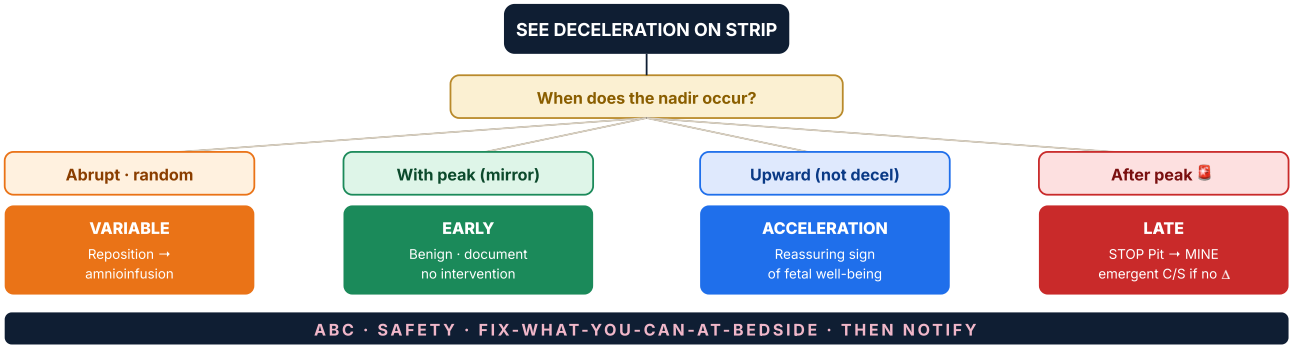
- **V·C** **Variable** = **Cord** compression → reposition, amnioinfusion
- **E·H** **Early** = **Head** compression → document, no action
- **A·O** **Acceleration** = **Okay** / Oxygenated → reassuring
- **L·P** **Late** = **Placental** insufficiency → emergency
- **M** **Move** mother (left lateral)
- **I** **IV fluid bolus** + stop oxytocin
- **N** **Notify** provider (SBAR)
- **E** **Elevate legs** · O_2 10 L NRB · Evaluate

PATTERN RECOGNITION RULE

"Shape tells you what, timing tells you which"

- **Abrupt V-shape** + random timing → **Variable**
- **Mirror** of contraction + aligned nadir → **Early**
- **Upward** spike above baseline → **Acceleration**
- **Delayed dip**, nadir after the peak → **Late** 🚨

🌳 Rapid Decision Tree · "You see a deceleration. Now what?"



The one-line summary you'll repeat on test day:

Variable = Cord · Early = Head · Accelerations = Okay · Late = Placenta 🚨 → and for anything non-reassuring, **MINE it.**