MODULE 14 — SURGICAL & OPERATIVE BIRTH

Cesarean & Operative Vaginal *Birth*

When the safest exit isn't through the vagina — the RN must weave OB instincts with surgical, anesthesia, and critical-care vigilance. Today is about the **three windows of danger**: pre-op aspiration & anesthesia hypotension, intra-op & immediate transition, and the fourth-stage hemorrhage / VTE storm.

5 PS APPLIED | HEMORRHAGE FOCUS | ANESTHESIA SAFETY | NEWBORN TRANSITION | NGN CJMM

TODAY'S SECTIONS

01 High-Yield Overview

RECOGNIZE CUES · BIG PICTURE

Cesarean birth is the surgical delivery of the fetus through abdominal & uterine incisions; operative vaginal birth uses **vacuum or forceps** to assist a vaginal delivery. Both interventions exist because labor or the fetus is not safe enough to continue without help. The RN's job is to predict which complication is coming next and intervene *before* it shows up on the monitor.

THE 3 WINDOWS OF RISK

Window 1 — Pre-op & anesthesia: aspiration, hypotension after spinal/epidural, fetal bradycardia, supine hypotension.
Window 2 — Intra-op & transition: hemorrhage from atony or laceration, newborn TTN (transient tachypnea), neonatal hypoglycemia, hypothermia.
Window 3 — Post-op fourth stage & first 24 h: uterine atony with full bladder, VTE/PE, ileus, infection (endometritis, wound), respiratory depression from opioids or magnesium, and delayed bonding.

Key cesarean concepts

- **Low transverse** (Pfannenstiel skin / low uterine segment) — most common; allows future **TOLAC/VBAC** attempt.
- **Classical (vertical uterine)** incision — used for placenta previa, preterm transverse lie, large fibroids. **Absolute contraindication to future labor** (rupture risk).
- **Scheduled (elective)** — NPO 8 h, baseline labs, T&S, consents, antibiotic within 60 min of incision.
- **Unscheduled/urgent** — failure to progress, breech, twin malpresentation.
- **Emergent ("stat" / crash)** — Category III tracing, cord prolapse, uterine rupture, placental abruption, severe HELLP. Goal: **decision-to-incision < 30 minutes**.

Key operative vaginal concepts

- **Vacuum** — cup over fetal head; pull *only with contractions*. **3 "pop-offs" = stop**. Risk: cephalohematoma, subgaleal hemorrhage, retinal hemorrhage, hyperbilirubinemia.
- **Forceps** — risk of facial bruising/laceration, facial nerve (CN VII) palsy, maternal third/fourth-degree laceration, hematoma.
- **Prerequisites for both:** fully dilated, ruptured membranes, vertex, station ≥ +2, empty bladder, adequate anesthesia, ability to convert to c-section.

02 10 Must-Know Rules

HARD-STOPS THE NCLEX LOVES TO TEST

01 **NPO + non-particulate antacid** (sodium citrate / Bicitra) pre-op to neutralize gastric acid and prevent **Mendelson syndrome** (aspiration pneumonitis).

02 **Empty the bladder.** Foley catheter pre-op; post-op a full bladder displaces the uterus, causes **atony & hemorrhage**, and is the #1 missed cause of a boggy fundus.

03 **Prophylactic antibiotic within 60 minutes** before skin incision — almost always **cefazolin 2 g IV** (3 g if BMI ≥ 30 or weight ≥ 120 kg). Severe PCN allergy → clindamycin + gentamicin.

04 **Left lateral tilt / wedge under right hip** any time the client is supine after ~20 weeks to prevent **aortocaval compression** and supine hypotension.

05 **Hypotension after spinal/epidural → fetal bradycardia.** Treat the mother first: IV bolus of isotonic crystalloid, left tilt, ephedrine or phenylephrine, O_2 per policy. Fetal HR follows the maternal BP.

06 **Fundus + lochia + bladder + vitals q15 min × 1–2 h** after delivery (fourth stage), regardless of whether the birth was vaginal or surgical.

07 **Classical (vertical) uterine incision = no future labor.** Teach: scheduled repeat cesarean before contractions begin.

08 **Vacuum: stop after 3 pop-offs**, total application < 20–30 min, max 3 contraction sets of pulling. Monitor newborn for **subgaleal hemorrhage** (boggy scalp, pallor, tachycardia, falling Hgb).

09 **VTE prevention starts pre-op.** SCDs on before anesthesia, early ambulation post-op, prophylactic LMWH per protocol; pregnancy & postpartum are **hypercoagulable**.

10 **Sudden dyspnea, chest pain, or anxiety post-op =** rule out **pulmonary embolism** or **amniotic fluid embolism** — call rapid response, do NOT wait.

03 Maternal-Fetal Safety Table

ANALYZE CUES · PRIORITIZE HYPOTHESES

FINDING	WHAT IT MEANS	MOTHER RISK	FETAL / NEWBORN RISK	PRIORITY NURSING ACTION	NOTIFY / ESCALATE
BP 78/40 after spinal placement	Sympathetic blockade → vasodilation	Syncope, ↓ uteroplacental perfusion	**Fetal bradycardia / Cat III**	Left tilt, IV fluid bolus, ephedrine/phenylephrine, O_2 per policy	Anesthesia STAT if no response in 1–2 min
Boggy fundus, lochia heavy, bladder palpable	Bladder displacing uterus → atony	**PPH, shock**	Maternal hypoperfusion if shock	Massage fundus, **have client void or straight-cath**, recheck oxytocin	Provider if fundus stays boggy or > 500 mL EBL
3 vacuum pop-offs	Failed traction; head not descending	Lacerations, hematoma	**Subgaleal hemorrhage, skull fracture**	Stop vacuum, prepare for cesarean, alert NICU	Provider/OB attending NOW
Fetal HR 80, no recovery × 4 min	Prolonged deceleration / Cat III	Surgical urgency, hemorrhage	**Acidemia, hypoxic injury, death**	Intrauterine resus: position, fluids, stop oxytocin, O_2 per policy	Activate **emergent cesarean** team
Sudden tearing pain, loss of FHR, station change	Uterine rupture (esp. prior classical)	**Massive hemorrhage, shock**	**Fetal demise minutes**	Stop oxytocin, large-bore IVs, type & cross, OR now	Crash cesarean, surgeon + anesthesia
Post-op urine output 15 mL/hr × 2 h	Hypovolemia or hemorrhage	Hypovolemic shock, AKI	—	Assess fundus & lochia, vitals, palpate bladder, recheck Foley patency	Provider if no improvement after assessment
Pad saturated in < 15 min	PPH (atony, laceration, retained tissue)	**Shock, DIC**	—	Massage, empty bladder, 2 large-bore IVs, T&S, weigh pads	Provider + rapid response; activate **OB hemorrhage protocol**
Sudden dyspnea, SpO_2 88%, chest pain D1 post-op	PE vs amniotic fluid embolism	**Cardiac arrest, DIC**	—	O_2, position upright, rapid response, prepare for ABG / CTA / heparin	Rapid response NOW
T 38.7 °C, foul lochia, uterine tenderness D2	Endometritis	Sepsis	Newborn sepsis if maternal source untreated	Cultures, broad-spectrum IV antibiotics, antipyretic, hydration	Provider for orders & cultures

FINDING	WHAT IT MEANS	MOTHER RISK	FETAL / NEWBORN RISK	PRIORITY NURSING ACTION	NOTIFY / ESCALATE
Newborn HR 80, RR 70, grunting, cyanotic	Failed transition / TTN / sepsis	—	Respiratory failure	Stimulate, dry, suction PRN, position open airway, PPV if HR < 100	Call NRP / NICU team
Boggy scalp swelling crossing suture lines	Subgaleal hemorrhage (vacuum)	—	Hypovolemic shock, death	Serial head circumference, Hgb, vitals; IV access	NICU/provider immediately
Pain unrelieved + rigid abdomen post-op	Intra-abdominal bleed	Hemoperitoneum, shock	—	VS, H&H, IV access, prepare for imaging / return to OR	Provider + rapid response

04 Red-Flag Cues

TAKE ACTION · THE "DO NOT WAIT" LIST

IMMEDIATE ASSESSMENT + REPOSITION

- Maternal hypotension after spinal/epidural (< 90/60 or 20% drop from baseline)
- Fetal HR < 110 sustained for > 2 min after anesthesia or transfer to OR table
- Late or prolonged decelerations during transfer/positioning

IV FLUID BOLUS (PER ORDER/POLICY)

- Hypotension from anesthesia, hemorrhage, or sepsis
- Pre-load before spinal/epidural placement when ordered
- Urine output < 30 mL/hr after ruling out Foley obstruction

STOP THE OXYTOCIN

- Tachysystole (> 5 contractions in 10 min averaged over 30 min) with Cat II or III tracing
- Recurrent late decelerations, prolonged deceleration, fetal bradycardia
- Suspected uterine rupture (sudden severe pain, loss of fetal station, FHR loss, hemodynamic change)

OXYGEN ONLY WHEN CLINICALLY INDICATED PER POLICY / FETAL STATUS

Routine O_2 for a normal tracing is *not* recommended. Use O_2 for maternal hypoxemia (SpO_2 < 95%), respiratory distress, or as part of intrauterine resuscitation when other measures haven't restored the tracing — per facility protocol.

NOTIFY PROVIDER

- EBL trending up, pad weighed > 100 g of new blood, or saturated < 15 min
- Fever > 38 °C, foul lochia, uterine or wound tenderness post-op
- Unilateral calf pain/swelling, sudden dyspnea, hypoxia, chest pain
- Newborn with persistent grunting, retractions, cyanosis, or glucose < 40 mg/dL

RAPID RESPONSE / EMERGENCY BIRTH PREPARATION

- Category III tracing unresponsive to intrauterine resuscitation
- Cord prolapse, suspected rupture, severe abruption
- Maternal seizure, sudden cardiopulmonary collapse, suspected AFE
- Hemorrhage > 1000 mL with hemodynamic instability or 500 mL with abnormal vitals

05 Medication Safety

GENERATE SOLUTIONS · PHARMACOLOGY THAT WINS NCLEX POINTS

MEDICATION	WHY GIVEN	ASSESS BEFORE	MOST DANGEROUS AE	HOLD / NOTIFY	ANTIDOTE / REVERSAL
Cefazolin (Ancef)	Surgical prophylaxis < 60 min pre-incision	Allergy to PCN/cephalosporins	Anaphylaxis	Hold if severe PCN reaction; use clinda + gent	Epinephrine for anaphylax
Sodium citrate (Bicitra)	Neutralize gastric acid → ↓ aspiration injury	NPO status, anesthesia plan	None significant	—	—
Metoclopramide / ondansetron	Pre-op antiemetic, gastric emptying	QT interval, EPS hx	Dystonia (metoclopramide), QT prolongation	QTc > 500 ms	Benztropine/diphenhydra for EPS
Bupivacaine ± fentanyl (intrathecal / epidural)	Surgical / labor anesthesia	BP, platelets (≥ 70–100 K typical), coagulation, infection at site	Hypotension → fetal bradycardia; total spinal → apnea; LAST (cardiac arrest)	Hold if hypotension uncorrected or coag abnormal	**Intralipid 20%** for LAST; ephedrine/phenylephrine hypotension; naloxone for opioid RR < 8
Ephedrine / Phenylephrine	Anesthesia-induced hypotension	BP, HR	HTN, reflex bradycardia (phenyl), tachyarrhythmias (ephedrine)	HR < 50 with phenylephrine	—
Oxytocin (Pitocin)	Active management of 3rd stage; prevent/treat atony	Fundal tone, lochia, BP	Hypotension w/ IV bolus, water intoxication w/ prolonged use, tachysystole (intrapartum)	Tachysystole with Cat II/III tracing → stop infusion	Terbutaline for uterine relaxation if tachysystole
Methylergonovine (Methergine)	2nd-line uterotonic for atony	**BP** — always	Severe HTN, stroke, MI	**HTN, preeclampsia**	—
Carboprost (Hemabate)	3rd-line uterotonic, atony	Resp status (PG)	Bronchospasm, GI distress	**Asthma**	—
Misoprostol (Cytotec)	Uterotonic for atony (rectal/SL/buccal post-partum)	Temp, fundus	Fever, chills, GI	—	—
Tranexamic acid (TXA)	Antifibrinolytic for PPH; give within 3 h of birth	Hx clot, renal fn	Thromboembolism, seizure (rare)	Active intravascular clotting	—

MEDICATION	WHY GIVEN	ASSESS BEFORE	MOST DANGEROUS AE	HOLD / NOTIFY	ANTIDOTE / REVERSAL
Enoxaparin (LMWH)	VTE prophylaxis / treatment	Platelets, renal fn, anesthesia plan	Bleeding, HIT, spinal hematoma if dosed near neuraxial block	Hold ≥ 12 h before neuraxial block (24 h for tx dose)	Protamine (partial)
Morphine / Hydromorphone (IV / PCA / intrathecal)	Post-op analgesia	RR, sedation (Pasero scale), bowel sounds	Respiratory depression (RR < 8–10), oversedation, ileus	RR < 10 or sedation 3–4 → hold & reverse	**Naloxone**
Ketorolac (Toradol)	Non-opioid post-op analgesia	Renal fn, bleeding risk	GI bleed, AKI, ↑ bleeding	Renal impairment, active bleed	—
Acetaminophen IV	Multi-modal analgesia	LFTs, total daily dose	Hepatotoxicity	> 3–4 g/day	N-acetylcysteine
Naloxone (Narcan)	Reverse opioid-induced RR depression	RR, LOC	Acute pain, withdrawal, pulmonary edema	—	—
Rh immune globulin (RhoGAM)	Rh-neg mom with Rh-pos newborn within 72 h	Coombs (mom indirect), newborn blood type	Rare hypersensitivity	Mother already sensitized (positive antibody titer)	—

MEMORY HOOK · THE 3-STRIKE UTEROTONIC LADDER

1) **Oxytocin** first-line — "First-Born Oxytocin." 2) **Methylergonovine** — "Methergine = no HTN." 3) **Carboprost** — "Carboprost = no Cough (asthma)." 4) **Misoprostol** — fever fine, hypertension fine, asthma fine. Add **TXA** within 3 hours.

06 Fetal Monitoring Focus

SURGICAL & OPERATIVE-BIRTH TRACINGS

Before every cesarean (and during operative vaginal birth) the RN keeps continuous EFM until the moment of incision/forceps placement. Tracings change rapidly when the client is moved, prepped, or anesthetized — those changes are usually **maternal** in origin, not fetal, and they reverse with maternal treatment.

PARAMETER	EXPECTED	WHAT YOU MAY SEE PRE-C/S	CATEGORY / INTERPRETATION	PRIORITY NURSING ACTION	RATIONALE
Baseline	110–160	Bradycardia 90s after spinal	Category II/III — depends on duration	Reposition (L lateral), IV bolus, BP, ephedrine/phenylephrine	Maternal hypotension → ↓ placental perfusion
Variability	Moderate (6–25)	Minimal after IV opioids or magnesium	Category II if isolated	Differentiate sedation from acidosis; assess full strip	Medications dampen CNS-driven variability
Accelerations	≥ 15 × 15 (≥ 32 wk)	Absent under sedation/anesthesia	Cat I if otherwise reassuring	Document, continue monitoring, scalp stim if needed	Acceleration with stim = reassuring acid-base
Early decel	Mirror contractions	Common in second stage / vacuum	Category I — head compression	Document, support pushing, monitor	Vagal response, not hypoxia
Variable decel	Occasional, recover quickly	Recurrent variables = cord compression	Cat II; Cat III if recurrent & absent variability	Reposition, check for cord, amnioinfusion if ordered	Cord compression — reduce pressure
Late decel	None	After spinal hypotension or abruption	Cat II → III	Stop oxytocin, L lateral, IV bolus, pressor for BP, O_2 per policy, prepare cesarean	Uteroplacental insufficiency
Prolonged decel ≥ 2 min	None	Cord prolapse, abruption, tachysystole, hypotension	Cat II/III	Knee-chest if cord palpated; intrauterine resus, mobilize OR	Acute hypoxic event
Sinusoidal	None	Fetal anemia, vasa previa, severe hypoxia	Category III	Mobilize emergent cesarean & NICU; T&C, neonatal transfusion ready	Worst-case oxygen-carrying failure
Tachysystole + Cat II	—	Oxytocin overdose, abruption	Cat II	**Stop oxytocin**, reposition, fluids, terbutaline 0.25 mg SQ if ordered	Reduce uterine activity, restore perfusion

`Cat II/III` → `L lateral` → `IV bolus` → `Stop oxytocin` → `Fix BP` → `O₂ per policy` → `Notify / move to OR`

07 10 Advanced NGN Practice Questions

RATIONALES (SECTION 8) LIVE INSIDE EACH QUESTION — CLICK "SHOW RATIONALE"

QUESTION 01 · MULTIPLE CHOICE PRIORITIZE

A client is being transferred to the OR for an unplanned cesarean for a Category II tracing. The spinal was just placed and BP drops from 122/78 to 78/42. Fetal HR drops to 80 with minimal variability. Which action should the nurse take *first*?

a. Apply oxygen at 10 L/min by non-rebreather

b. Turn the client into a left lateral tilt and give an IV fluid bolus

c. Notify the surgeon immediately to begin the incision

d. Administer IV methylergonovine 0.2 mg

QUESTION 02 · SELECT ALL THAT APPLY RECOGNIZE CUES

A nurse is admitting a client for a scheduled cesarean. Which findings would prompt the nurse to delay surgery and notify the provider? Select all that apply.

a. Ate a turkey sandwich 90 minutes ago

b. Platelet count 65,000/mm³

c. Hemoglobin 11.2 g/dL

d. Has not signed surgical consent

e. BP 168/104, complaining of a headache

f. Allergy to shellfish, no contrast planned

g. Took therapeutic-dose enoxaparin 6 hours ago

QUESTION 03 · MATRIX / GRID GENERATE SOLUTIONS

For each finding in the immediate post-cesarean recovery period, mark the priority intervention.

FINDING	MASSAGE FUNDUS & EMPTY BLADDER	NALOXONE	IV BOLUS & PRESSOR	ACTIVATE HEMORRHAGE PROTOCOL
Fundus boggy, lochia heavy, bladder distended	✓			
RR 7, sedation level 4, intrathecal morphine given		✓		
BP 76/40, HR 132, pad saturated, fundus firm			✓ (with PRBCs/MTP)	✓

FINDING	MASSAGE FUNDUS & EMPTY BLADDER	NALOXONE	IV BOLUS & PRESSOR	ACTIVATE HEMORRHAGE PROTOCOL
BP 82/46 after spinal, fetus not yet delivered			✓	
EBL 1500 mL, atony unresponsive to oxytocin	✓			✓

QUESTION 04 · BOW-TIE ANALYZE · TAKE ACTION · EVALUATE

A G3P2 with one prior low-transverse cesarean is in TOLAC on oxytocin. She suddenly screams of severe abdominal pain, FHR drops to 70 and is lost on the monitor, and her contractions disappear.

ACTION TO TAKE (PICK 2)	CONDITION THE NURSE IS TREATING	PARAMETER TO MONITOR (PICK 2)
☐ Continue oxytocin to deliver vaginally ☑ **Stop the oxytocin and call for emergent cesarean** ☑ **Establish 2nd large-bore IV, T&C, mobilize OR & blood bank** ☐ Administer methylergonovine IM	**Uterine rupture**	☑ Maternal HR & BP (shock) ☑ Fetal heart rate / fetal movement ☐ Capillary glucose ☐ Deep tendon reflexes

QUESTION 05 · ORDERED RESPONSE TAKE ACTION

Place the following actions in the correct order when a vacuum-assisted delivery is in progress and the nurse notes the third pop-off with the head still at +2 station.

1. Stop vacuum application and notify the provider that the device has come off three times
2. Prepare the room and team for cesarean delivery; alert anesthesia and NICU/NRP team
3. Establish a second large-bore IV and confirm type & screen
4. After birth, assess newborn for scalp swelling crossing suture lines (subgaleal hemorrhage) and serial Hgb

QUESTION 06 · DROP-DOWN / CLOZE ANALYZE CUES

Complete the statement by choosing the option that best fits each blank.

A client 2 hours post-cesarean has BP 96/52, HR 122, fundus firm at the umbilicus, lochia rubra small, abdomen **distended and rigid**, shoulder pain rated 8/10, and urine output 18 mL/hr. The nurse suspects **[intra-abdominal hemorrhage]**, which is most likely caused by **[uncontrolled surgical bleeding from an incision/vessel]**, and the nurse should **[call rapid response and notify the surgeon now]**.

QUESTION 07 · PRIORITIZATION PRIORITIZE HYPOTHESES

The nurse on a postpartum unit has these four assignments. Who should the nurse assess *first*?

a. Day 1 post-c/s, T 37.8 °C, lochia rubra moderate, fundus firm at umbilicus

b. Day 2 post-c/s, complaining of unilateral right calf pain and swelling

c. Day 1 post-c/s, on PCA, RR 8 and difficult to arouse

d. Day 1 post-c/s, breastfeeding, complaining of incisional itching

QUESTION 08 · CASE-STUDY ITEM EVALUATE OUTCOMES

After receiving 1 L NS bolus, oxytocin 30 units/L at 200 mL/hr, methylergonovine 0.2 mg IM, and TXA 1 g IV for postpartum hemorrhage 2 hours post-cesarean, which findings indicate therapy is working? Select all that apply.

a. Fundus firm at U/U, midline

b. BP improved from 86/48 to 108/64, HR 92

c. Lochia now scant, no pad saturation in last 30 min

d. Urine output 60 mL in the last hour

e. BP 168/108, complaining of headache

f. SpO_2 88% on room air, dyspnea

QUESTION 09 · MEDICATION SAFETY TAKE ACTION

A nurse is preparing to administer methylergonovine 0.2 mg IM for postpartum bleeding after a cesarean. Which assessment finding requires the nurse to hold the dose and notify the provider?

a. Pulse 92

b. BP 148/96

c. Fundus firm at U/U

d. Hemoglobin 10.5 g/dL

QUESTION 10 · STRIP INTERPRETATION + EMERGENCY ACTION RECOGNIZE · TAKE ACTION

A laboring client on oxytocin has the following 10-minute tracing: contractions every 90 seconds lasting 80 seconds, baseline 175, minimal variability, recurrent late decelerations to 130, no accelerations. BP 108/64. Which set of actions is most appropriate?

a. Increase oxytocin to speed delivery; place client semi-Fowler

b. Continue current oxytocin; reposition supine for better tracing

c. Stop oxytocin, place in left lateral, give IV bolus, prepare for cesarean if no improvement

d. Give methylergonovine to control bleeding before delivery

SECTION 08 · DETAILED RATIONALES

Each question in Section 07 has an expandable rationale that explains the **correct answer, every distractor, the NCLEX trap, and the CJMM step being tested**. Tap “Show rationale” inside each item.

09 Unfolding NGN Case Study

ALL 6 CJMM STEPS · CESAREAN FOR ARREST OF DESCENT

Maya R., 31, G2P1, 40w 2d

> *"I've been pushing for almost 3 hours and the baby just isn't coming. I feel like something is wrong." — Maya, 14:20*

NURSE'S NOTES — 14:15

- G2P1, prior NSVD, BMI 34, GDM A2 on insulin
- Pushing × 2 h 50 min in 2nd stage
- Vertex, OP position, +2 station, no descent in 60 min
- Epidural in place, working bilaterally
- Fetal HR baseline 165, minimal variability, recurrent variables to 75 for 60 sec
- Estimated fetal weight 4400 g on US 24 h ago

MATERNAL VITAL SIGNS

- BP 138/86
- HR 108
- RR 22
- Temp 38.1 °C (rose from 37.4 over 2 h)
- SpO_2 97%
- Pain 4/10 (epidural)

TRACING & CONTRACTIONS

- Baseline FHR 165 (had been 140)
- Variability: minimal
- Recurrent variable decels with each push
- Contractions q 2–3 min × 60–80 sec, palpates strong
- Resting tone soft

CERVIX / MEMBRANES

- Last exam: 10 cm / 100% / +2, OP
- SROM 14 h ago, clear → now lightly meconium-tinged
- GBS positive — penicillin started on admission, last dose 4 h ago

ORDERS / MAR

- Oxytocin 12 mU/min titrated
- Lactated Ringer's 125 mL/hr
- Penicillin G 5 million units IV q4h
- Epidural infusion bupivacaine + fentanyl
- Type & screen on chart

LABS

- Hgb 10.8 / Hct 32
- Plts 198 K
- WBC 17.2 (was 12.4 on admission)
- Glucose 102
- Coags WNL

Step 1 · Recognize cues

Which findings are **concerning** and require immediate analysis? Select all that apply.

- ✓ Arrest of descent > 60 min in 2nd stage
- ✓ Maternal fever rising to 38.1 °C with WBC 17.2
- ✓ Meconium-tinged fluid after clear SROM
- ✓ Recurrent variable decelerations + fetal tachycardia + minimal variability
- ✓ Estimated fetal weight 4400 g (macrosomia)

- ✕ SpO_2 97% on room air
- ✕ Pain 4/10 with epidural

Step 2 · Analyze cues

Linking the cues:

- Maternal fever + tachycardia + rising WBC + prolonged ROM + foul/meconium fluid → **chorioamnionitis**.
- Chorioamnionitis causes **fetal tachycardia** and contributes to non-reassuring tracing.
- Macrosomia + OP position + arrest of descent → **cephalopelvic disproportion (CPD)**.
- Recurrent variables + minimal variability + meconium → fetus is **becoming stressed**; cannot be safely left in second stage.

Step 3 · Prioritize hypotheses

Rank from most to least likely / urgent:

1. **Arrest of descent with non-reassuring FHR — requires cesarean now.**
2. Intra-amniotic infection (chorioamnionitis).
3. Macrosomia / CPD with shoulder dystocia risk if vaginal birth were attempted.
4. Maternal exhaustion / dehydration.

Step 4 · Generate solutions

Indicated actions (✓) and contraindicated actions (✕):

- ✓ Stop oxytocin, place in left lateral, IV bolus
- ✓ Inform provider, obtain informed consent for cesarean
- ✓ Notify anesthesia (epidural already in place — dose up vs convert)
- ✓ Notify NICU / NRP for newborn at risk (sepsis, macrosomia, meconium)
- ✓ Place Foley, second large-bore IV, T&C
- ✓ Sodium citrate by mouth, antibiotic on board
- ✕ Attempt vacuum at +2 with OP and minimal variability — high risk of failure & neonatal injury
- ✕ Increase oxytocin to push delivery — worsens fetal status & rupture risk
- ✕ Methylergonovine before delivery — never given before placenta is out

Step 5 · Take action

Place these in the correct order:

1. Stop oxytocin; left lateral position; IV bolus 500 mL LR
2. Notify provider, anesthesia, NICU; call for cesarean team
3. Verify consent, place Foley, ensure 2nd IV, send T&S → T&C, give Bicitra
4. Transfer to OR with continuous EFM, ensure penicillin is current and broader-spectrum coverage for chorio (per orders)
5. Bring NRP team to neonatal warmer; prepare for resuscitation
6. Post-op: q15 min fundus/lochia/bladder/vitals × 1–2 h; pain, VTE, breastfeeding/skin-to-skin

Step 6 · Evaluate outcomes

Which findings 2 hours after cesarean indicate the plan is working?

- ✓ Fundus firm at U, midline, lochia rubra moderate
- ✓ BP 118/72, HR 88, T trending down with antipyretic
- ✓ Urine output 90 mL/hr clear yellow
- ✓ Newborn skin-to-skin, SpO_2 96%, glucose 52 mg/dL after feed
- ✗ Fundus boggy, displaced right, pad saturated
- ✗ RR 8, sedation 4 on Pasero scale
- ✗ T 39.3 °C with rigors, foul lochia

10 "What Should the Nurse Do First?"

5 PRIORITIZATION MINI-SCENARIOS

SCENARIO 1

Spinal placed 5 minutes ago. BP drops from 124/78 to 76/40. Fetal HR 80.

Left lateral tilt + IV bolus + ephedrine or phenylephrine per protocol. Fix maternal BP first; fetal HR follows. Reach for O_2 only if maternal SpO_2 falls or BP doesn't recover.

SCENARIO 2

30 minutes post-cesarean: fundus boggy, displaced to the right, lochia heavy, bladder palpable.

Massage the fundus while empting the bladder (in/out cath or unclamp Foley). A full bladder is the most reversible cause of immediate-postpartum atony. Then verify oxytocin infusion is running.

SCENARIO 3

Client on PCA hydromorphone 4 hours post-c/s. RR 7, sedation level 4, SpO_2 88%.

Stop the PCA, stimulate, open airway, apply O_2, prepare naloxone (titrate small doses — 0.04 mg IV — to avoid rebound pain or pulmonary edema). Call rapid response.

SCENARIO 4

Vacuum-assisted delivery — third pop-off, head still at +2.

Stop the vacuum and notify the provider for cesarean preparation. Alert NRP/NICU because newborn injury (subgaleal, cephalohematoma) is now likely. Don't pull a fourth time.

SCENARIO 5

Day 1 post-cesarean: sudden onset SOB, chest pain, SpO_2 87%, anxious.

Apply O_2, sit upright, call rapid response, prepare for PE workup (heparin, CTA). Postpartum + cesarean + immobility = hypercoagulable. Don't wait for labs — the assessment *is* the diagnosis until proven otherwise.

11 Stop, Hold, or Escalate

5 HARD-STOP SCENARIOS

SCENARIO	STOP / HOLD / ESCALATE	WHY	ACTION
Oxytocin running, contractions q1:30, prolonged decel × 4 min	STOP oxytocin	Tachysystole + Cat III	L lateral, fluids, terbutaline 0.25 mg SQ per order, prep emergent c/s
Methylergonovine ordered. BP 156/98.	HOLD med	HTN/preeclampsia is a contraindication — stroke risk	Notify provider, request alternative (oxytocin, misoprostol, carboprost if no asthma)
Carboprost ordered. Client has asthma.	HOLD med	Bronchospasm risk	Notify provider, switch to misoprostol or TXA
TOLAC client, sudden severe pain, FHR loss, contractions vanish	ESCALATE — uterine rupture	Maternal & fetal life threat	Stop oxytocin, mobilize crash cesarean, 2 large-bore IVs, T&C, OR now
Day 1 post-c/s, sudden SOB, chest pain, SpO_2 87%, hypotension	RAPID RESPONSE	PE vs amniotic fluid embolism	O_2, upright, IV access, prepare for resuscitation, anticoagulation per orders

12 Common NCLEX Traps

5 TRAPS THAT DECIDE PASSING ITEMS

TRAP 1 · "FIRM FUNDUS = NO HEMORRHAGE"

A firm fundus rules out atony, not **lacerations**, **retained tissue**, or **intra-abdominal bleeding**. If vitals are deteriorating despite a firm fundus → think surgical-site or laceration bleed and escalate.

TRAP 2 · METHYLERGONOVINE WITH HYPERTENSION

Always check BP *before* Methergine. The NCLEX will hand you a normal-looking client with BP 148/96 — and that is the contraindication.

TRAP 3 · TREATING FETAL BRADYCARDIA BEFORE MATERNAL BP

Post-spinal fetal bradycardia is a **maternal** problem. Bolus + tilt + pressor first; oxygen is policy-dependent, never the only answer.

TRAP 4 · IGNORING THE BLADDER IN FOURTH-STAGE ATONY

A full bladder is the most common reversible cause of post-cesarean atony. Empty it before adding more uterotonics.

TRAP 5 · FORGETTING THAT LMWH DELAYS NEURAXIAL ANESTHESIA

Therapeutic enoxaparin in the last 24 h → no spinal/epidural. Missing this causes **spinal hematoma** and permanent neuro deficit.

BONUS · VACUUM VS FORCEPS INJURIES

Vacuum → scalp (cephalohematoma, subgaleal, retinal). **Forceps** → face (bruising, CN VII palsy) + maternal lacerations.

13 End-of-Day Quick Review

SCREENSHOT-READY CHEAT BLOCKS

10 ONE-LINE MUSTS

Remember these

- Antibiotic within 60 min before incision.
- Sodium citrate + NPO = aspiration prevention.
- Left tilt always after 20 wk supine.
- Spinal/epidural hypotension → bolus + pressor + tilt.
- Empty bladder = firm fundus.
- q15 min fourth-stage assessments × 1–2 h.
- Classical incision → no future labor.
- Vacuum 3 pop-offs → stop.
- SCDs on before surgery; early ambulation.
- Sudden SOB + chest pain post-op = PE/AFE until proven otherwise.

5 RED FLAGS

Call for help

- BP < 90/60 after spinal w/ fetal brady.
- Pad saturated < 15 min.
- Sudden severe pain + FHR loss (rupture).
- RR < 10 on opioids.
- Sudden SOB / chest pain post-op.

5 NEVER-DO RULES

Never do this

- Never give methylergonovine with HTN.
- Never give carboprost with asthma.
- Never IV-push oxytocin (hypotension).
- Never do neuraxial block within 12 h of prophylactic LMWH (24 h of treatment dose).
- Never push past 3 vacuum pop-offs.

5 FETAL MONITORING CLUES

Strip survival

- Bradycardia after spinal = maternal BP problem.
- Late decels = uteroplacental insufficiency.
- Variable decels = cord compression.
- Minimal variability after opioids/Mg = drug effect; assess whole picture.
- Sinusoidal = fetal anemia → emergent.

5 MEDICATION CLUES

Pharmacology shortcuts

- Cefazolin = before incision (not after cord clamp).
- Bupivacaine toxicity → **intralipid 20%**.
- Opioid respiratory depression → titrated **naloxone**.
- Acetaminophen overdose → **N-acetylcysteine**.
- TXA must be given within 3 h of birth to help PPH.

14 Standalone Infographic Summary

SCREENSHOT & CARRY — DAY 14 IN ONE PANEL

CESAREAN & OPERATIVE BIRTH · One-Page Map

DAY 14 / NCLEX-RN L&D

PRE-OP → INTRA-OP → POST-OP 4th STAGE → FIRST 24 H

PRE-OP PRIORITIES

Before incision

- Consent · ID · allergies
- NPO + Bicitra · aspiration
- Cefazolin < 60 min
- Foley · 2 IVs · T&S
- SCDs on · left tilt
- Continuous EFM

ANESTHESIA RED FLAGS

Spinal / epidural

- BP drop → fetal brady
- L tilt + bolus + pressor
- Plts > ~70–100K to place
- LMWH timing matters
- LAST → intralipid 20%
- RR < 8 → naloxone titrate

HEMORRHAGE LADDER

PPH after c/s

- 1. Massage + empty bladder
- 2. Oxytocin (IV/IM)
- 3. Methylergonovine (no HTN)
- 4. Carboprost (no asthma)
- 5. Misoprostol
- + TXA < 3 h

NEWBORN TRANSITION

After c/s

- Dry · warm · stimulate
- Apgar 1 & 5 min
- Skin-to-skin if stable
- Glucose by 30–60 min if risk
- Watch TTN (RR > 60, grunting)
- Vit K · erythromycin · ID bands

OPERATIVE VAGINAL

Vacuum / forceps

- 10 cm · ROM · vertex · +2 · empty bladder
- Vacuum: 3 pop-offs = stop
- Subgaleal: boggy crosses sutures
- Forceps: face bruising, CN VII palsy
- Mom: 3°/4° laceration risk

DON'T MISS

Catastrophes

- Uterine rupture (TOLAC)
- PE / AFE
- Intra-abdominal bleed (firm fundus, Kehr sign)
- Spinal hematoma (LMWH timing)
- Endometritis day 2+
- Wound dehiscence / infection

"Recognize cues → Analyze → Prioritize → Generate → Take action → Evaluate. Repeat in every cesarean: pre-op aspiration, intra-op perfusion, post-op hemorrhage & VTE, newborn transition."