LABOR INDUCTION & AUGMENTATION

NCLEX-RN 2026 High-Yield Review — Maternal / Newborn (OB)

Intrapartum | Pharmacology | Clinical Judgment

1. DEFINITION / OVERVIEW

- **Induction:** Artificially starting labor **before** spontaneous onset using medications or mechanical methods.
- **Augmentation: Strengthening** or speeding up labor that has already begun but is ineffective (weak/irregular contractions).
- **Why it matters:** Used when continuing pregnancy is riskier than delivery — but carries risk of **tachysystole, uterine rupture, and fetal distress** requiring close nursing surveillance.

INDICATIONS (Go)

- Post-term ≥ 41–42 weeks
- PROM / PPROM
- Preeclampsia / eclampsia / HTN
- Gestational / pre-existing diabetes
- Chorioamnionitis
- IUGR, oligohydramnios
- Fetal demise (IUFD)
- Rh isoimmunization

CONTRAINDICATIONS (Stop)

- Placenta / vasa previa
- Transverse / breech lie
- Prior **classical** C-section or myomectomy
- Active genital herpes lesions
- Umbilical cord prolapse
- Prior uterine rupture
- Non-reassuring FHR
- CPD (cephalopelvic disproportion)

2. PATHOPHYSIOLOGY — How Induction Works

Assess Bishop Score → Prostaglandins ripen cervix → Cervix softens / effaces / dilates → Oxytocin binds uterine receptors → Contractions intensify → Amniotomy (AROM) releases prostaglandins → Progressive labor & delivery

BISHOP SCORE — Favorable for induction if ≥ 8 (multip ≥ 6)

Factor	0	1	2	3
Dilation (cm)	Closed	1–2	3–4	≥ 5
Effacement (%)	0–30	40–50	60–70	≥ 80
Station	–3	–2	–1, 0	+1, +2
Consistency	Firm	Medium	Soft	—
Position	Posterior	Mid	Anterior	—

3. SIGNS & SYMPTOMS OF COMPLICATIONS

EARLY / MILD (Monitor Closely)

- • Contractions every 2–3 min, lasting 60–90 sec
- • Maternal discomfort, stronger contractions
- • Mild fetal heart rate (FHR) variability change
- • Nausea, flushing (prostaglandins)
- • Low-grade fever (PG side effect)

LATE / SEVERE (Intervene NOW)

- • **Tachysystole:** > 5 contractions in 10 min
- • Contractions > 90 seconds
- • Resting tone < 30 sec between ctx
- • FHR < 110 or > 160 (bradycardia/tachy)
- • Late / variable decelerations
- • Loss of FHR variability

RED FLAGS — CALL PROVIDER / EMERGENCY

- • **Uterine rupture:** sudden severe pain, loss of contractions, FHR drop, "tearing" sensation, hemorrhage
- • **Placental abruption:** rigid board-like uterus, dark bleeding, severe pain
- • **Cord prolapse** after AROM: visible/palpable cord, variable decels
- • **Water intoxication:** HA, confusion, ↓ Na^+, seizures (oxytocin antidiuretic effect)
- • **Amniotic fluid embolism:** sudden dyspnea, hypotension, DIC
- • **Meconium-stained fluid:** green/brown — fetal distress

4. PRIORITY NURSING INTERVENTIONS (ABCs + Safety)

- **BEFORE induction:** Obtain informed consent, baseline VS, baseline FHR (reassurring), Bishop score, review H&P, confirm no contraindications.
- **Assess** contraction pattern (frequency, duration, intensity, resting tone) & continuous **external fetal monitoring (EFM)**.
- **Administer** oxytocin as a **secondary IV piggybacked into the mainline port closest to the patient** via infusion pump — titrate per protocol (usually ↑ 1–2 mU/min q 30–60 min).
- **Monitor I&O strictly** (oxytocin → water intoxication / hyponatremia).
- **After AROM**: immediately assess **FHR** for ≥ 1 min (rule out cord prolapse) → then fluid **color, odor, amount, time**.
- **Position:** left lateral tilt to ↑ placental perfusion; never supine.
- **Safety:** pad side rails, bed low, call light, limited ambulation with EFM.

IF TACHYSYSTOLE or NON-REASSURING FHR → use STOP algorithm (in order!)

- **S — STOP** the oxytocin infusion (priority #1!) / remove Cervidil string
- **T — TURN** patient to **left lateral** position
- **O — OXYGEN** 8–10 L/min via non-rebreather mask
- **P — PUSH** IV fluid bolus (LR 500 mL) & notify provider; prepare **terbutaline** 0.25 mg SubQ if ordered

💊 5. PHARMACOLOGY — Key Medications

💉 Oxytocin (Pitocin)

Class: Uterine stimulant (synthetic ADH analog)
MOA: Binds uterine receptors → rhythmic contractions

Side Effects: **Tachysystole, uterine rupture, water intoxication, hypotension, FHR decels**

Nursing: IV piggyback to mainline, pump only, continuous EFM, strict I&O, D/C if >5 ctx/10 min

🌸 Dinoprostone (Cervidil / Prepidil)

Class: Prostaglandin E_2
MOA: Softens & ripens cervix

Side Effects: **Tachysystole, N/V, diarrhea, fever, headache**

Nursing: Pt supine 30 min – 2 hr after insertion; retrieval string on Cervidil — **pull out** if tachysystole; wait 30 min–6 hr before starting oxytocin

🟣 Misoprostol (Cytotec)

Class: Prostaglandin E_1 analog
MOA: Cervical ripening + stimulates contractions

Side Effects: **Tachysystole, uterine rupture, N/V/D**

Nursing: **CONTRAINDICATED** in prior C-section/uterine scar (rupture risk); low dose PV or PO; wait 4 hr before oxytocin

🛑 Terbutaline (Brethine)

Class: β_2-adrenergic agonist (tocolytic — *reverses* induction!)
MOA: Relaxes uterine smooth muscle

Side Effects: **Maternal tachycardia, tremors, hyperglycemia, pulmonary edema**

Nursing: 0.25 mg SubQ for tachysystole; **HOLD if maternal HR > 120**; monitor glucose & lungs

🎯 6. NCLEX TEST TRAPS & PITFALLS

✗ **TRAP:** Thinking a *higher* Bishop score = bad. ✓ **TRUTH:** Higher is better — ≥ 8 = favorable for induction.

✗ **TRAP:** "Notify provider FIRST" for tachysystole. ✓ **TRUTH:** **STOP the oxytocin FIRST** — then reposition, O_2, fluids, THEN call.

✗ **TRAP:** Confusing *induction* (starts labor) with *augmentation* (speeds up existing labor). Both use oxytocin.

✗ **TRAP:** Choosing misoprostol for a VBAC patient. ✓ **TRUTH:** **Contraindicated** with any uterine scar → rupture risk.

✗ **TRAP:** Checking maternal VS first after AROM. ✓ **TRUTH:** **FHR is priority** — rule out cord prolapse.

✗ **TRAP:** Oxytocin-related confusion/HA = "anxiety." ✓ **TRUTH:** Think **water intoxication / hyponatremia** — check I&O + Na^+.

✗ **TRAP:** Supine positioning for monitoring. ✓ **TRUTH:** **Left lateral** — improves placental perfusion & prevents vena cava compression.

👩 7. PATIENT EDUCATION

- **Expect a longer process** — induction can take 12–24+ hours, especially for first-time moms.
- Contractions from Pitocin often feel **stronger and closer together** than natural labor — discuss pain management options (epidural, breathing).
- **Empty bladder** before each intervention and regularly throughout; full bladder slows labor.
- Continuous fetal monitoring means **limited ambulation**; telemetry monitors may be available.
- **Report immediately:** severe unrelenting pain (rupture), decreased fetal movement, heavy bleeding, contractions that never let up.
- Explain each medication, procedure, and reason — informed consent is ongoing.
- Support person encouraged; position changes and relaxation techniques help cope.
- After AROM: expect continuous leaking of warm fluid; no tub baths (infection risk).

🧠 8. MEMORY BOOSTERS & MNEMONICS

S · T · O · P

For tachysystole (in order!):

- • **S**top the oxytocin
- • **T**urn to left side
- • **O**xygen 8–10 L NRB
- • **P**ush IV fluid bolus + notify MD

T · A · C · O

Assess after AROM:

- • **T**ime of rupture
- • **A**mount of fluid
- • **C**olor (clear? meconium?)
- • **O**dor (foul = infection)

B · I · S · H · O · P

Cervical readiness factors:

- • Dilation, Effacement, Station
- • Consistency, Position
- • Score ≥ **8** = **favorable**
- • Score < 6 = needs ripening

"Pit & Mis"

Dangerous pattern recognition:

- • **Pit**ocin → **Pit**falls: tachysystole, rupture, water intox
- • **Mis**oprostol → **Mis**take with prior C-section!
- • **Terb**utaline = "turn back" the contractions