MATERNAL-NEWBORN AND PEDIATRIC NURSING · STUDY GUIDE

Exam 4 Study Guide

This guide covers the six weeks after birth. First the normal: how the uterus involutes, how lochia changes, how every system unloads the changes of pregnancy, and how a structured assessment finds trouble early. Then the complications that cause most postpartum deaths: hemorrhage, infection and sepsis, clots, hypertensive crisis, a failing heart and mood disorders, each with the order of actions that saves the life. Work one chapter at a time. Read the "what to know" paragraphs, study the tables, then try each worked case with the steps covered. Finish each chapter with its ten self-test items. The cram sheet at the end puts the numbers and sequences in one place.

WHAT THIS GUIDE COVERS

- Chapter 7 · the living ligature, autolysis and regeneration, fundal height by day, lochia stages and quantified blood loss, REEDA and perineal comfort, cardiovascular and fluid changes, bradycardia and leukocytosis, bladder and bowel, BUBBLE-HE, the Maternal Early Warning Criteria, temperature rules, delegation, the hemorrhage sequence, uterotonics, trauma, hematoma and inversion, magnesium safety, endometritis and sepsis, VTE, RhIG and vaccines, lactation, engorgement and mastitis, newborn prophylaxis, Rubin's phases, blues, depression and psychosis, POST-BIRTH and contraception.
- Chapter 8 · the definition of hemorrhage and why blood pressure lies, the shock index, the four Ts, the first-response sequence, uterotonics and tranexamic acid, tamponade and massive transfusion, lacerations and hematoma, retained tissue and accreta, late hemorrhage and subinvolution, DIC and amniotic fluid embolism, inversion, endometritis, wound and urinary infection, necrotizing fasciitis, mastitis, the sepsis hour and weight-based doses, VTE and enoxaparin math, postpartum preeclampsia and HELLP, magnesium toxicity, peripartum cardiomyopathy, blues, depression, anxiety, EPDS item 10, psychosis and the fourth trimester.

CHAPTER 7

The Postpartum Period

Read it in full: **Chapter 7 in the textbook**. Practice it in the lab: **The Fundal Clock, the Lochia and the Weighed Loss** and **Postpartum Norms, the Shock Index and BUBBLE-HE Rounds**.

What to know

Involution runs three processes at once. **Mechanical**: the interlacing myometrial fibers clamp the spiral arterioles of the placental site, the **living ligature**. When the fundus relaxes, bleeding is immediate, which is why atony causes 70 to 80 percent of primary hemorrhage and why the first action is a hand on the fundus. **Autolysis**: cells shrink as hormones fall, and the uterus goes from about 1000 g at birth to 500 g at one week and 60 to 80 g by six weeks. **Regeneration**: the lining regrows by about day 16, and the placental site heals over six weeks; bleeding can restart around day 7 to 14 when its eschar separates.

Just after birth the fundus is midway between symphysis and umbilicus. Within about 12 hours it rises to the umbilicus, then descends about **1 cm (one fingerbreadth) a day**. By day 6 it is about midway again, and by day 10 to 14 it is behind the symphysis. Chart it as U/1 (one below) or 1/U (one above), with tone and midline position. Afterpains are stronger in multiparas, overdistended uteri and during breastfeeding.

Lochia moves **rubra** (dark red, days 1 to 3), **serosa** (pinkish brown, days 4 to 10), **alba** (creamy, day 10 to six weeks). It should smell fleshy, like menstrual flow; a foul odor means infection. Going backwards from serosa to rubra suggests retained fragments or subinvolution. Clots larger than a plum are reportable. A pad saturated in 15 minutes or less is hemorrhage. **Always turn the patient**, because blood pools under the buttocks. Quantify: weigh and subtract dry weight, 1 g equals 1 mL.

Assess the perineum with **REEDA**: Redness, Ecchymosis, Edema, Discharge, Approximation. Third and fourth degree tears mean no rectal suppositories or enemas. Comfort is time dependent: **ice for the first 24 hours** (20 minutes on), then warm sitz baths. The cervix becomes a transverse slit after vaginal birth. Lactation keeps estrogen low, so warn about vaginal dryness.

The expanded plasma volume lets a person lose 1000 to 1500 mL with little change, so **blood pressure is a late sign**; a shock index of 0.9 or more warrants urgent evaluation. Cardiac output surges right after birth, giving a normal **bradycardia of 40 to 60** for 6 to 10 days. **Tachycardia over 100 is never normal**. Diuresis can reach 3000 mL a day on days 2 to 5. Clotting factors stay high for 4 to 6 weeks; clot risk peaks in the first three weeks. A white count of 20,000 to 30,000 is

normal after labor, so the count alone cannot diagnose infection. Each 500 mL of loss lowers hemoglobin about 1 to 1.5 g/dL.

The bladder fills fast and may not be felt. A distended bladder pushes the uterus **up and to the right** and causes bleeding. Expect a void within 6 hours of at least 150 mL; a residual over 150 mL means retention. Aim for a bowel movement in 2 to 3 days. In someone not lactating, ovulation can return as early as day 27.

BUBBLE-HE: Breasts, Uterus, Bladder, Bowel, Lochia, Episiotomy, Homans (lower extremities; the Homans sign itself is unreliable), Emotional status. Vital signs every 15 minutes for the first hour, every 30 minutes for the second, hourly for four hours, then every 4 to 8 hours. Support the lower segment while palpating; massage only a boggy fundus. **Maternal Early Warning Criteria** (any one): systolic under 90 or over 160, diastolic over 100, heart rate under 50 or over 120, RR under 10 or over 30, SpO2 under 95 percent, urine under 35 mL/h for 2 hours, agitation or confusion, or a hypertensive patient with headache or breathlessness. A temperature of 38.0 °C or more on any two of days 1 to 10, excluding the first 24 hours, is puerperal morbidity.

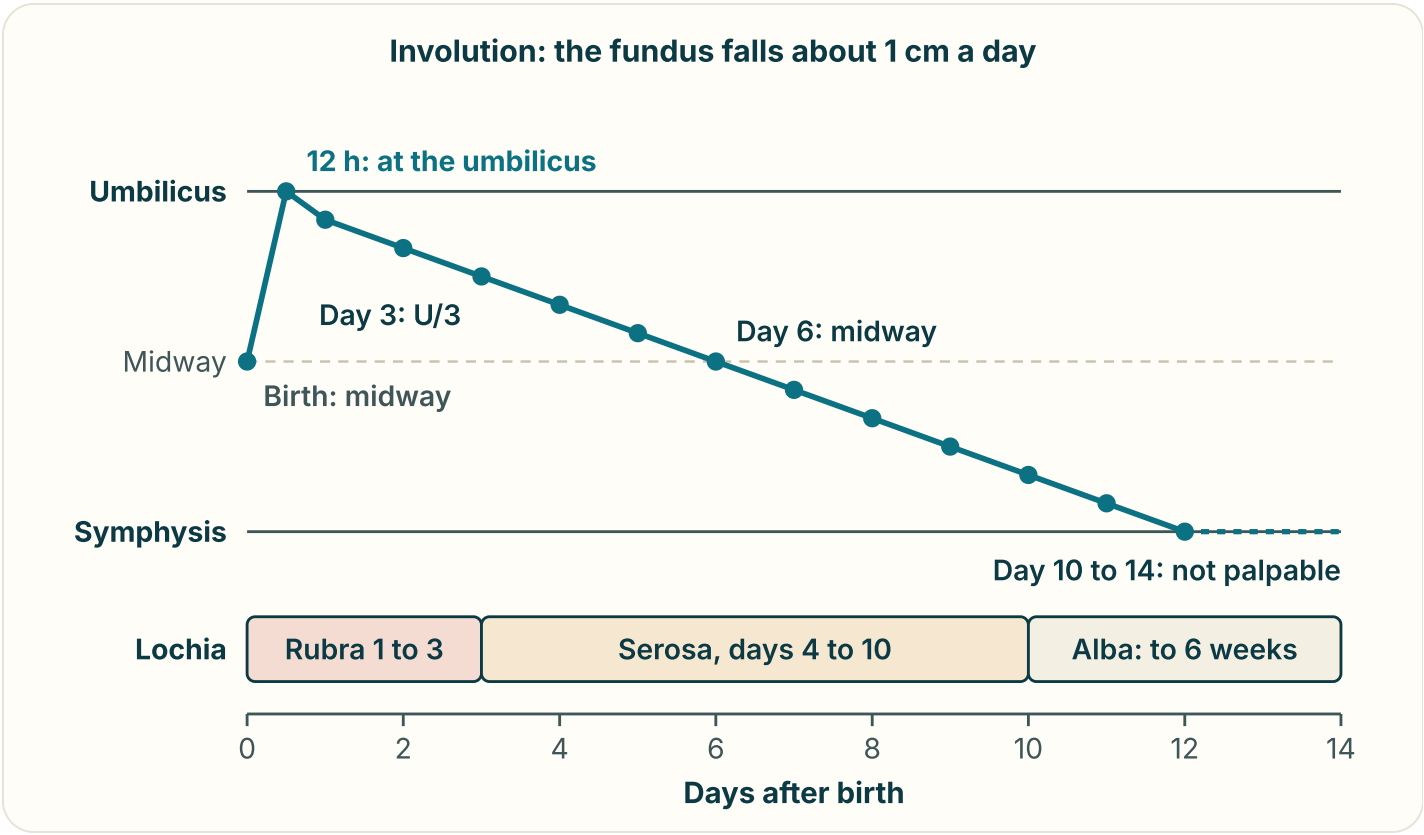
Hemorrhage is 1000 mL or more, or any loss with hypovolemia, within 24 hours; secondary hemorrhage is 24 hours to 12 weeks. Restlessness and air hunger are hypoperfusion, not anxiety. This chapter's sequence: **massage the fundus, call for help, empty the bladder, two large-bore IVs, oxytocin then second-line drugs, oxygen, continuous vitals and QBL, labs and products, then mechanical and surgical steps**. Check BP before methylergonovine; ask about asthma before carboprost; give tranexamic acid over 10 minutes within 3 hours. A firm fundus with a bright trickle is a laceration; severe pain with little on the pad is a hematoma; no palpable fundus with disproportionate shock is **inversion: stop uterotonics**, leave the placenta, and restart only after replacement.

Postpartum pre-eclampsia can appear from 48 hours to six weeks after birth. Severe range (160/110) is treated within 30 to 60 minutes. Magnesium usually continues 24 hours after birth; urine output under 30 mL/h means accumulation. Reflexes go before breathing: **stop the infusion first** (within nursing scope, no order needed), then oxygen, help, a level and calcium gluconate 1 g IV over about 3 minutes.

Endometritis appears on day 2 to 3 with fever, tachycardia, uterine tenderness, subinvolution and foul lochia; it is more common after cesarean. Treat with IV clindamycin and gentamicin until afebrile 24 to 48 hours; semi-Fowler position helps drainage. A temperature under 36.0 °C is more sinister than fever. Sepsis alert: temperature 38.0 or more or under 36.0, plus heart rate over 110, plus confusion, hypotension or oliguria; antibiotics within one hour. DVT shows as one painful, swollen, warm leg; PE as sudden dyspnea and chest pain: raise the head, give oxygen, stay. Before discharge: **RhIG 300 micrograms within 72 hours** if Rh negative with an Rh-positive newborn; MMR for rubella non-immune (compatible with breastfeeding, avoid pregnancy 28 days); Tdap if not given in pregnancy.

Prolactin makes milk; oxytocin ejects it. Supply follows removal. Milk "comes in" at about 30 to 72 hours; before that, colostrum is 2 to 20 mL per feed on day one, rich in secretory IgA. Expect **8 to 12 feeds in 24 hours**, judge the latch (wide mouth, flanged lips, audible swallowing, no pinching pain), and by day 4 to 5 expect at least six wet diapers and three to four yellow stools. Newborns lose up to 7 to 10 percent, lowest at day 3 to 4, back by day 10 to 14. Engorgement peaks on day 3 to 5. **Mastitis** is unilateral with fever of 38.5 or more; **feeding continues on the affected side**. Newborn prophylaxis: vitamin K 0.5 to 1 mg IM and erythromycin ointment. Codeine and tramadol are avoided while breastfeeding.

Rubin's **taking-in** (first 24 to 48 hours) is dependent and retells the birth; **taking-hold** (day 2 to 10) is the teaching window; letting-go follows. **Blues** (50 to 80 percent) start day 3 to 5 and resolve by day 10 to 14 with function intact. **Postpartum depression** (about one in seven) lasts beyond two weeks; on the EPDS, 10 or more needs follow-up, 13 or more is a strong positive, and any positive item 10 needs immediate safety assessment. **Psychosis** (1 to 2 per 1000) is an emergency: never leave the parent alone with the baby. Teach **POST-BIRTH**. Ovulation can come before the first period; combined hormonal methods wait at least 21 days; lactational amenorrhea works only with exclusive breastfeeding, no periods and an infant under six months. Follow-up within three weeks (72 hours for hypertension) and a full visit by 12 weeks.



A centimeter a day. The fundus is at the umbilicus by 12 hours, then falls about one fingerbreadth daily. Lochia moves rubra, serosa, alba; a fundus higher than the day predicts, or lochia going backward, needs assessment.

LOCK THESE IN

- Fundus at the umbilicus by 12 hours, then down about 1 cm a day; not palpable by day 10 to 14.
- Lochia: rubra 1 to 3, serosa 4 to 10, alba 10 to six weeks. Backward flow or foul odor needs assessment.
- Bradycardia 40 to 60 and WBC up to 30,000 are normal; tachycardia over 100 is not.
- Fundus high and to the right: empty the bladder.
- Hemorrhage: massage first, then help, bladder, access, uterotonics. Quantify by weight.
- Inversion: stop uterotonics and leave the placenta.
- Puerperal morbidity: 38.0 °C on any two of days 1 to 10, excluding the first 24 hours.
- Mastitis: keep feeding. EPDS item 10: act now.

Maternal Early Warning Criteria (any one triggers a bedside evaluation)

Measure	Trigger	Note
Systolic BP	Under 90 or over 160 mm Hg	Pressure falls late in hemorrhage
Diastolic BP	Over 100 mm Hg	Severe range is 110
Heart rate	Under 50 or over 120	Bradycardia 40 to 60 can be normal, but under 50 still triggers a look
Respiratory rate	Under 10 or over 30	Think magnesium, PE, sepsis
Oxygen saturation	Under 95% on room air	PE, pulmonary edema, cardiomyopathy
Urine output	Under 35 mL/h for 2 hours or more	Perfusion and magnesium safety
Mental status	Agitation, confusion, unresponsiveness	Cerebral hypoperfusion is not anxiety
Symptoms	Hypertensive patient with headache or breathlessness	Postpartum pre-eclampsia

Lochia and pad saturation

Descriptor	Stain in one hour	Action
Scant	Under 2.5 cm (1 inch)	Routine
Light	Under 10 cm (4 inches)	Routine
Moderate	Under 15 cm (6 inches)	Routine, reassess
Heavy	Pad saturated within 1 hour	Assess fundus and bladder, notify
Excessive	Pad saturated in 15 minutes or less; pooling	Begin the hemorrhage sequence

Worked cases

WORKED CASE 1 · WHERE SHOULD THE FUNDUS BE?

On postpartum day 3 after an uncomplicated vaginal birth, the fundus is firm, midline and 3 fingerbreadths below the umbilicus.

STEP 1 · START FROM 12 HOURS

The fundus rises to the umbilicus within about 12 hours.

STEP 2 · APPLY THE RATE

It then descends about 1 cm (one fingerbreadth) each day.

STEP 3 · PREDICT

By day 3 expect about 3 fingerbreadths below the umbilicus: U/3.

STEP 4 · CONCLUDE

This is normal involution. Document height, tone and midline position. A higher, softer fundus would suggest subinvolution.

WORKED CASE 2 · WEIGH THE PAD, NOT THE GUESS

A pad weighs 340 g. Its dry weight is 40 g. The patient is 90 minutes postpartum and says she feels "fine."

STEP 1 · SUBTRACT

340 g minus 40 g = 300 g.

STEP 2 · CONVERT

1 g equals 1 mL, so the pad holds **300 mL**.

STEP 3 · TURN HER

Roll the patient to check under the buttocks, where blood pools unseen.

STEP 4 · ACT

Check the fundus and bladder, add this to the cumulative QBL, and notify. Visual estimates miss 30 to 50 percent.

WORKED CASE 3 · THE NUMBER THAT LOOKS FINE

Two hours after birth: heart rate 108, BP 112/70. She is restless and keeps saying something is wrong.

STEP 1 · SHOCK INDEX

108 ÷ 112 = **0.96**, above 0.9.

STEP 2 · READ THE PATTERN

Postpartum bradycardia is normal; a rate over 100 is not. Restlessness is cerebral hypoperfusion. Pressure falls late because of the expanded plasma volume.

STEP 3 · FIRST ACTION

Check and massage the fundus if boggy, call for help, and quantify the loss.

STEP 4 · ESCALATE

Use SBAR with the numbers, the shock index and her words, and a specific request.

WORKED CASE 4 · CONVERT THE MAGNESIUM LEVEL

A patient on magnesium has a serum level of 6 mEq/L. The chart lists toxicity in mg/dL. Use this chapter's range of 4 to 7 mEq/L (about 4.8 to 8.4 mg/dL).

STEP 1 · CONVERT

mg/dL is about 1.2 times mEq/L: 6 × 1.2 = **7.2 mg/dL**.

STEP 2 · PLACE IT

7.2 mg/dL sits inside the therapeutic range of about 4.8 to 8.4.

STEP 3 · KEEP WATCHING

Check reflexes, respirations, urine output and consciousness hourly. Flushing and warmth are expected.

STEP 4 · KNOW THE TRIGGER

Absent reflexes, RR under 12 or urine under 30 mL/h: stop the infusion first, then calcium gluconate 1 g IV.

TRAPS PEOPLE FALL INTO

- **Massaging a firm fundus.** It fatigues the muscle and can cause bleeding. Massage only a boggy fundus, with the lower segment supported.
- **Treating a high, right-sided boggy fundus with a drug first.** Empty the bladder; a full bladder blocks contraction.
- **Reading a white count of 25,000 as infection.** It is normal after labor. Look for fever, tachycardia and a source.
- **Heat in the first 24 hours.** Ice first, to limit edema and hematoma; heat after 24 hours.
- **Stopping breastfeeding for mastitis.** Feeding continues; the milk is safe and drainage is part of treatment.
- **Teaching during taking-in.** Teaching sticks in taking-hold, from about day 2 to 10.

Chapter 7 self-test · ten items

1. On day 5 after birth, where should a normally involuting fundus be?

A. Behind the symphysis, not palpable
B. At the level of the umbilicus
C. About 2 fingerbreadths above the umbilicus
D. About 5 fingerbreadths below the umbilicus

D. About 5 fingerbreadths below the umbilicus It is at the umbilicus by 12 hours and descends about 1 cm each day.

2. On day 6 the lochia, which had been pinkish brown, is bright red again. What is the best response?

A. Apply ice to the perineum for 20 minutes now
B. Assess the fundus and report possible retained tissue
C. Reassure her that this is the normal next stage
D. Advise her to use a heavier pad once at home

B. Assess the fundus and report possible retained tissue Lochia that goes backward suggests retained fragments or subinvolution.

3. Which postpartum finding is expected on day 1?

A. Heart rate of 56 at rest
B. Saturation of 93% on room air
C. Heart rate of 112 at rest
D. Urine output of 20 mL/h for 3 h

A. Heart rate of 56 at rest Puerperal bradycardia of 40 to 60 is normal; the others meet warning criteria.

4. The fundus is boggy, 2 cm above the umbilicus and deviated right. What comes after massage?

A. Start a second large IV line
B. Apply ice to the abdomen
C. Have her void or catheterize
D. Give methylergonovine IM

C. Have her void or catheterize A distended bladder displaces the uterus and prevents contraction.

5. Which question must be asked before giving carboprost?

A. "Did you have an epidural?"
B. "Are you breastfeeding now?"
C. "Do you have asthma or wheeze?"
D. "Is your blood pressure high?"

C. "Do you have asthma or wheeze?" Carboprost can cause bronchospasm and is avoided in asthma.

6. The fundus cannot be felt, a dark mass is at the introitus and shock is severe. What is first?

A. Increase the oxytocin infusion rate
B. Massage the protruding mass firmly
C. Remove the placenta that is attached
D. Stop all uterotonics and call for help

D. Stop all uterotonics and call for help This is inversion; a contracting uterus cannot be replaced, so uterotonics stop.

7. A nurse reviews four temperature charts. Which one counts as puerperal morbidity?

A. 38.2 °C on day 2 and day 3
B. 37.8 °C on days 2, 3 and 4
C. 38.1 °C on day 12 and day 13
D. 38.0 °C at 8 hours after birth only

A. 38.2 °C on day 2 and day 3 It is 38.0 or more on any two of the first ten days, excluding the first 24 hours.

8. A breastfeeding parent has a red, hot wedge on one breast and a fever of 38.8 °C. What is the key teaching?

A. Stop feeding until the fever settles
B. Keep feeding on the affected side
C. Discard milk from that breast
D. Feed only from the other breast

B. Keep feeding on the affected side The milk is safe, and continued drainage is part of the treatment.

9. On day 4 a parent is tearful and irritable but caring for the baby and sleeping when able. What is most likely?

A. Bipolar mania
B. Postpartum psychosis
C. Major depression
D. Postpartum blues

D. Postpartum blues Blues begin around day 3 to 5 with function intact and resolve by day 10 to 14.

10. A breastfeeding patient asks about contraception before discharge. Which method should be avoided for now?

A. A combined estrogen pill
B. A progestin-only pill
C. A levonorgestrel IUD
D. A copper IUD placed now

A. A combined estrogen pill Combined hormonal methods are avoided for at least 21 days postpartum because of clot risk.

CHAPTER 8

Postpartum Complications

Read it in full: **Chapter 8 in the textbook**. Practice it in the lab: **Sorting the Four Ts** and **The Screening Room**.

What to know

Postpartum hemorrhage is 1000 mL or more, or **any loss with signs of hypovolemia**, within 24 hours, by any route. A small person who has lost 700 mL and is restless and tachycardic is hemorrhaging. More than 500 mL after a vaginal birth still prompts a search for the cause. Late hemorrhage runs from 24 hours to 12 weeks. Quantify with calibrated drapes and weighed items; QBL is cumulative.

Plasma volume rises 40 to 50 percent in pregnancy, so a healthy patient can lose 1000 to 1500 mL before systolic pressure falls. Tachycardia, narrow pulse pressure, rising RR, cool skin and "something is wrong" come first. The **shock index** is normally 0.5 to 0.7 postpartum; 0.9 or more needs a second look and 1.4 or more signals severe compromise.

The four Ts: **Tone** (70 to 80 percent), **Trauma** (about 20 percent), **Tissue** and **Thrombin**. Atony is more likely with an overstretched, exhausted or relaxed uterus: twins, polyhydramnios, a large baby, high parity, long or very fast labor, long oxytocin exposure, chorioamnionitis, magnesium

and general anesthesia. Many hemorrhages happen in low-risk patients, so every birth gets fundal checks.

This chapter's first-response order: **(1) massage with lower-segment support, (2) call for help, (3) increase oxytocin, (4) empty the bladder, (5) two large-bore IVs with warmed crystalloid, (6) oxygen 10 to 15 L/min, flat and warm, (7) bloods including fibrinogen, (8) second-line drug and tranexamic acid, (9) continuous QBL and vitals, (10) tamponade then surgery**. Expel clots only once the uterus is firm. Not first: the BP cuff, the phone or the emergency box.

Pairs to remember: **methylergonovine and hypertension**, **carboprost and asthma**. Misoprostol causes shivering and fever that are expected. Tranexamic acid is an antifibrinolytic, given 1 g IV over 10 minutes within 3 hours, in addition to uterotonics. Balloon tamponade (300 to 500 mL) buys time; watch for concealed bleeding above it. Massive transfusion runs about 1:1:1. Pregnant fibrinogen is 350 to 650, so 250 is low and **under 200 predicts severe hemorrhage**. Avoid the lethal triad of hypothermia, acidosis and coagulopathy.

A boggy fundus is atony; a firm fundus with bleeding is trauma. A genital tract hematoma bleeds where you cannot see it: severe, unrelieved perineal or rectal pressure, a tense purple mass, a firm fundus, rising pulse and a dry pad. "I need to have a bowel movement" an hour after a repair is a hematoma until proven otherwise. A placenta not delivered in 30 minutes is retained. Accreta is suspected with a prior cesarean plus previa. Late hemorrhage on day 7 to 14 usually means retained fragments or subinvolution.

Von Willebrand disease bleeds late because factor levels fall 1 to 2 weeks after birth. **DIC** follows abruption, severe pre-eclampsia, HELLP, fetal demise, sepsis, amniotic fluid embolism or massive loss: oozing from every site with falling platelets and fibrinogen and rising D-dimer. Amniotic fluid embolism is sudden hypoxia, hypotension and coagulopathy; call the code. **Uterine inversion**: call for help and anesthesia, stop all uterotonics, do not remove an attached placenta, resuscitate, expect a relaxant, and restart uterotonics only after replacement.

Puerperal infection is 38.0 °C on any two of days 1 to 10 excluding the first 24 hours. Endometritis is polymicrobial; risk rises after an unscheduled cesarean. Findings on day 2 to 5: fever, chills, tachycardia, exquisite uterine tenderness, foul lochia (group A strep may have scant

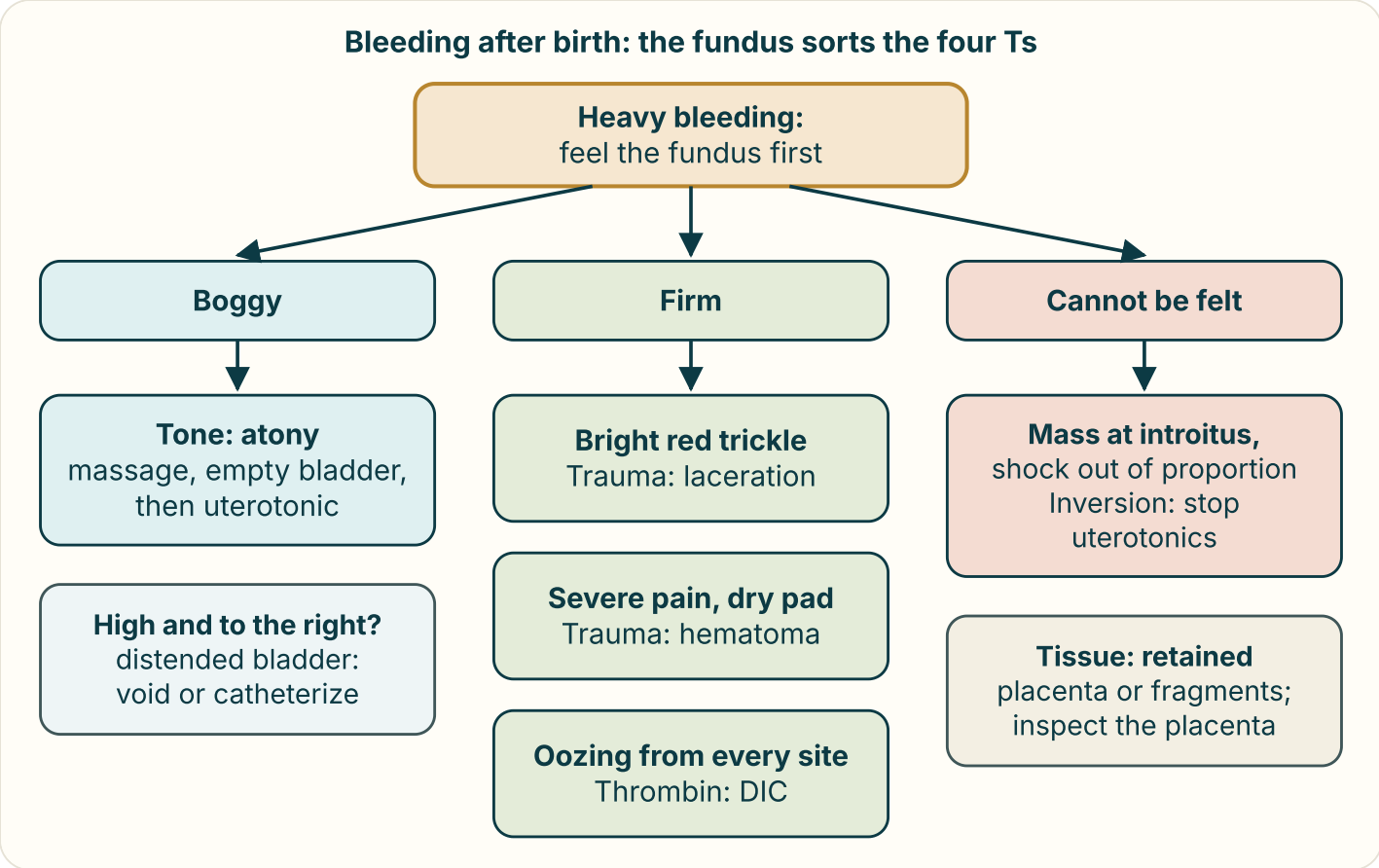
odorless lochia). Fever after 48 to 72 hours of antibiotics is an escalation trigger. Wound infection appears on day 4 to 7. **Necrotizing fasciitis**: pain far out of proportion, rapid spread, dusky skin, crepitus; a surgical emergency.

Mastitis appears in weeks 2 to 4, unilateral, with fever often above 38.5. This chapter's guidance: keep feeding on demand, but do not over-pump; apply cold, not heat or deep massage; ibuprofen; antibiotics for 10 to 14 days if no improvement in 24 to 48 hours. A fluctuant mass needs ultrasound for abscess.

Obstetric sepsis triggers: temperature over 38.0 or under 36.0, heart rate over 120, RR over 30, systolic under 90, SpO2 under 95 percent, altered mental state; lactate 2 or more is concerning, 4 or more severe. The bundle: cultures without delaying **antibiotics within one hour**, lactate, **30 mL/kg crystalloid** for hypotension or lactate 4 or more, vasopressors if MAP stays under 65, and source control. Weight-based doses are written out and independently checked.

VTE risk peaks in the **first three weeks after birth**. DVT: one painful, swollen, warm leg, a calf difference over 2 cm; left-sided is more common; never rely on Homans. PE: sudden dyspnea and pleuritic pain: stay, sit her up, high-flow oxygen, rapid response, IV access. Enoxaparin therapeutic is **1 mg/kg every 12 hours**; prophylactic 40 mg daily. Protamine fully reverses unfractionated heparin (about 1 mg per 100 units) but only partly reverses LMWH. Warfarin is avoided in pregnancy but acceptable in lactation. Time doses carefully around epidural catheters.

Postpartum pre-eclampsia appears most often from 48 hours to 7 days and can be new. HELLP can occur with near-normal pressure, so epigastric pain earns a full panel. Treat severe range within 30 to 60 minutes. Magnesium: therapeutic 4 to 7 mEq/L, about 5 to 8 mg/dL (multiply by 1.2). Reflexes go at 8 to 12 mg/dL, breathing slows at 12 to 15, arrest above 25 to 30: stop, call, calcium gluconate. **Peripartum cardiomyopathy** (EF under 45 percent): orthopnea, night gasping, dry cough and edema that worsens in week two. **Mood**: blues resolve by day 10 to 14; depression (one in seven) lasts beyond two weeks; anxiety with ego-dystonic intrusive thoughts is not psychosis. **Any positive EPDS item 10 needs immediate evaluation**, whatever the total. Postpartum psychosis (1 to 2 per 1000, often days 3 to 10) is an emergency: never leave the parent alone with the infant.



Your hand on the fundus is the first test. A boggy fundus means tone; a firm fundus that keeps bleeding means trauma, a hematoma or a clotting problem; a fundus you cannot feel means inversion, and uterotonics stop.

LOCK THESE IN

- Hemorrhage is 1000 mL or any loss with hypovolemia; blood pressure falls late.
- Shock index 0.9 or more needs a second look.
- Boggy fundus = atony; firm fundus still bleeding = trauma; pain with a dry pad = hematoma.
- Methylergonovine never in hypertension; carboprost never in asthma; TXA within 3 hours.
- Fibrinogen under 200 mg/dL predicts severe hemorrhage.
- Sepsis: antibiotics within one hour; 30 mL/kg fluid for hypotension or lactate 4 or more.
- Enoxaparin therapeutic 1 mg/kg every 12 hours; VTE risk peaks in the first three weeks.
- EPDS item 10 positive = immediate evaluation; psychosis = never alone with the baby.

The bedside sort when bleeding continues

Finding	Suggests	Next move
Boggy fundus, dark blood and clots, fundus high	Atony	Massage with lower-segment support, then uterotonic
Firm fundus, steady bright red trickle	Laceration	Notify for inspection and repair; keep quantifying
Firm fundus, little external loss, severe one-sided pain, rising pulse	Hematoma	Inspect, mark borders, notify urgently
Boggy fundus deviated to one side, high	Distended bladder	Void or catheterize, then reassess tone
No palpable fundus, mass at introitus, profound shock	Uterine inversion	Stop uterotonics, call for help, leave the placenta
Oozing from IV sites and gums, blood not clotting	Coagulopathy or DIC	Fibrinogen and coagulation screen, massive transfusion

Blues, depression and psychosis

Feature	Blues	Depression	Psychosis
How common	50 to 80%	About 1 in 7	1 to 2 per 1000
Onset	Day 3 to 5	Any time in the first year	Often within 2 weeks
Course	Resolves by day 10 to 14	Beyond 2 weeks	Fluctuating, severe
Function	Intact	Impaired	Grossly impaired; delusions about the infant
Action	Rest, support, when to call	Screen, therapy, sertraline	Emergency; never alone with the infant

Worked cases

WORKED CASE 1 · SEPSIS DOSES FOR AN 80 KG PATIENT

A patient on day 3 after cesarean has a temperature of 38.6 °C, heart rate 124, BP 88/50 and lactate 4.2. She weighs 80 kg. Gentamicin 1.5 mg/kg every 8 hours and a 30 mL/kg crystalloid bolus are ordered.

STEP 1 · RECOGNIZE

Fever, heart rate over 120, systolic under 90 and lactate 4 or more: sepsis.

STEP 2 · ANTIBIOTIC

1.5 mg/kg × 80 kg = **120 mg** every 8 hours, within one hour of recognition, after cultures if they do not cause delay.

STEP 3 · FLUID

30 mL/kg × 80 kg = **2,400 mL** crystalloid.

STEP 4 · CHECK

A second nurse does an independent calculation, and each dose is checked against the maximum before it is given. Find the source: wound, retained tissue, abscess.

WORKED CASE 2 · THERAPEUTIC ENOXAPARIN BY WEIGHT

A 76 kg patient is diagnosed with a DVT on day 10. Enoxaparin 1 mg/kg every 12 hours is ordered. The stock is 100 mg/mL.

STEP 1 · DOSE

1 mg/kg × 76 kg = **76 mg** every 12 hours.

STEP 2 · VOLUME

76 mg ÷ 100 mg/mL = **0.76 mL**.

STEP 3 · AVOID THE SHORTCUT

Do not round to the nearest prefilled syringe without a second check.

STEP 4 · TEACH

Abdomen at least 5 cm from the umbilicus, alternate sides, do not expel the air bubble or rub the site, and report bruising, nosebleeds or heavier lochia.

WORKED CASE 3 · PAIN OUT OF PROPORTION, PAD NEARLY DRY

An hour after a repair, a patient reports severe rectal pressure that ice and analgesia do not touch. The fundus is firm and midline, the pad is barely stained, and her pulse has risen from 78 to 104.

STEP 1 · SORT THE T

Firm fundus rules out atony. Pain with little external bleeding points to trauma: a genital tract hematoma.

STEP 2 · LOOK

Inspect for a tense, bulging, bluish mass, often one-sided, and mark its borders.

STEP 3 · ESCALATE

Notify urgently; the rising pulse and a falling hematocrit show concealed loss.

STEP 4 · PREPARE

Larger or expanding hematomas need incision, evacuation and ligation, often with a urinary catheter.

WORKED CASE 4 · A LOW TOTAL WITH A DANGEROUS ANSWER

At a two-week visit, a parent's EPDS total is 11. On item 10 she marked "hardly ever."

STEP 1 · READ THE TOTAL

10 or more needs follow-up; 13 or more is a strong positive. 11 calls for further evaluation.

STEP 2 · READ ITEM 10

Any answer other than "never" requires immediate evaluation, whatever the total.

STEP 3 · ASK PLAINLY

"Have you had thoughts of hurting yourself, or that your family would be better off without you? Thoughts of harming the baby?"

STEP 4 · ACT

Assess safety before she leaves, involve the provider, and arrange urgent mental health care. Interpreting the screen is RN work.

TRAPS PEOPLE FALL INTO

- **Waiting for hypotension to call a hemorrhage.** Pulse, breathing, mental status and the shock index change first.
- **Massaging harder when the fundus is already firm.** A firm fundus with bleeding is trauma; call for inspection.
- **Calling a fibrinogen of 250 normal.** In pregnancy it runs 350 to 650; under 200 predicts severe bleeding.
- **Heat and deep massage for mastitis.** This chapter teaches cold and gentle lymphatic stroking; heat and deep massage worsen inflammation.
- **Reaching for heparin first in suspected PE.** Oxygen, upright position and calling for help come first.
- **Totaling away item 10.** A positive self-harm item outranks the total score.

Chapter 8 self-test · ten items

1. A 52 kg patient has lost 750 mL, is restless and has a heart rate of 128. How should this be classified?

A. Not hemorrhage, since loss is under 1000 mL
B. Anxiety until the pressure falls
C. Normal loss for a vaginal birth
D. Hemorrhage, because hypovolemia is present

D. Hemorrhage, because hypovolemia is present Any loss with signs of hypovolemia meets the definition.

2. A shock index of 1.4 suggests what?

A. Severe compromise
B. Normal bradycardia
C. Normal postpartum values
D. Mild dehydration

A. Severe compromise Normal is 0.5 to 0.7; 0.9 needs a second look and 1.4 or more signals severe compromise.

3. After massage, oxytocin and an empty bladder, the fundus is firm but bright red bleeding continues. What is most likely?

A. Uterine atony returning
B. A genital tract laceration
C. Normal lochia rubra flow
D. A retained placental lobe

B. A genital tract laceration A firm fundus with ongoing bleeding is trauma until proven otherwise.

4. Which patient should not receive methylergonovine?

A. A patient with a prior cesarean
B. A patient with asthma
C. A patient with a BP of 156/102
D. A patient who is breastfeeding

C. A patient with a BP of 156/102 Methylergonovine can cause severe hypertension and stroke.

5. When is tranexamic acid most effective for postpartum hemorrhage?

A. As a substitute for oxytocin
B. Only after all uterotonics fail
C. Within 24 hours of birth
D. Within 3 hours of birth

D. Within 3 hours of birth Its benefit is time dependent and falls sharply after 3 hours; it adds to uterotonics.

6. Which finding most strongly suggests DIC?

A. A firm fundus with a trickle
B. Fever and chills on day 3
C. Oozing from IV sites and gums
D. Severe pain with a dry pad

C. Oozing from IV sites and gums Bleeding from every breached surface with falling fibrinogen and platelets suggests DIC.

7. A 70 kg septic patient needs a 30 mL/kg bolus. What volume is due?

A. 2,100 mL
B. 3,000 mL
C. 1,400 mL
D. 700 mL

A. 2,100 mL 30 mL/kg times 70 kg is 2,100 mL.

8. A patient on postpartum day 9 has sudden dyspnea and sharp chest pain. What does the nurse do first?

A. Check her calf for a Homans sign
B. Sit her up, give oxygen, call for help
C. Give the prescribed enoxaparin dose
D. Reassure her it is likely anxiety

B. Sit her up, give oxygen, call for help Oxygenation and calling for help come first; Homans is unreliable.

9. Which postpartum symptom pattern suggests peripartum cardiomyopathy?

A. Diuresis of 3 L a day on day 3
B. Orthopnea, edema worse in week 2
C. Ankle edema that fades by day 5
D. Tiredness after the night feeds

B. Orthopnea, edema worse in week 2 Breathlessness lying flat and edema that worsens when diuresis should have cleared it point to heart failure.

10. A parent describes horrifying images of the baby being hurt, avoids knives and is distressed by the thoughts. What does this most likely represent?

A. Postpartum psychosis with delusions
B. Normal bonding with the new infant
C. Postpartum blues that started on day 4
D. Intrusive thoughts of perinatal anxiety

D. Intrusive thoughts of perinatal anxiety Ego-dystonic intrusive thoughts that the parent avoids differ from delusion-driven psychosis.

Cram sheet

Everything from chapters 7 and 8 in one place. Cover the right column and see if you can rebuild each row.

Postpartum numbers

Item	Value	Note
Uterus weight	1000 g at birth; 500 g at 1 wk; 60 to 80 g at 6 wk	Autolysis
Fundus	Umbilicus by 12 h; down 1 cm a day	Not palpable by day 10 to 14
Lochia	Rubra 1 to 3; serosa 4 to 10; alba to 6 wk	Foul odor = infection
Heart rate	40 to 60 normal for 6 to 10 days	Over 100 is never normal
WBC	20,000 to 30,000 normal	Not diagnostic alone
First void	Within 6 h, at least 150 mL	Residual over 150 = retention
Shock index	Normal 0.5 to 0.7; 0.9 concerning	1.4 severe
Feeds	8 to 12 in 24 h	6 wet and 3 to 4 stools by day 4 to 5

Complication rules

Event	Rule	Never
Hemorrhage	Massage, help, oxytocin, bladder, access	Massage a firm fundus
Inversion	Stop uterotonics; leave the placenta	Massage the inverted fundus
Sepsis	Antibiotics within 1 h; 30 mL/kg	Delay for cultures
PE	Upright, oxygen, rapid response	Rely on Homans
Magnesium toxicity	Stop, then calcium gluconate 1 g	Antidote with drip running
Mastitis	Keep feeding on demand	Stop feeding abruptly
EPDS	10 or more follow up; item 10 act now	Total away item 10
Psychosis	Continuous observation; urgent psychiatry	Leave alone with infant

---

Dr. Garg Learning · CC BY-SA 4.0