Obstetric Emergencies

PPH, preeclampsia and eclampsia, late-pregnancy bleeding, delivery emergencies and maternal arrest

POSTPARTUM HEMORRHAGE

ACOG: 1,000 mL or more, or any loss with hypovolemia, within 24 h of birth; over 500 mL after vaginal birth is abnormal. Shock signs are late.

- Tone: atony, the most common cause (boggy fundus)
- Trauma: lacerations, hematoma, rupture, inversion
- Tissue: retained placenta or clots
- Thrombin: coagulopathy or DIC

Atony: empty the bladder, massage the fundus, give uterotonics, two large-bore IVs, quantify loss, escalate. EMS: fundal massage, pressure on perineal tears, shock care.

Typical adult doses for exam study. Follow your institution's or agency's protocols.

DRUG	TYPICAL ADULT DOSE	AVOID OR NOTE
Oxytocin	10–40 units in 500–1,000 mL IV, or 10 units IM	No rapid IV push (hypotension)
Methylergonovine	0.2 mg IM every 2–4 h	Hypertension or preeclampsia
Carboprost	0.25 mg IM every 15–90 min, max 8 doses	Asthma (bronchospasm)
Misoprostol	600–1,000 mcg PO, SL or rectal, once	Fever, shivering
Tranexamic acid	1 g IV over 10 min; repeat once after 30 min if bleeding	Only within 3 h of birth

PREECLAMPSIA AND ECLAMPSIA

Preeclampsia: new BP 140/90 or higher twice, 4 h apart, after 20 weeks, with proteinuria or a severe feature:

- BP 160/110 or higher (either number)
- Platelets under 100,000/µL
- Liver enzymes twice normal, or RUQ or epigastric pain
- Creatinine over 1.1 mg/dL, or doubled
- Pulmonary edema
- New headache unrelieved by medication, or visual changes

HELLP: hemolysis, elevated liver enzymes, platelets under 100,000; RUQ pain and malaise; BP may be normal. All three can begin after delivery, eclampsia up to 6 weeks.

Eclampsia: new seizures with no other cause. Call for help, protect from injury, side-lying, prevent aspiration, oxygen.

Most stop on their own; magnesium prevents the next.

Magnesium: 4–6 g IV over 20–30 min, then 1–2 g/h for 24 h after delivery; repeat seizure: 2–4 g over 5 min. Lost in order: reflexes, breathing, heartbeat (about 9, 12, 30 mg/dL; 7, 10, 25 mEq/L).

SAFETY Magnesium toxicity: absent patellar reflexes, slow shallow breathing, drowsiness; oliguria raises levels. Stop the infusion, support breathing, give calcium gluconate 1 g IV (10 mL of 10%) over about 3 min.

For BP 160/110 or higher lasting 15 min; treat within 30–60 min. No labetalol in asthma or bradycardia. Typical adult doses; follow your institution's or agency's protocols.

DRUG	FIRST DOSE	IF BP STILL SEVERE
Labetalol IV	20 mg over 2 min	40 mg, then 80 mg every 10 min; max 300 mg
Hydralazine IV	5 mg over 2 min (or IM)	10 mg every 20 min; max 20 mg
Nifedipine IR	10 mg PO, never sublingual	20 mg every 20 min

EXAM TIP Magnesium prevents seizures; it does not lower BP. BP 164/112 on magnesium still needs an antihypertensive.

BLEEDING AFTER 20 WEEKS

FEATURE	ABRUPTION	PREVIA
What	Placenta separates early	Placenta over or near the cervical os
Pain	Painful, tender uterus	Painless
Bleeding	May be hidden; pain out of proportion	Visible; may be heavy
Risks	Hypertension, cocaine, trauma, smoking	Prior cesarean, multiparity, smoking
Watch for	Fetal distress, shock, DIC	Hemorrhage after a cervical exam
Rh-negative	Rho(D) immune globulin; Kleihauer-Betke for dose	Rho(D) immune globulin

SAFETY Suspected previa: no digital vaginal exam until ultrasound rules it out; a provider may do a speculum exam. EMS: no internal exams.

Vasa previa: painless bleeding as the membranes rupture, then sudden fetal bradycardia (Merck). The blood is fetal: emergency cesarean (Merck), so rapid transport; the newborn may need volume (NASEMSO).

DELIVERY EMERGENCIES

Shoulder dystocia: the head delivers, then retracts against the perineum (turtle sign). Risks: macrosomia, diabetes, obesity.

1. Call for help; note the time
2. McRoberts: sharply flex her thighs onto her abdomen
3. Suprapubic pressure to free the anterior shoulder
4. Delivering provider: internal rotation, posterior arm, or hands and knees

SAFETY No fundal pressure (can worsen the dystocia or rupture the uterus). No hard pulling on the head (fractures, brachial plexus injury).

Prolapsed cord: a gloved hand holds the presenting part off the cord until delivery. Knee-chest, or left side head-down with hips raised (safer in an ambulance). Minimal cord handling; never push it back.

Arm or leg through the vagina: immediate transport and notify the hospital (NASEMSO); do not pull on it. Cord tears before clamping: clamp or pinch the infant end at once, since a newborn bleeds into shock fast (Kalf 2011); NASEMSO: 20 mL/kg saline for neonatal shock.

MATERNAL CARDIAC ARREST

- Standard CPR and defibrillation (usual energies)
- Fundus at or above the umbilicus: continuous manual left uterine displacement
- Early airway by the most experienced provider
- Upper-extremity IV or IO access
- On IV magnesium: stop it, give calcium
- Remove fetal monitors
- Same fundal height: prepare resuscitative delivery once arrest is recognized; no ROSC, deliver by 5 min (AHA 2025)

In hospital, deliver where she arrested, not in the OR. ECPR is reasonable. Suspected amniotic fluid embolism: massive transfusion and TXA.

EXAM TIP Resuscitative delivery (formerly perimortem cesarean) mainly helps the mother by relieving aortocaval compression. Classic interval: begin at 4 min, deliver by 5. EMS: prealert early; keep displacing the uterus.