

OB/GYN Phase 1 and OR Emergencies

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OB/GYN Phase 1 and OR Emergencies

PRESENTATION NAME

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No financial disclosures



OB/GYN Phase 1 and OR Emergencies

Learning objectives:

- Postpartum Hemorrhage
- Magnesium Toxicity
- Amniotic Fluid Embolism
- And some pearls



OB/GYN Phase 1 and OR Emergencies

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“Obstetrics is a bloody business.”
- Williams Obstetrics textbook, 1976

“Each year, postpartum hemorrhage occurs in an estimated 27 million women worldwide– 17 million after vaginal birth and 10 million during or after cesarean birth.”

- The Lancet June 2026

LONG TITLE HERE

Postpartum Hemorrhage kills a woman every 12 minutes.



Causes of Postpartum Hemorrhage

- 1- Uterine Atony
- 2- Genital tract Trauma
- 3- Retained placenta
- 4- Abnormal placentation
- 5- Coagulopathy

Identifying the cause is key. The vast majority of PPH situations have a single isolated cause.

Lancet Series, Postpartum Hemorrhage June/July 2026

- Identify risk factors
- Prevention
- Early diagnosis
- Proactive delivery of medications

Risk factors

- High BMI
- Multiple pregnancy
- Gestational diabetes
- Pre-eclampsia
- Fetal macrosomia
- Polyhydramnios
- Prolonged pitocin
- Intrauterine infection
- Other medical conditions (coagulation issues)

Prevention

- Contraception
- Decrease c-sections, medical indication only
- Prenatal care, address anemia
- Uterotonics, be proactive!
 - Oxytocin + misoprostol (oral or rectal)
 - Oxytocin + ergometrine
 - Oxytocin alone has fewer side effects, routine prophylaxis.

WHO- redefined diagnosis of PPH, 2025

- QBL of at least 300mL plus an abnormal hemodynamic sign
OR

- QBL 500mL

WHICHEVER OCCURS FIRST

ACOG still uses 1,000mL of blood loss

Proactive management

- Medications
- Intrauterine compression/ vacuum
- Make sure foley is draining
- Availability of blood products

Drug	Dose	Route	Frequency	Side Effects	Contraindications	Location
Pitocin® (Oxytocin) 10 units/mL 30 units/500mL	10 units per IM injection 30 units per 500 mL IV	IM injection IV infusion	Continuous	Usually none Nausea, vomiting, hyponatremia ("water intoxication") with prolonged IV admin. ↓ BP and ↑ HR with high doses, especially IV push	Hypersensitivity to drug	FBP, OR Suites, PACU
Methergine® (Methylergonovine) 0.2 mg/mL	0.2 mg	IM (not given IV)	- Q 2-4 hours - If no response after first dose, it is unlikely that additional doses will be of benefit.	Nausea, vomiting Severe hypertension, especially if given IV, which is not recommended	Hypertension, pre-eclampsia, cardiovascular disease, hypersensitivity to drug. Caution: if multiple doses of ergometrine have been used, may exaggerate hypotensive response w/possible cerebral hemorrhage.	FBP, PACU, Surg, Omni *refrigerate, protect from light
Hemabate® (15-methyl PG F2a) 250 mcg/mL	250 mcg	IM or intra-myometrial (not given IV)	- Q 15 - 90 min - Not to exceed 8 doses/24 hours - If no response after several doses, it is unlikely that additional doses will be of benefit.	Nausea, vomiting, diarrhea, fever (transient), headache, chills, shivering, hypertension, bronchospasm	Caution in women with hepatic disease, asthma, hypertension, active cardiac or pulmonary disease; hypersensitivity to drug	FBP, PACU, Surg, Omni *refrigerate
Cytotec® (Misoprostol) 100 or 200 mcg tabs	600 - 800 mcg	Sublingual or oral	One time	Nausea, vomiting, diarrhea, shivering, fever (transient), headache	Rare Known allergy to prostaglandin, hypersensitivity to drug	FBP Recovery Room
Tranexamic Acid 100 mg/mL, 10 mL vial	1 gram	IV infusion over 10 minutes	May repeat ONCE after 30 minutes	Hypotension (associated with rapid IV injection of greater than 100 mg/min)	- Use caution in patients with severe renal impairment, consider dose reduction - Avoid if history of thromboembolic events	FBP, PACU & SDS Omnicells Pharmacy prepared IVPBs (1g in 100 mL NS) are in PACU Omnicell or Pharmacy
rFactor VIIa (NovoSeven®)	60 - 90 mcg/Kg	IV bolus over 3 - 5 minutes	May repeat once after 30 minutes if lack of clinical improvement	Thrombotic events (rare)	- Use is controversial: all data is from uncontrolled studies (not include in WHO guidelines due to insufficient evidence) - No contraindications in manufacturer's labeling. - Use caution in patients with an increased risk of thrombotic events	Pharmacy Only

Magnesium Toxicity



Risk factors

Higher doses of Magnesium infusion

Impaired renal function (Mag levels)

Symptoms

Loss of Deep Tendon Reflexes (9mg/dL or 7mEq/L)

Respiratory Depression (12mg/dL or 10 mEq/L)

Cardiac Arrest (30mg/dL or 25 mEq/L)

Treatment

Stop infusion, draw a magnesium level

Calcium Gluconate 10% solution, 10mL IV over 3 minutes

Furosemide IV to accelerate the rate of urinary excretion

Endotracheal Intubation

NEXT...



Story

G2P1 presents at 38 weeks with labor and rupture of membranes. Good prenatal care, h/o normal term vaginal delivery.

At presentation, she is complete and delivers quickly before heart tones are even checked. At birth, the baby is stillborn.

Placenta delivers quickly. Heavy vaginal bleeding then noted despite uterine contraction. Multiple PPH meds quickly given, but retained placenta is suspected and patient taken to the OR. D&C completed, Bakri balloon inserted.

In the PACU, patient expresses respiratory distress. "I think I need to be intubated." Then she codes and dies.

Amniotic Fluid Embolism– What????

- Maternal allergic reaction to fetal cells in the bloodstream
- Hypotension, hypoxia, fetal bradycardia
- Seizures
- Pulmonary hypertension, Cardiac Arrest
- DIC
- Often preceded by Anxiety/ Agitation
- Most commonly occurs within 30 minutes after delivery
- High rate of maternal mortality (~20%)
- Risk factors are incredibly diverse
- No reliable diagnostic testing

AFE– Management

- Quick delivery of the baby
- Chest x-ray, EKG
- CPR
- Mass transfusion protocol (blood, plasma, platelets)
- Anesthesia might want arterial line or central venous access
- Possible hysterectomy
- Admission to ICU
- Meds
 - Vasopressors
 - Hydrocortisone
 - Methylergonovine, carboprost, TXA



Another Story

48y/o G0P0, healthy, scheduled for hysteroscopy with Myosure for removal of submucosal fibroid. Anesthesia using LMA seems to be going well. 2 minutes into the Myosure surgery, the patient seems to be making a gurgling sound, then begins seizing, then abruptly cardiac arrests. What in the world?!?!

She is coded without successful resuscitation. Blood drawn during the resuscitation shows one abnormality....

Hyponatremia

Always use Normal Saline or Lactated Ringers (or an electrolyte-free solution if using a unipolar energy source.)

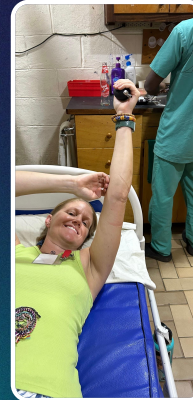
Do not be tempted to use water.

Other PEARLS

- If returning to the OR for GYN emergency or for PPH after a vaginal delivery, always set up the stirrups and have a foley catheter ready.
- If there is hemorrhage situation, don't ask for permission- just place a second IV line.
- Consider clarifying which postpartum hemorrhage meds are appropriate or contraindicated during the time-out. When someone leaves the room to get one, get all appropriate options at once.
- Make a plan with the entire team about who will be communicating with the blood bank. Notify them early, even as a heads up.
- Knowing who the on-call consultants are can be super helpful. Surgery and Urology.

Sources

Lancet Series, Postpartum Hemorrhage June/July 2026
 World Health Organization
 ACOG
 Cleveland Clinic
 Amniotic Fluid Embolism Foundation
 Journal of Anaesthesiology Clinical Pharmacology, April 2026



Just one more story



- 23y/o G6P5, approximately 37 weeks
- Triage for contractions and vaginal bleeding, arrives by motorcycle from another clinic
- Fetal demise

Hematologic		
Blood Type	O POSITIVE	
WBC	8.7 x10 ³ /uL	(Normals: 4.0 - 11.0)
Lym%	14.2 %	(Normals: 25 - 40)
Mon%	4.4 %	(Normals: 4 - 10)
Ne%	81.4 %	(Normals: 50 - 65)
Lyn#	1.24 x10 ³ /uL	
Mo#	0.38 x10 ³ /uL	
Ne#	7.09 x10 ³ /uL	
RBC	0.7 x10 ³ /uL	(Normals: 3.5 - 5.5)
Hgb	2.9 g/dL	(Normals: 12.0 - 16.0)
Hct	8.3 %	(Normals: 36.0 - 48.0)
MCV	96.1 %	(Normals: 80.0 - 100.0)
MCH	33.2 pg	(Normals: 27 - 34)
MCHC	34.6 g/dL	(Normals: 32 - 36)
RDW	17.9 %	
RDW-SD	60.7 fL	
PLT	35 x10 ³ /uL	(Normals: 140 - 440)
MPV	6.7 fL	(Normals: 65 - 12)

- “Her hematocrit is 8.”
- Blood transfusion begins
- Postpartum hemorrhage
- OR- lots of blood products
- DIC
- Discharged on POD#4

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THANK YOU