NCPOP-Northeastern California Perinatal Outreach Program

OB Hemorrhage Toolkit Pocket Card

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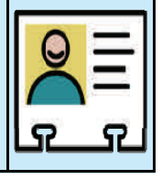
Identify Risk on Admission

OB Hemorrhage—No Denial—No Delay	
Low Risk: • No previous uterine incision • Singleton Pregnancy • ≤ 4 previous vaginal births • No known bleeding disorder • No history of PPH	**Hold Specimen**
Medium Risk: • Prior c/s or uterine surgery • Multiple gestation • > 4 previous vaginal births • Chorioamnionitis • History of previous PPH • Large uterine fibroids	**Type and Screen**
High Risk: • Placenta Previa, or low lying • Suspected accreta or percreta • HCT < 30 AND other risk factors • Platelets < 100,000 • Active bleeding on admit • Known coagulopathy	**Type and Cross** 

Stage 0

Stage 0

- Active management with oxytocin infusion of 10-40 units/500-1000 mL titrated; or 10 units IM

Action

- Quantitative evaluation of cumulative blood loss: use of graduated containers, visual comparisons, and weighing blood soaked materials after delivery of placenta. 1gm = 1mL 
- Ongoing evaluation of vital signs per hospital protocol; more if needed per patient condition.

Proceed to STAGE 1 if:

- cumulative blood loss > 500 mL for vaginal or > 1000 mL for C/S OR
- VS > 15% change (HR ≥ 110, BP ≤ 85/45, O_2 sat < 95%) OR
- ↑ bleeding during recovery or postpartum

Stage 1

Stage 1

Continued bleeding and Blood loss: > 500 ml vaginal or > 1000 ml C/S, **OR** VS changes (by > 15% or HR ≥110, BP ≤ 85/45) sat < 95% **OR** increased bleeding during recovery period.

Mobilize

- Notify OB/CNM
- Notify Charge RN
- Notify Anesthesia provider

Actions

- Establish 16g IV
- Infuse oxytocin 500mL/hr (10-40 units/500-1000 mL) 
- Vigorous fundal massage
- Administer 2nd uterotonic
- Vital signs including 0_2 sat q 5 minutes
- Weigh and calculate blood loss
- Administer 0_2 to keep sats >95%
- Empty bladder – foley with urimeter
- Type and Cross for 2 units PRBCs
- Keep patient warm

Consider potential etiologies: atony, trauma, laceration, retained placenta, AFE, inversion, coagulopathy, accreta

Proceed to STAGE 2 if:

- Continued bleeding or continued VS instability, & < 1500 mL cumulative blood loss

Stage 2

Stage 2

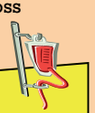
Continued bleeding or Vital Sign instability, and < 1500 mL cumulative blood loss

Mobilize

- OB/CNM at bedside; 2nd OB or perinatologist & anesthesiologist called to assist;
- Charge nurse: assign recorder and runner, notify nursing supervisor, call radiology to prepare for IR if available, and call for second anesthesiologist
- Notify Rapid Response Team
- Assign a 2nd RN to communicate with blood bank and offer family support

Actions

- Administer hemabate or misoprostil
- Move to OR
- Transfuse 2 U PRBC (do not wait for lab results); blood warmer; request for blood bank to thaw FFP
- Order STAT CBC/plts, Chem 12, Coag panel, and ABG
- Start 2nd IV
- Weigh & calculate cumulative blood loss
- Announce vital signs
- Ready essential equipment.



THINK:

Prepare for procedures/interventions based on etiology for: balloon, selective embolization with IR (atony), repair (trauma), B-lynch suture for (C/S), etc.

Proceed to STAGE 3 if:

- still bleeding ,cumulative blood loss > 1500 mL, > 2 units PRBCs given, VS unstable or suspicion for DIC

Stage 3

Stage 3

Cumulative blood loss > 1500 mL, > 2 U PRBCs given, VS unstable or suspect DIC

Mobilize

- **Activate Massive Transfusion Protocol**
- Notify GYN/Onc Surgeon
- Call in OR staff (anesthesia assist)
- Call in supervisor, CNS, Manager
- Blood bank to stay ahead of blood products

Actions

- Announce VS and cumulative blood loss
- Assist anesthesiologist with art line, PA or CVP line, or intubation.
- Use fluid warmer and/or rapid infuser
- Keep patient warm.
- Apply sequential. compression stockings to lower extremities.
- Repeat labs q 30-60 minutes.

THINK:

- Selective Embolization (IR)
- Interventions based on etiology from previous stage not yet completed; prevent hypothermia, acidemia, and hypocalcemia
- Surgeries: uterine artery ligation or hysterectomy
- For resuscitation: aggressively transfuse based on VS, and blood loss.

After first 2 units PRBC, near equal FFP and PRBC for massive hemorrhage

4-6 PRBC:4FFP:1 apheresis platelets

- Once stable: modify postpartum management consider ICU

Blood Products

Packed Red Blood Cells (PRBCs)

- Best first line product
- 1 unit = 200 ml volume
- If antibody positive, may take 1-24 hrs for crossmatch

Fresh Frozen Plasma (FFP)

- Approximately 35-45 min to thaw
- Highly desired if > 2 units PRBCs given, or for prolonged PT, PTT
- 1 unit = 18 ml volume

Platelets (PLTs)

- Priority for women with platelets < 50,000
- Single—donor apheresis unit (= 6 units of platelet concentrates) provides 40-50 K transient increase in platelets

Cryoprecipitate (CRYO)

- Approximately 35-45 min to thaw
- Priority for women with Fibrinogen levels < 80
- 10 unit pack raises Fibrinogen 80-100 mg/dl
- Best for DIC with low Fibrinogen and don't need volume replacement
- Caution: 10 units come from 10 different donors, so infection risk is proportionate
- Warm upper body with blankets or warming device
- Sequential compression stockings

Uterotonic Agents

Drug/Dose	Route/Frequency	Side Effects	Contraindications
Pitocin (Oxytocin) 10 units/ml 10-40 units per 500-1000 ml, titrated to uterine tone	Continuous IV infusion	Usually none; nausea/vomiting, hyponatremia ("water intoxication") with prolonged IV; ↓ BP and ↑ HR with high doses, esp IV push	Hypersensitivity to drug
Methergine (Methylergonivine) 0.2 mg/ml 0.2 mg	IM only/every 2-4 hours	Nausea/vomiting, severe hypertension, esp with rapid administration or in patients with HTN or Preeclampsia	HTN, Preeclampsia, heart disease; hypersensitivity Caution: if multiple doses of ephedrine have been used, may exaggerate hypertensive response w/possible cerebral hemorrhage
Hemabate (15-methyl PG F2a) 250 mcg/ml 250 mcg	IM only or intramyometrial only/every 15-90 min, NTE 8 doses in 24 hours	Nausea/vomiting, diarrhea, fever (transient), headache, chills, shivering, HTN, bronchospasm	Caution in women with hepatic disease, asthma, HTN, active cardiac or pulmonary disease; hypersensitivity to drug
Cytotec 100 or 200 mcg tablets 600-800 mcg	Sublingual (SL) or Orally (PO)/ One time	Nausea/vomiting, diarrhea; shivering; fever (transient); headache	Rare; known allergy to prostaglandin; hypersensitivity to drug