RESPONSE
OBSTETRIC HEMORRHAGE EMERGENCY MANAGEMENT PLAN CHECKLIST

CMQCC **Obstetric Hemorrhage Emergency Management Plan: Checklist Format** Revision 9/10/14

Stage 0: All Births – Prevention & Recognition of OB Hemorrhage
Prenatal Assessment & Planning

☐ **Identify and prepare for patients with special considerations:** Placenta Previa/Accreta, Bleeding Disorder, or those who Decline Blood Products
☐ **Screen and aggressively treat severe anemia:** if oral iron fails, initiate IV Iron Sucrose Protocol to reach desired Hgb/Hct, especially for at risk mothers.

Admission Assessment & Planning

Verify Type & Antibody Screen from prenatal record

If not available,
☐ Order Type & Screen (lab will notify if 2nd specimen needed for confirmation)

If prenatal or current antibody screen positive (if not low level anti-D from Rho-GAM),
☐ Type & Crossmatch 2 units PRBCs

All other patients,
☐ Send specimen to blood bank

☐ Evaluate for ***Risk Factors*** on admission, throughout labor, and postpartum. (At every handoff)

If medium risk:
☐ Order Type & Screen
☐ Review Hemorrhage Protocol

If high risk:
☐ Order Type & Crossmatch 2 units PRBCs
☐ Review Hemorrhage Protocol
☐ Notify OB Anesthesia

Identify women who may decline transfusion
☐ Notify OB provider for plan of care
☐ Early consult with OB anesthesia
☐ Review Consent Form

Ongoing Risk Assessment

☐ **Evaluate for development of additional risk factors in labor**:
- Prolonged 2nd Stage labor
- Prolonged oxytocin use
- Active bleeding
- Chorioamnionitis
- Magnesium sulfate treatment

☐ **Increase Risk level** (see below) **and convert to Type & Screen or Type & Crossmatch**
☐ **Treat multiple risk factors as High Risk**
☐ **Monitor women postpartum for increased bleeding**

Admission Hemorrhage Risk Factor Evaluation

Low (Clot only)	**Medium** (Type and Screen)	**High** (Type and Crossmatch)
No previous uterine incision	Prior cesarean birth(s) or uterine surgery	Placenta previa, low lying placenta
Singleton pregnancy	Multiple gestation	Suspected Placenta accreta or percreta
≤ 4 previous vaginal births	> 4 previous vaginal births	Hematocrit < 30 AND other risk factors
No known bleeding disorder	Chorioamnionitis	Platelets < 100,000
No history of PPH	History of previous PPH	Active bleeding (greater than show) on admit
	Large uterine fibroids	Known coagulopathy

All Births – Prophylactic Oxytocin, Quantitative Evaluation of Blood Loss, & Close Monitoring

Active Management of Third Stage
☐ Oxytocin infusion: 10-40 units oxytocin/1000 ml solution titrate infusion rate to uterine tone; or 10 units IM; do not give oxytocin as IV push

Ongoing Quantitative Evaluation of Blood Loss
☐ Using formal methods, such as graduated containers, visual comparisons and weight of blood soaked materials (**1gm = 1ml**)

Ongoing Evaluation of Vital Signs

If: Cumulative Blood Loss > 500ml vaginal birth or > 1000ml C/S with continued bleeding -OR-
Vital signs > 15% change or HR ≥ 110, BP ≤ 85/45, O2 sat < 95% -OR- Increased bleeding during recovery or postpartum,
proceed to STAGE 1

STAGE 1: OB Hemorrhage
Cumulative Blood Loss >500ml vaginal birth or >1000ml C/S with continued bleeding -OR-
Vital signs >15% change or HR ≥110, BP ≤85/45, O2 sat <95% -OR-
Increased bleeding during recovery or postpartum

MOBILIZE

Primary nurse, Physician or Midwife to:
☐ Activate OB Hemorrhage Protocol and Checklist

Primary nurse to:
☐ Notify obstetrician or midwife (in-house and attending)
☐ Notify charge nurse
☐ Notify anesthesiologist

Charge nurse:
☐ Assist primary nurse as needed or assign staff member(s) to help

ACT

Primary nurse or designee:
☐ Establish IV access if not present, at least 18 gauge
Increase IV Oxytocin rate, 500 mL/hour of 10-40 units/500-1000 mL solution; Titrate infusion rate to uterine tone
☐ Apply vigorous fundal massage
☐ Administer Methergine 0.2 mg IM per protocol (if not hypertensive); give once, if no response, move to alternate agent; if good response, may give additional doses q 2 hr (If Misoprostol standard, misoprostol 800 mcg SL per protocol)
☐ Vital Signs, including O2 sat & level of consciousness (LOC) q 5 minutes
☐ Weigh materials, calculate and **record** cumulative blood loss q 5-15 minutes
☐ Administer oxygen to maintain O2 sats at >95%
☐ Empty bladder: straight cath or place Foley with urimeter
☐ Type and Crossmatch for 2 units Red Blood Cells STAT (if not already done)
☐ Keep patient warm

Physician or midwife:
☐ Rule out retained Products of Conception, laceration, hematoma

Surgeon (if cesarean birth and still open)
☐ Inspect for uncontrolled bleeding at all levels, esp. broad ligament, posterior uterus, and retained placenta

THINK

Consider potential etiology:
- Uterine atony
- Trauma/Laceration
- Retained placenta
- Amniotic Fluid Embolism
- Uterine Inversion
- Coagulopathy
- Placenta Accreta

Once stabilized: Modified Postpartum management with increased surveillance

If: Continued bleeding or Continued Vital Sign instability, and < 1500 mL cumulative blood loss
proceed to STAGE 2

STAGE 2: OB Hemorrhage

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

MOBILIZE

Primary nurse (or charge nurse):
- ☐ Call obstetrician or midwife to bedside
- ☐ Call Anesthesiologist
- ☐ Activate Response Team: **PHONE #:**_____
- ☐ Notify Blood bank of hemorrhage; order products as directed

Charge nurse:
- ☐ Notify Perinatologist or 2nd OB
- ☐ Bring hemorrhage cart to the patient's location
- ☐ Initiate OB Hemorrhage Record
- ☐ If considering selective embolization, call-in Interventional Radiology Team and second anesthesiologist
- ☐ Notify nursing supervisor
- ☐ Assign single person to communicate with blood bank
- ☐ Assign second attending or clinical nurse specialist as family support person or call medical social worker

ACT

Team leader (OB physician or midwife):
- ☐ Additional uterotonic medication: Hemabate 250 mcg IM [if not contraindicated] **OR** Misoprostol 800 mcg SL
  - Can repeat Hemabate up to 3 times every 20 min; (note-75% respond to first dose)
- ☐ Continue IV oxytocin and provide additional IV crystalloid solution

Do not delay other interventions (see right column) while waiting for response to medications
- ☐ Bimanual uterine massage
- ☐ Move to OR (if on postpartum unit, move to L&D or OR)
- ☐ Order 2 units PRBCs and bring to the bedside
- ☐ Order labs STAT (CBC/PLTS, Chem 12 panel, Coag Panel II, ABG)
- ☐ **Transfuse PRBCs based on clinical signs** and response, **do not wait** for lab results; consider emergency O-negative transfusion

Primary nurse (or designee):
- ☐ Establish 2nd large bore IV, at least 18 gauge
- ☐ Assess and announce Vital Signs and cumulative blood loss q 5-10 minutes
- ☐ Set up blood administration set and blood warmer for transfusion
- ☐ Administer meds, blood products and draw labs, as ordered
- ☐ Keep patient warm

Second nurse (or charge nurse):
- ☐ Place Foley with urimeter (if not already done)
- ☐ Obtain portable light and OB procedure tray or Hemorrhage cart
- ☐ Obtain blood products from the Blood Bank (or send designee)
- ☐ Assist with move to OR (if indicated)

Blood Bank:
- ☐ Determine availability of thawed plasma, fresh frozen plasma, and platelets; initiate delivery of platelets if not present on-site
- ☐ Consider thawing 2-4 FFP (takes 30 min), use if transfusing > 2 units PRBCs
- ☐ Prepare for possibility of massive hemorrhage

THINK

Sequentially advance through procedures and other interventions based on etiology:

Vaginal birth
If **trauma (vaginal, cervical or uterine):**
- Visualize and repair

If **retained placenta**:
- D&C

If **uterine atony** or lower uterine segment bleeding:
- Intrauterine Balloon

If **above measures unproductive:**
- Selective embolization (Interventional Radiology if available & adequate experience)

C-section:
- B-Lynch Suture
- Intrauterine Balloon

If **Uterine Inversion**:
- Anesthesia and uterine relaxation drugs for manual reduction

If **Amniotic Fluid Embolism**:
- Maximally aggressive respiratory, vasopressor and blood product support

If **vital signs are worse than estimated or measured blood loss**: possible uterine rupture or broad ligament tear with internal bleeding; **move to laparotomy**

Once stabilized: Modified Postpartum management with increased surveillance

Re-Evaluate Bleeding and Vital Signs
If cumulative blood loss > 1500ml, > 2 units PRBCs given, VS unstable or suspicion for DIC, proceed to STAGE 3

STAGE 3: OB Hemorrhage

Cumulative blood loss > 1500ml, > 2 units PRBCs given, VS unstable or suspicion for DIC

MOBILIZE

Nurse or Physician:
- ☐ Activate Massive Hemorrhage Protocol

PHONE #:_____

Charge Nurse or designee:
- ☐ Notify advanced Gyn surgeon (e.g. Gyn Oncologist)
- ☐ Notify adult intensivist
- ☐ Call-in second anesthesiologist
- ☐ Call-in OR staff
- ☐ Ensure hemorrhage cart available at the patient's location
- ☐ Reassign staff as needed
- ☐ Call-in supervisor, CNS, or manager
- ☐ Continue OB Hemorrhage Record (In OR, anesthesiologist will assess and document VS)
- ☐ If transfer considered, notify ICU

Blood Bank:
- ☐ Prepare to issue additional blood products as needed – **stay ahead**

ACT

Establish team leadership and assign roles

Team leader (OB physician + OB anesthesiologist, anesthesiologist and/or perinatologist and/or intensivist):
- ☐ **Order Massive Hemorrhage Pack** (RBCs + FFP + 1 apheresis pack PLTS—see note in right column
- ☐ **Move to OR** if not already there
- ☐ Repeat CBC/PLTS, Coag Panel II STAT and Chem 12 panel q 30-60 min

Anesthesiologist (as indicated):
- ☐ Arterial blood gases
- ☐ Central hemodynamic monitoring
- ☐ CVP or PA line
- ☐ Arterial line
- ☐ Vasopressor support
- ☐ Intubation
- ☐ Calcium replacement
- ☐ Electrolyte monitoring

Primary nurse:
- ☐ Announce VS and cumulative measured blood loss q 5-10 minutes
- ☐ Apply upper body warming blanket if feasible
- ☐ Use fluid warmer and/or rapid infuser for fluid & blood product administration
- ☐ Apply sequential compression stockings to lower extremities
- ☐ Circulate in OR

Second nurse and/or anesthesiologist:
- ☐ Continue to administer meds, blood products and draw labs, as ordered

Third Nurse (or charge nurse):
- ☐ Recorder

THINK

Selective Embolization (IR)

Interventions based on etiology not yet completed

Prevent hypothermia, academia

Conservative or Definitive Surgery:
- Uterine Artery Ligation
- Hysterectomy

For Resuscitation:
Aggressively Transfuse
Based on Vital Signs, Blood Loss
After the first 2 units of PRBCs use
Near equal FFP and RBC for massive hemorrhage:
4-6 PRBCs: 4 FFP: 1 apheresis Platelets

Unresponsive Coagulopathy:
- Role of rFactor VIIa is very controversial. After 8-10 units PRBCs and coagulation factor replacement with ongoing hemorrhage, may consider risk/benefit of rFactor VIIa in consultation with hematologist or trauma surgeon

Once Stabilized: Modified Postpartum Management with increased surveillance; consider ICU