Driver 2: Recognition

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OHI 2.0

Obstetric Hemorrhage Initiative

Global Aim: Improve maternal health through hospital-facilitated timely recognition and treatment of obstetric hemorrhage during labor, delivery and the postpartum period.

Primary Key Driver

Recognition: Early identification and assessment

Secondary Drivers

- Assess hemorrhage risk on admission to L&D, Pre-Birth and on admission to postpartum and prepare based on risk level
- Measure blood loss with quantitative and cumulative techniques
- Manage 3rd stage of labor
- Provide verbal and written education to all patients on OB hemorrhage risk factors, early warning signs, postpartum complications risk, with added counseling for patients at higher OB hemorrhage risk

Respectful care is a universal component of every driver and activity

Assess hemorrhage risk on admission to L&D, Pre-Birth and on admission to postpartum and prepare based on risk level

Potentially Better Practices:

1. **Pre-Birth and Admission to L&D:**
   - Conduct formal hemorrhage risk assessment on admission, pre-birth, and postpartum.
   - Document risk in EHR with alerts and match risk level to delivery hospital capabilities (e.g., transfer for abnormal placentation).
   - Review risk during huddles, shift changes, and at transfer points. Use color-coded census board (red, yellow, green) for easy identification.
2. **Patient & Family Communication:**
   - Discuss risk with patient and family, including birth trauma history.
   - Address potential bias and ensure clear communication.

Assess hemorrhage risk on admission to L&D, Pre-Birth and on admission to postpartum and prepare based on risk level

Potentially Better Practices (cont.):

3. **Considerations:**
   - Monitor symptoms and concerns as indicators of potential hemorrhage.
   - Screen for anemia on admission and implement IV iron protocol for moderate to severe anemia.
   - Offer epidural analgesia to high-risk patients.

Resource Examples

CMQCC OB Hemorrhage Care Guidelines

AWHONN POST-BIRTH Warning Signs Education Program

AWHONN PROMOTING THE HEALTH OF WOMEN AND NEWBORNS

POSTPARTUM HEMORRHAGE (PPH) RISK ASSESSMENT TABLE • 1.3

CLINICIAN GUIDELINES:

Each box ❑ represents ONE risk factor. Treat patients with 2 or more medium risk factors as high risk. Prenatal risk assessment is beyond the scope of this document, however performing a prenatal hemorrhage risk assessment and planning is highly recommended. Early identification and management preparation for patients with special considerations such as placental previa/accreta, bleeding disorder, or those who decline blood products will assist in better outcomes.
Adjust blood bank orders based on the patient's most recent risk category. When a patient is identified to be at high risk for hemorrhage verify that the blood can be available on the unit within 30 minutes of a medical order.

Plan appropriately for patient and facility factors that may affect how quickly the blood is delivered to the patient. For example,
Patient issues: Pre-existing red cell antibody
Facility issues: Any problems at your facility related to the blood supply and obtaining blood.

RISK CATEGORY: ADMISSION

	Low-Risk	Medium-Risk (2 or More Medium Risk Factors Advance Patient to High-Risk Status)	High-Risk
	❑ No previous uterine incision	❑ gestational age < 37 weeks or > 41 weeks	❑ Has 2 or More Medium Risk Factors
	❑ Singleton pregnancy	❑ Multiple gestation	❑ Suspected abruption or active bleeding more than "bloody show"
	❑ ≤4 Previous births	❑ >4 Previous births	❑ Suspected placenta accreta or percreta
	❑ No known bleeding disorder	❑ Prior cesarean birth or prior uterine incision	❑ Placenta previa, low lying placenta
	❑ No history of PPH	❑ Large uterine fibroids	❑ Known coagulopathy
		❑ History of one previous PPH	❑ History of more than one previous PPH or a severe PPH (>1,500 mL or blood transfusion)
		❑ Hematocrit <30% or hemoglobin <10	❑ Hematocrit ≤21% or 12-point drop to ≤ 25% or hemoglobin <8
		❑ Intraamniotic infection	❑ Platelets <50,000/mm³
		❑ Platelets 50,000/mm³ - 100,000/mm³	❑ Intrauterine fetal demise
		❑ Polyhydramnios	❑ HELLP syndrome
		❑ Pre-eclampsia	
	Anticipatory Interventions: Monitor patient for any change in risk factors at admission and implement anticipatory interventions as indicated.		
Blood Bank Order: Change blood bank orders as needed if risk category changes.	❑ Clot Only (Type and Hold)	❑ Obtain Type and Screen ❑ Notify appropriate personnel such as the provider (obstetrician, physician, midwife), anesthesia, blood bank, charge nurse, clinical nurse specialist	❑ Obtain Type and Cross ❑ Notify appropriate personnel such as the provider (obstetrician, physician, midwife), anesthesia, blood bank, charge nurse, clinical nurse specialist. ❑ Consider birth at a facility with the appropriate level of care capable of managing a high-risk pregnancy.

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This clinical tool is exemplary and does not include all possible patient concerns or conditions and is designed to guide decision-making but does not replace clinical judgement or hospital policy.

Appendix C: Obstetric Hemorrhage Care Guidelines: Table Format Errata 7.18.22

	Assessments	Meds/Procedures	Blood Bank
Stage 0	All births		
• Risk assessment • Active management of 3rd stage	• Prepare for every patient according to hemorrhage risk factors • Measure quantitative cumulative blood loss for every birth	• Active Management of 3rd Stage • Oxytocin IV infusion or 10u IM	• **Medium Risk:** T&S • **High Risk:** T&C 2 U • **Positive Antibody Screen** (prenatal or current, exclude low level anti-D from RhoGam): T&C 2 U
Stage 1	Triggers: CBL ≥ 500mL vaginal / ≥ 1000 mL cesarean with *continued bleeding* or Signs of concealed hemorrhage: VS abnormal or trending (HR ≥ 110, BP ≤ 85/45, O2 sat < 95%, shock index 0.9) or Confusion		
• Activate hemorrhage protocol • Rule out hemorrhage causes besides atony	• Activate OB hemorrhage protocol and checklist • Notify charge nurse, OB/CNM, anesthesiologist • VS, O2 Sat q5 min • Record quantitative cumulative blood loss q5-15 min • Careful inspection with good exposure of vaginal walls, cervix, uterine cavity, placenta. If intra-op, inspect broad ligament, posterior uterus and placenta.	• **IV Access: Minimum 18 gauge** • Increase IV fluid (LR) and **oxytocin** rate • **Fundal/bimanual massage** MOVE ON to 2nd level uterotonic if no response (see Stage 2 meds below) • Empty bladder: Straight cath or Foley with urometer	• **Convert to High Risk and take appropriate precautions** Consider T&C 2 Units PRBCs *where clinically appropriate if not already done*
Stage 2	Triggers: *Continued bleeding* w/ CBL < 1500 mL or VS remain abnormal		
• Sequentially advance through medications and procedures • Mobilize team and blood bank support • Keep ahead with volume and blood products • Determine source of bleeding **including concealed hemorrhage**	• **OB to bedside** • **Mobilize team:** 2nd OB, OB Rapid Response, assign roles • Continue VS & record **cumulative** quantitative blood loss q5-15 min • **Complete evaluation** of vaginal wall, cervix, placenta, uterine cavity • Send additional labs including DIC panel • If in Postpartum: Move to L&D/OR • Evaluate for special cases: - Uterine inversion - Amniotic fluid embolism	• **2nd Level Uterotonic:** - **Methylergonovine** 0.2mg IM (*if no HTN*) or - **Carboprost** 250 mcg IM (*if no asthma*) or *Only if hypertensive and asthmatic* - **Misoprostol** 800 mcg SL • 2nd IV access (minimum 18 gauge) • Bimanual/uterine massage • TXA 1 gram - may repeat in 30 min • **Vaginal:** (typical order) - Move to OR - Repair any tears - D&C: r/o retained placenta - Place intrauterine balloon • **Intra-op Cesarean:** (typical order) - Inspect broad ligament, posterior uterus, and placenta - Uterine sutures - Place intrauterine balloon - Uterine artery ligation	• **Notify Blood Bank of OB hemorrhage** • Bring 2 Units PRBCs to bedside, consider use of **Emergency Release products** (un-crossmatched) and transfuse per clinical signs – *do not wait for lab values* • Use blood warmer for transfusion Consider activating MTP if there is *continued bleeding*
Stage 3	Triggers: *Continued bleeding* with CBL > 1500mL or > 2 units PRBCs given or abnormal VS or Suspicion of DIC		
• Initiate Massive Transfusion Protocol • Invasive surgical approaches	• **Expand team** - Advanced GYN surgeon - 2nd anesthesia provider - OR staff - Adult intensivist • **Repeat coags & ABGs** • Central line • Family support	• Selective embolization (IR) • Laparotomy - Uterine sutures - Uterine artery ligation - Hysterectomy • Patient support - Warmer for IV fluids - Upper body warming device - SCDs	• **Activate Massive Transfusion Protocol** Transfuse aggressively • Near 1:1 PRBC: FFP • 1 PLT apheresis pack per 4-6 units PRBCs

This table was adapted from the Improving Health Care Response to Obstetric Hemorrhage: A California Quality Improvement Toolkit, funded by the California Department of Public Health, 2015; supported by Title V funds.

Measure blood loss with quantitative and cumulative techniques

Potentially Better Practices:

1. **Quantitative Blood Loss (QBL) Assessment:**
   - Perform QBL across all care settings (OB units, OR, ED, freestanding EDs) adapted to hospital capability. Assign QBL Lead.
   - Pair QBL totals with stage-based algorithms. Trigger rapid-response team when thresholds are met, especially on postpartum unit.
   - Provide real-time QBL updates to the care team.

2. **Calculation Methods:**
   - Establish a method for calculating amniotic and irrigation fluid volumes.
   - Ensure scales are available with tared weights for pads and drapes.
   - Use calculation tools or laminated dry weight charts/apps for accurate measurement.

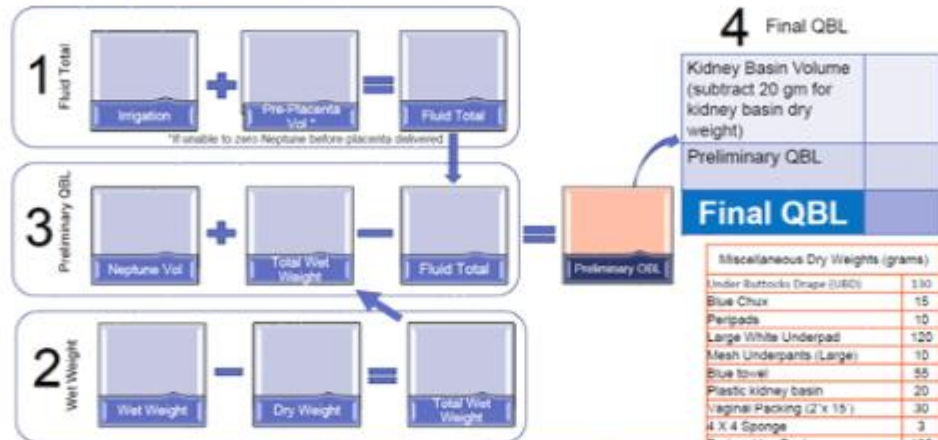
Measure blood loss with quantitative and cumulative techniques

Potentially Better Practices (cont.):

3. **EHR Integration & Ongoing Monitoring:**
    - Utilize QBL alerts in EHR (including estimated blood loss for deliveries in transit).
    - Continue QBL monitoring during recovery phase for ongoing blood loss.

Resource Examples

Sample QBL Worksheets from CMQCC



Appendix M: Sample QBL Worksheet

Note: This is a SAMPLE developed for a particular facility as an example to work from. You may need to adjust based on the individual circumstances of your facility.

QBL Worksheet: C-Section

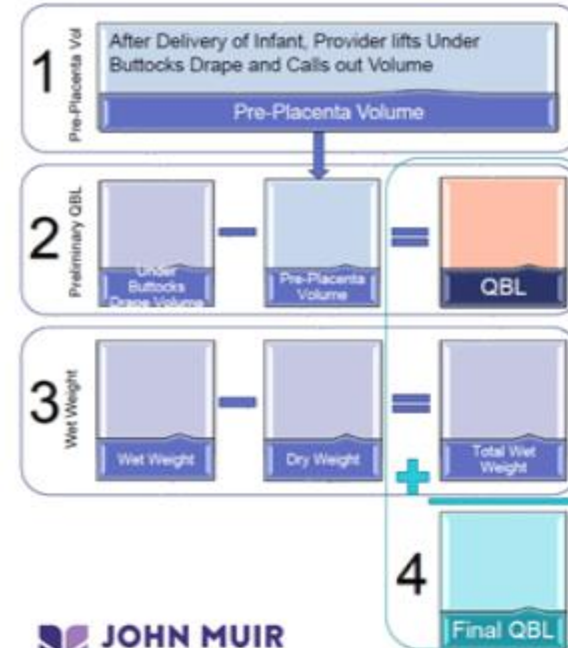
Kidney Basin Volume (subtract 20 gm for kidney basin dry weight)	
Preliminary QBL	
Final QBL	

Miscellaneous Dry Weights (grams)	
Under Buttocks Drape (UBD)	130
Blue Chux	15
Peripads	10
Large White Underpad	120
Mesh Underpants (Large)	10
Blue towel	55
Plastic kidney basin	20
Vaginal Packing (2"x 15')	30
4 X 4 Sponge	3
Perineal Ice Pack	180
Lap	20
Blue lap holder	20
Blue lap holder w/ 10 dry laps	220
Bath blanket	560
Bath towel	440
Fitted sheet	170

Weighed Items: the table to the right is the most commonly used items in a C/S, be sure to add in dry weights from the Miscellaneous Dry Weights table if applicable

Item (commonly use in C/S)	Dry Weight (gm)	Total Weight
Lap holder #1 + 10 laps	220	
Lap holder #2	20	
Lap (1)	20	
4 x 4	3	
Sub Total	263	

QBL Worksheet: Vaginal Delivery



Step 1: Determine pre-placenta volume in under buttocks drape
Step 2: At end of repair, when patient is stable, determine under buttocks drape volume and subtract pre-placental volume for preliminary QBL
Step 3: If 4x4's, laps, towels etc. were saturated, weigh them and subtract dry weight for Total Wet Weight.
Step 4: Add Total Wet Weight to Preliminary QBL

Miscellaneous Dry Weights (grams)	
Under Buttocks Drape (UBD)	130
Blue Chux	10
Peripads	10
Large White Underpad	120
Mesh Underpants (Large)	10
Blue towel	55
Plastic kidney basin	20
Vaginal Packing (2"x 15')	30
4 X 4 Sponge	3
Perineal Ice Pack	180
Lap	20
Bath blanket	560
Bath towel	440
Fitted sheet	170

(Used with permission of John Muir Health, 2021)

Manage 3rd stage of labor

Potentially Better Practices:

1. **Implement and verify a standardized protocol for active management:**
    - Administer Oxytocin at delivery
    - Use gentle cord traction
    - Perform fundal massage after placenta delivery
2. **Ensure all team members are trained and follow the protocol consistently across all settings**
3. **Reinforce during huddles and checklist reviews for accountability and adherence**

Provide verbal and written education to all patients on OB hemorrhage risk factors, early warning signs, postpartum complications risk, and counseling for patients at higher OB hemorrhage risk

Potentially Better Practices (cont.):

1. **Provide Verbal & Written Education on:**
   - OB hemorrhage risk factors
   - Early warning signs
   - Postpartum complications
   - Counseling for high-risk patients
2. **Ensure Language Access:**
   - Offer materials in common community languages
   - Use patient’s preferred language and interpretation services
3. **Respectful Care:**
   - Train clinicians to provide respectful care
   - Emphasize cultural humility as an ongoing learning process

Resource Examples

SAVE YOUR LIFE:

Get Care for These POST-BIRTH Warning Signs

Most women and postpartum people who give birth recover without problems. But anyone can have a complication for up to one year after birth. Learning to recognize these POST-BIRTH warning signs and knowing what to do can save your life.

Trust your instincts. ALWAYS get medical care if you are not feeling well or have questions or concerns.

Call 911 if you have:	❑ Pain in chest ❑ Obstructed breathing or shortness of breath ❑ Seizures ❑ Thoughts of hurting yourself or someone else
Call your healthcare provider if you have: (you only need one sign) (If you can't reach your healthcare provider, call 911 or go to an emergency room)	❑ Bleeding, soaking through one pad/hour, or blood clots, the size of an egg or bigger ❑ Incision that is not healing ❑ Red or swollen leg, that is painful or warm to touch ❑ Temperature of 100.4°F or higher or 96.8°F or lower ❑ Headache that does not get better, even after taking medicine, or bad headache with vision changes

Tell 911 or your healthcare provider: "I gave birth on __________ (Date) and I am having __________ (Specific warning sign)."

Scan here to download this handout in multiple languages.

These post-birth warning signs can become life-threatening if you don't receive medical care right away because:

- Pain in chest, obstructed breathing or shortness of breath (trouble catching your breath) may mean you have a blood clot in your lung or a heart problem
- Seizures may mean you have a condition called eclampsia
- Thoughts or feelings of wanting to hurt yourself or someone else may mean you have postpartum depression
- Bleeding (heavy), soaking more than one pad in an hour or passing an egg-sized clot or bigger may mean you have an obstetric hemorrhage
- Incision that is not healing, increased redness or any pus from episiotomy, vaginal tear, or C-section site may mean an infection
- Redness, swelling, warmth, or pain in the calf area of your leg may mean you have a blood clot
- Temperature of 100.4°F or higher or 96.8°F or lower, bad smelling vaginal blood or discharge may mean you have an infection
- Headache (very painful), vision changes, or pain in the upper right area of your belly may mean you have high blood pressure or post birth preeclampsia

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AWHONN POST-BIRTH Warning Signs

ACOG Respectful Care eModules are also available!

FPQC

Any Questions?