UNIVERSITY OF IOWA HOSPITALS & CLINICS

UIHC Post-Partum Hemorrhage Management Plan

	Primary Nurse	Second Nurse	OB LIP	Anesthesia LIP	Labs & Blood Bank
Stage 0	**Every patient admitted to Labor & Delivery**				
• *Pre-delivery risk assessment* • *Active management of 3rd stage*	• Assess every patient for PPH risk level on admission • Ask if patient will accept blood products • QBL at every delivery		• Assess every patient for PPH risk level on admission • Active management of 3rd stage: 1. Oxytocin per protocol 2. Gentle cord traction 3. 15 second fundal massage	• Be aware of PPH risk for all admitted patients	• All patients: T&S • High Risk: Crossmatch 2u 1. Abnormal placentation *(>2u per MFM/Gyn-Onc)* 2. Antibody present *(use "Pretransfusion Special Testing" orderset, patient to have T&S drawn up to 72h prior to procedure)*
Stage 1	**Blood loss >500ml (vaginal) or >1000ml (Cesarean)**				
• *"Rub + Drug"*	• Call for help (charge RN, OB chief, OB staff, anesthesia) • Confirm IV access (18G minimum) • Insert Foley catheter	• Bring PPH cart to bedside • Place orders for "OB PPH Stage 1" • Calculate QBL every 5-15 minutes	• Repeat fundal massage • Assess for bleeding source • 2nd uterotonic medication (Methergine preferred unless contraindicated)	• Present to patient's bedside, assist as needed	• Ensure active T&S and adequate IV access
Stage 2	**Continued bleeding with total blood loss under 1500ml**				
• *Sequential progression through medications & procedures* • *Keep ahead with blood products & volume*	• Check VS every 5 minutes • 2nd IV (16G) • Draw labs • 1L fluid bolus	• Place orders for "OB PPH Stage 2" • Calculate QBL every 5-15 minutes • Ask LIPs if IR consult needed	• 3rd uterotonic medication • Additional procedures as indicated (D&C, Bakri, B-Lynch) • Move to OR for further evaluation/exposure	• Accompany patient to the OR • Assist in establishing IV access • Transfuse per clinical signs	• Hemorrhage labs (CBC, DIC panel, electrolytes, Ca) • Consider crossmatch 2u
Stage 3	**Total blood loss > 1500ml *or* > 2u PRBCs given *or* VS unstable *or* suspected DIC**				
• *Massive Transfusion Protocol* • *Invasive surgical approaches to control of hemorrhage*	• Assist in preparing patient for surgery • Announce "Bleed Time-Out" every 1L of QBL *(current QBL, transfusions, meds given, consults called, most recent labs)*	• Place orders for "OB PPH Stage 3" • Calculate QBL every 5-15 minutes • Ask LIPs if GYN-ONC consult needed • Request scrub team from MOR • Request Perfusion team for cell salvage system	• Continue with procedures as indicated • Consider laparotomy (if not open) • Prepare for possible hysterectomy	• Draw labs • Transfuse per Massive Transfusion Protocol • Consider central line and invasive monitoring • Consider cell salvage system • Consider Tranexamic Acid • Consider rFactor VIIa if DIC	• Transfuse 1-2u pRBCs if QBL >1500ml and abnormal VS. • Transfuse 1-2u pRBC empirically if QBL >2500ml. • Massive Transfusion Protocol if more than 2u pRBCs needed • Repeat hemorrhage labs (CBC, DIC panel, electrolytes, Ca) every 1L of QBL

Main OR Charge Nurse: 36400

OB Emergency pager group 6777 (OB Chief, OB Staff, Anesthesia Resident, Anesthesia Staff): indicate "PPH, NICU not needed"

Cell Salvage: pager group "Perfusion"

Blood bank: 62561

IR for uterine artery embolization: pager 5390

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Rate of Oxytocin Administration after Delivery (30 Units Oxytocin/500 mL) for Prophylaxis and Treatment of Postpartum Hemorrhage

Time after delivery	Vaginal Delivery	Cesarean Delivery without Labor	Cesarean Delivery with Labor
First hour (prophylaxis)	300 mL/hour	300 mL/hour	600 mL/hour until fascia closed, then 300 mL/hour
Second hour (prophylaxis)	150 mL/hour	150 mL/hour	150 mL/hour
If no IV (prophylaxis)	10 units oxytocin IM		
If uterine atony (treatment)	Increase rate to 600 mL/hour for 1 hour, followed by 150 mL/hour for 1 hour	Increase rate to 600 mL/hour for 1 hour, followed by 150 mL/hour for 1 hour	Increase rate to 600 mL/hour for 1 hour, followed by 150 mL/hour for 1 hour

150 mL/hr = 9 units, 300 mL/hr = 18 units, 600 mL/hr = 36 units

Treatment of Postpartum Hemorrhage

Order of Use if not contraindicated	Drug	Dose, frequency	Contraindications	Side Effects
Prophylactic doses for all patients; 1st line for treatment	oxytocin (Pitocin)	See chart above	Hypersensitivity.	Hypotension and tachycardia with high doses especially IV push, hyponatremia with prolonged infusion
2nd line for treatment	methylergonovine (Methergine)	0.2 mg IM every 2 to 4 hours	Hypersensitivity. Hypertension, preeclampsia, or heart disease. Multiple doses of ephedrine given. Use of protease inhibitors.	Nausea, vomiting, hypertension, coronary artery spasm
3rd line for treatment	carboprost (Hemabate)	250 mcg IM or intra-myometrial every 15 to 90 minutes; maximum of 2 mg	Hypersensitivity. Active pulmonary disease (e.g. asthma), cardiac disease, renal disease, or hepatic disease.	Nausea, vomiting, diarrhea, fever, hypertension, headache, bronchospasm
4th line for treatment	misoprostol (Cytotec)	400 mcg sublingual or 1000 mcg rectal	Hypersensitivity.	Nausea, vomiting, diarrhea, fever, headache

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