

**DETERMINE AND TREAT ETIOLOGY (4 T'S)**

**TONE (Atony) • TRAUMA (Lacerations) • TISSUE (Retained Placenta) • THROMBIN (Coag Dysfunction)**

**VITAL SIGN CHANGES/INSTABILITY**

**HR ≥ 120, BP ≤ 80/40, O2 Sat ≤ 94%**

**STAGE 1**

QBL > 500 ml Vaginal **OR** > 1000 ml Cesarean

**ASSESSMENT**

- Notify MD, Charge Nurse, Anesthesiologist
- Hemorrhage cart & scale to room
- Verify IV access (at least 18 gauge)
- Vigorous fundal massage
- Apply pulse oximeter
- QBL every 5-15 minutes – weigh materials, calculate and record cumulative blood loss
- Empty bladder (straight cath or foley)
- Apply warm blankets
- Review labs (admit H/H) – Verify T&S done

**MD COMMUNICATION/ORDER REQUEST**

- Increase Oxytocin Rate
- \*Consider Type and Crossmatch\*

**Medications to consider:**

- Oxytocin 10 units IM
- Methergine 0.2 mg IM
- Hemabate 250 mcg IM
- Cytotec 600-1000 mcg PO, SL or Rectal
- Tranexamic Acid 1gm IV Push or IVPB

**Interventions to consider:**

- Intrauterine vacuum device

**STAGE 2**

QBL up to 1500 ml

**ASSESSMENT**

- Request MD and Charge Nurse to bedside
- Update Anesthesiologist
- Communicate with Blood Bank

**MD COMMUNICATION/ORDER REQUEST**

- 2nd IV access (Draw blood for lab work)**

**Labs to consider:**

- Type and Crossmatch
- CBC
- CMP
- Coag panel
- HELLP panel
- ABGs

**Medications to consider if not already given:**

- Methergine 0.2 mg IM
- Hemabate 250 mcg IM
- Cytotec 600-1000 mcg PO, SL or Rectal
- Tranexamic Acid 1gm IV Push or IVPB
- 10% Calcium Gluconate 1000mg IV Push, after 3-4 units of blood

**Interventions to consider:**

- Tamponade Balloon
- \*Consider IR consultation\*

**STAGE 3**

QBL > 1500 ml **OR** > 2 units PRBCs given

**ASSESSMENT**

**“ALL HANDS ON DECK”**

- Activate Rapid Response Team (Operator 8499)
- Update Blood Bank
- Assign staff to provide family support (Charge Nurse, House Supervisor or Social Worker)

**MD COMMUNICATION/ORDER REQUEST**

**Repeat labs:**

- CBC
- Coag should be checked 15 min after CRYO given
- Calcium should be checked if 4 units PRBCs given
- Magnesium level for cardiac
- Repeat medications
- Consider antibiotics
- Consider admission to AICU
- Consult IMCC

## MEDICATIONS

<u>Drug</u>	<u>Dose</u>	<u>Route</u>	<u>Frequency</u>	<u>Side Effects</u>	<u>Contraindications</u>	<u>Storage</u>
<b>Oxytocin (Pitocin)</b> 10 units/ml (Vial)	10-40 units Titrated to uterine tone	IV Infusion IM (10 units)	Continuous IV Infusion (30 units in 500 mL LR)	Usually none N/V, Hyponatremia (water intoxication) with prolonged IV admin <input type="checkbox"/> BP and <input type="checkbox"/> HR with high doses	Hypersensitivity to drug Caution: pre-existing cardiovascular disease	Pyxis
<b>Methylergonovine (Methergine)</b> 0.2 mg/ml (Vial)  <b>*Avoid with Hypertension*</b>	0.2 mg	IM	Q 2-4 hours	N/V, HA, Severe HTN in patients with <input type="checkbox"/> BP or Preeclampsia	Hypersensitivity to drug, <b>HTN</b> , Preeclampsia, Heart disease, Caution Renal / Hepatic impairment. Caution if multiple doses of ephedrine given (May exaggerate hypertensive response)	Refrigerator
<b>Carboprost (Hemabate)</b> 250 mcg/ml (Vial)  <b>*Avoid with Asthma*</b> <b>*Use caution with Hypertension*</b> <b>*Consider Lomotil*</b>	250 mcg	IM ONLY (or intra-myometrial)	Q 15-90 min Max dose 2 mg (8 doses in 24 hours)	N/V, Diarrhea, Fever, Chills, Shivering, HTN, HA, Bronchospasm	Hypersensitivity to drug <b>Asthma</b> Caution with Hepatic Disease, HTN, active Cardiac, Pulmonary or Renal Impairment	Refrigerator
<b>Misoprostol (Cytotec)</b> 100-200 mcg (Tablet)	600-1000 mcg	Oral, SL, or Rectal	One Time	N/V, Diarrhea, abdominal pain, Fever, Shivering, HA	Rare Known allergy Hypersensitivity to drug	Pyxis
<b>Diphenoxylate/Atropine (Lomotil)</b> 1 (Tablet)	1-2 Tablets	PO	2 tabs four times a day (Not to exceed 8 tablets per 24 hours) Reduce dose as soon as possible.	May cause CNS depression, confusion; Drowsiness HA, Dry Mouth, N/V, abdominal distress, urinary retention.	Hypersensitivity to drug Caution with breastfeeding patients (Lomotil passes into breastmilk)	Pyxis
<b>Tranexamic Acid</b> 1 gram / 100 mL premixed bag	1 gram	IV Push or IVPB  Max rate = 10 minutes	1 gram within 3 hours of birth; if bleeding continues after 30 minutes or stops and restarts within 24 hours of 1st dose, a second dose of 1 gram may be given.	Hypotension with Rapid IV injections, Nausea, Vomiting, CNS Depression, Pulmonary Embolism, Renal Cortical Necrosis, Retinal Artery/Vein Occlusion. Visual Disturbance, Seizures (most often with intraop – open chamber cardiac surgery in older patients), Allergic dermatitis, Hypersensitivity reactions, Anaphylaxis	Contraindications: Acquired defective color vision, active intravascular clotting, subarachnoid hemorrhage.  Caution: thromboembolic disease, renal impairment, urinary tract bleeding (ureteral obstruction due to clot formation has been reported).  <b>Fibrinogen needs to be ≥ 200 for TXA to be effective</b>	Pyxis

### References

Improving Health Care Response to Obstetric Hemorrhage, a CMQCC Quality Improvement Toolkit, 2022

### BLOOD PRODUCTS

- **Packed Red Blood Cells (PRBCs) (350mL per unit)**
  - Approximately 35-40 minutes to crossmatch (If T&S not done and no antibodies present)
  - Best 1st line product
- **Fresh Frozen Plasma (FFP) (350mL per unit)**
  - Approximately 30-45 minutes to thaw
  - Highly desired if > 2 units PRBCs given **OR** elevated PT, PTT
- **Platelets (PLTs)**
  - Given for  Platelets
  - HELLIP panel required. (Platelets not given if liver enzymes are elevated)
- **Cryoprecipitate (CRYO)**
  - Approximately 30-45 minutes to thaw
  - Given for  Fibrinogen
  - Best for DIC

**NOT A PART OF THE MEDICAL RECORD**