Texas Children's Hospital Evidence-Based Outcomes Center
Clinical Algorithm for Managing Obstetric Hemorrhage due to Uterine Atony (UA)

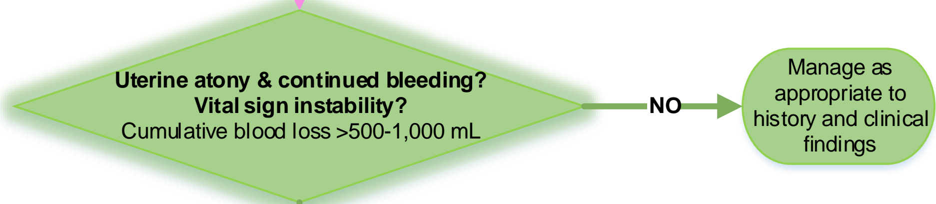
Postpartum hemorrhage is defined as cumulative blood losss of greater than or equal to 1,000mL or blood loss accompanied by signs or symptoms of hypovolemia within 24 hours. However, blood loss >500mL in a vaginal delivery is abnormal, and should be investigated and managed as outlined in Stage 1.

Stage 0

Active management of third stage of labor for all deliveries

Active management of third stage of labor for ALL DELIVERIES:

- ❑ Oxytocin 334 milli-units/min over 30 minutes followed by 95 milli-units/min OR Oxytocin 10 units intramuscularly during 3rd stage of labor
- ❑ Controlled cord traction
- ❑ Uterine massage after delivery of placenta



NO → Manage as appropriate to history and clinical findings

YES ↓

Stage 1

Communicate ongoing significant bleeding and signs of hemodynamic instability to team

- Quantify and call out cumulative blood loss (CBL)
- Initiate vital signs Q 5 min.
- Note vital sign changes:
- - heart rate ≥100-110 bpm
- - decreasing BP
- -O_2 sats < 95%
- Start 2nd large bore IV, begin volume resuscitation
- Call for 2nd nurse to assist
- Initiate fluid resuscitation w/LR
- Administer O_2 via non-rebreather mask to maintain Sat ≥ 95%
- Keep patient warm

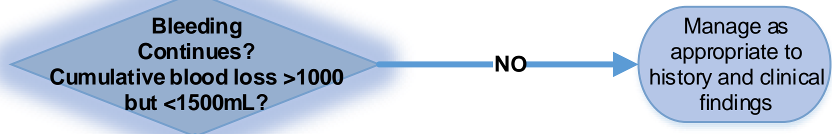
- ❑ Notify hospitalist (activate Rapid Response Team) and provider of uterine atony & hemodynamic instability
- ❑ Complete infusion of Oxytocin 334 milli-units/min over 30 minutes followed by 95 milli-units/min
- ❑ Bimanual fundal massage
- ❑ Empty bladder (measure output) Insert urinary catheter as needed
- ❑ Consider intrauterine tamponade or low -level vacuum system
- ❑ For cesarean section patients, consider B-lynch suture or other compression suture
- ❑ Administer 2nd line uterotonics
  - Hemabate 0.25mg intramuscularly every 15 minutes (up to 8 doses) **[contraindication: asthma]**

    AND/OR
  - Methergine 0.2mg intramuscularly every 2-4 hours **[contraindication: hypertensive disease]**

    AND/OR
  - Misoprostol 400mcg (sublingual[preferred], buccal or rectal)

Additional actions to consider:

- ❑ Administer 1 gram of tranexamic acid intravenously (renewable once after 30 minutes)



NO → Manage as appropriate to history and clinical findings

YES ↓

Stage 2

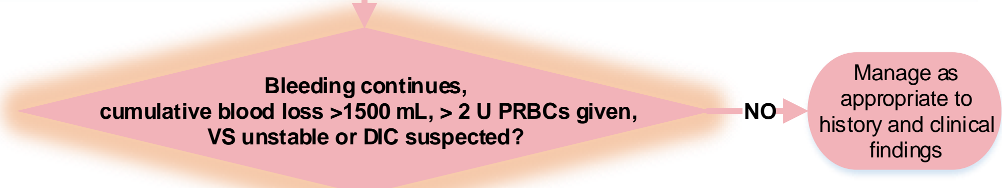
INSTITUTE RAPID PROGRESSION OF THERAPIES

Communicate cumulative blood loss (CBL) >1000 but <1500 ml with ongoing significant bleeding and signs of hemodynamic instability to team (HR > 120 and/or weak thready pulse, resp > 24)

- VS q 5 min.
- O_2 via nonrebreather mask to maintain Sat ≥ 95%
- Do not wait for lab results to begin transfusion
- Consider activation of Massive Transfusion Protocol
- Prevent hypothermia with Bair® hugger and Belmont® Rapid Fluid Infusor

- ❑ Notify anesthesia
- ❑ Move patient to OR if vaginal delivery
- ❑ Continue administration of uterotonics and bimanual fundal massage
- ❑ **Interventional Therapies:**
- ❑ Evaluate for & treat retained tissue
- ❑ Initiate intrauterine tamponade or low-level vacuum system
- ❑ If cesarean section, initiate B-lynch suture or other compression suture
- ❑ **Additional Actions to Consider:**
- ❑ **If not already given, administer 1 gram of tranexamic acid intravenously (renewable once after 30 minutes)**
- ❑ Consider transfusion of emergency release O negative packed red blood cells (PRBCs) if needed immediately (obtaining type specific blood products may take 20-30 min)
- ❑ Obtain Labs:
  - ABG with metabolites and H&H
  - DIC panel (PT/INR, PTT, fibrinogen, D-dimer, platelet count)

There is considerable evidence in favor of targeting/maintaining a fibrinogen level of 300 mg/dl in patients who experience or who are at-risk for obstetric hemorrhage. This can be accomplished by administration of cryoprecipitate or of RiaStap.



NO → Manage as appropriate to history and clinical findings

YES ↓

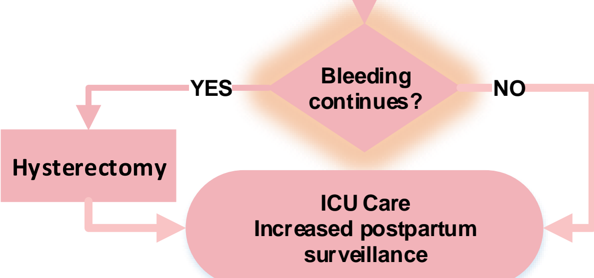
Stage 3

Communicate cumulative blood loss (CBL) >1500 ml with ongoing significant bleeding and signs of hemodynamic instability to team (HR > 120; O2 sat <95%; RR > 30; decreasing SBP)

- VS q 5 min
- Consider inserting arterial and central venous pressure lines
- Continue to call out cumulative blood loss & signs & symptoms of hemodynamic instability
- Labs should be drawn and monitored q 15 min
- Notify family

Activate Massive Transfusion Protocol, Anesthesia to manage fluid resuscitation:

- ❑ **Re-dose of antibiotics in cesarean delivery**
- ❑ **Provider to CONSIDER conservative surgery:**
  - Exploratory laparotomy (if vaginal delivery)
  - Uterine artery ligation
  - B-Lynch suture or other compression suture
  - Hypogastric artery ligation



Updated 10-2023

Clinical standards are developed for 80% of the patient population with a particular disease. Each practitioner must use his/her clinical judgment in the management of any specific patient.