AWHONN POSTPARTUM HEMORRHAGE (PPH) STAGES ALGORITHM V. 1.4

AWHONN
PROMOTING THE HEALTH OF WOMEN AND NEWBORNS

STAGE O
Blood Loss
≤500 mL regardless of mode of birth

Primary RN:
- Routine postpartum recovery
- Administer Oxytocin IV or IM
- Increase surveillance if medium or high PPH risk
- Fundal massage if needed
- Ongoing QBL for ALL births and for 2 hour recovery period
- Determine post-birth risk assessment category
- Report CBL to postpartum nurse assuming care
- Document Interventions

Blood Bank (Confirm if already ordered):
- Low risk: Clot only (Type & Hold)
- Medium risk: Type & Screen
- High risk: Type & Cross

OB Provider:
- Active management of the 3rd stage
  - Oxytocin IV or IM
  - Fundal massage
  - Gentle cord traction
- Determine post-birth risk assessment category and perform the appropriate anticipatory interventions

Bleeding continued? and/or Change in vital signs?

NO
- Normal postpartum care
- Increase surveillance if medium or high PPH risk
- Debrief after all births

YES

ADVANCE TO STAGE 1

STAGE 1
Blood Loss
500 – 999 mL regardless of mode of birth

Primary RN:
- Ensure hemorrhage cart/supplies/alternative uterotonics readily available
- Administer oxytocin IV or IM
- Call OB team for assistance/notify anesthesia
- First support RN - designate roles
- Vital signs (including temp) & apply pulse oximeter
- O2 via face mask to maintain > 95%
- QBL q 5-15 minutes
- Notify OB team of CBL & PPH stage
- Frequent fundal tone assessment & fundal massage
- Ensure IV access (18g) & increase IV fluid rate (LR or NS)
- Consider labs (CBC w/PLT, PT, PTT, fibrinogen, d-dimer, fibrin degradation products (FDPs), CMP)
- Consider warming blanket and fluid warmer
- Empty bladder (straight or indwelling urinary catheter)
- Document interventions

Blood Bank:
- Confirm Type & Cross (consider crossmatch of 2 units PRBCs)

Obstetric Provider:
- Consider cause: (4T's)

TONE
- Bimanual uterine massage
- Consider uterine tamponade balloon or intrauterine vacuum-induced device
- Uterotonics
  - Oxytocin 10-30 units per 500mL IV solution over 10-15 min or 10 units IM
  - Methylergonovine 0.2mg IM; Q 2-4 hrs Avoid with HTN
  - Carboprost 0.25mg IM; Q 15-90 min; not to exceed 2mg (8 doses)
  - Avoid with asthma; caution with HTN

If asthmatic & hypertensive, consider
  - Misoprostol 600mcg PO or 800mcg SL; once
- Consider AFE with severe bleeding

TRAUMA
- Assess for laceration: suture
- Assess for hematomas: drain and repair

TISSUE
- Assess for retained products: manual removal, D&C

Bleeding continued? and/or Change in vital signs?

NO
- Modified postpartum care with more frequent fundal checks and vital signs
- Debrief after all births

YES

ADVANCE TO STAGE 2

STAGE 2
Blood Loss
up to 1,500 mL after birth

Primary RN
- Call OB team for assistance
- Request OB provider & anesthesia to bedside
- Vital signs (including temp) ongoing & apply pulse oximeter
- O2 via face mask to maintain > 95%
- Frequent fundal tone assessment & fundal massage

Support RN
- First support RN - designate roles
- Provide family support
- Ensure hemorrhage cart/supplies present
- QBL q 5-15 minutes
- Notify OB team of CBL & PPH stage
- Consider 2nd IV access (16-18g)
- Administer oxytocin IV or IM
- Administer alternative uterotonics per order
- Consider warming blanket and fluid/blood warmer
- Insert indwelling urinary catheter
- Anticipate lab draw (CBC w/PLT, PT, PTT, fibrinogen, d-dimer, fibrin degradation products (FDPs), CMP)
- Mobilize designee to blood bank if applicable
- Mobilize team to prep OR
- Document interventions, complete facility incident report

Blood Bank and Labs:
- Notify blood bank
- Type & Cross, CBC w/PLT, PT, PTT, fibrinogen, d-dimer, fibrin degradation products (FDPs), CMP
- Transfuse with 2 units PRBCs based on CBL, clinical signs and responses – DO NOT WAIT FOR LABS
- Thaw 2 units FFP
- Prepare for MTP

Obstetric Provider:
- Consider cause: (4T's)
- Consider transfer to OR
- Consider interventional radiology – angiographic embolization

TONE
- Bimanual uterine massage
- Uterine tamponade balloon or intrauterine vacuum-induced device
- Uterotonics
  - Continue Stage 1 uterotonics; consider TXA
  - TXA 1g (100mg/mL) infuse over 10 min (may repeat x1 after 30 min)
- Consider AFE with severe bleeding
- Compression suture/B-Lynch
- Uterine artery ligation

TRAUMA
- Assess for laceration: suture
- Assess for hematomas: drain and repair

TISSUE
- Assess for retained products: manual removal, D&C
- Consider internal bleeding from uterine rupture or broad ligament tear:
- laparotomy
- Consider inverted uterus; administer uterine relaxation meds. Perform manual reduction to replace

THROMBIN
- Consider coagulopathy: replace RBC, FFP, platelets, & cryoprecipitate

Bleeding continued? and/or Change in vital signs?

NO
- Modified postpartum care as described above in L&D or ICU
- Continue QBL
- Debrief after all births

YES

ADVANCE TO STAGE 3

STAGE 3
Blood Loss
≥1,500 mL after birth

Primary RN:
- See interventions in stage 2
- Circulate in OR

Second RN:
- See interventions in stage 2
- Activate MTP; assist with blood transfusion
- Document interventions, complete facility incident report per protocol

Blood Bank and Labs:
- Activate MTP
- Aggressively transfuse 1:1:1 (PRBs:FFP:PLTs)
- Repeat labs (ABGs, CBC w/platelets, PTT, PT, fibrinogen, chemistry panel, pH & blood gases)
- Prepare to transfuse platelets & cryoprecipitate or fibrinogen concentrate (i.e. RiaSTAP) if coagulopathy
- Observe clotting
- Transfuse with uncrossed matched blood if waiting for crossmatch is not feasible

Obstetric Provider:
- Consider cause: (4T's)
- Consider interventional radiology – angiographic embolization
- Request additional MD, Anesthesia assistance

Conservative or Definitive Surgery:

TONE
- Uterine tamponade balloon or intrauterine vacuum-induced device
- Uterotonics
  - Continue Stage 1 uterotonics; consider TXA (see Stage 2)
- Consider AFE with severe bleeding
- Compression suture/B-Lynch
- Uterine artery ligation
- Hysterectomy

TISSUE
- Consider inverted uterus; administer uterine relaxation meds. Perform manual reduction to replace

THROMBIN
- Consider coagulopathy: replace RBC, FFP, platelets, & cryoprecipitate

Anesthesia:
- Consider ROTEM, cell saver & rapid infuser

Bleeding continued? and/or Change in vital signs?

NO
- Modified postpartum care as described above in L&D or ICU
- Continue QBL
- Debrief after all births

YES

ADVANCE TO STAGE 4

STAGE 4
Cardiovascular Collapse
(massive hemorrhage, hypovolemic shock, AFE)

Primary RN:
- Assist with OBLS

Second RN:
- See interventions in stage 2&3
- Mobilize additional resources (rapid response team, adult medical emergency team, pharmacy, blood bank, lab etc.)
- Consider interosseous line in the humeral head if no IV access present
- Document events, complete incident report per facility protocol

Blood Bank:
- Aggressive massive transfusion

- Immediate maternal resuscitation including oxygenation, hemodynamic support, and correction of coagulopathy

Bleeding continued? and/or Change in vital signs?

NO
- Determine disposition of patient - L&D or ICU
- Continue QBL
- Debrief after all births
- Conduct a debrief with family
- Document collaboratively with the OB team caring for the patient

YES

Continue resuscitation until bleeding is stabilized

Legend
AFE – amniotic fluid embolism
CBL – cumulative quantification of blood loss
QBL – quantification of blood loss
MTP- massive transfusion protocol

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