AIM

ALLIANCE FOR INNOVATION
ON MATERNAL HEALTH

Obstetric Hemorrhage Element Implementation Details

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Element Implementation Details

Readiness — Every Unit

Readiness Element	Key Points
Unit/Obstetric Rapid Response Team	Who is responding vs. who is involved in the situation Include activated members, ideally from: • Anesthesiology • Blood bank • Advanced gynecologic surgery • Additional nursing resources Awareness across care settings, ideally including: • Postpartum care units • Emergency Departments • Other support and tertiary services • Wherever care for pregnant and postpartum patients is being rendered • Leadership and administration to escalate concerns and remove barriers
Levels of Maternal Care	Based on known facility level of care, teams should be comprised of needed staff to manage obstetric hemorrhage emergencies and referral pathways including telehealth should be considered when resources are not readily available.
Standardized, facility-wide, stage-based obstetric hemorrhage emergency management plan	Standardized, facility-wide, stage-based obstetric hemorrhage emergency management plan should be implemented. These plans should be easily accessible during episodes of hemorrhage and regularly reviewed in simulation and drills. Each stage of hemorrhage is correlated with specific assessments, treatment methods and response. Plans should be organized by stage, include lists of recommended medications, equipment, surgical techniques, and debrief tools. The obstetric hemorrhage emergency management plan should also include a “Massive Hemorrhage Protocol” which refers beyond transfusion of blood products to also include hemorrhage control and other important non-transfusion interventions.

Readiness — Every Unit (continued)

Readiness Element	Key Points
Massive transfusion protocol	"Massive Transfusion" refers to any situation where a patient is receiving a large number of blood transfusions. "Massive Transfusion Protocol" refers to rapid administration of large amounts of blood products for the management of hemorrhagic shock. Protocol should have specific guidelines to understand roles and responsibilities throughout the protocol, including on how to engage teams, including: • Clinical • Laboratory • Blood bank • Other logistic response entities
Emergency release transfusion protocol	Work with your blood bank to understand blood bank policies, including: • Type of products available (O negative, uncrossmatched, ABO/Rh-specific, if available [KO2]), • Access capabilities, • Access limitations, and • Availability of products for the obstetric patient population
Blood products and blood product alternatives	Unit policy, protocol, checklist for refusal Resources include blood products/alternatives checklist
Hemorrhage cart or equivalent	Ensure rapid access to surgical instruments and tools designed to treat obstetric hemorrhage, including instruments needed to treat vaginal/cervical lacerations and perform uterine tamponade or uterine/ovarian artery ligation. The cart/box should have all the instruments necessary to treat obstetric hemorrhage before hysterectomy is considered. Cart/box should include: • Instruments • Immediate access to medications • Checklists • Supporting documents/protocols/algorithms

Readiness — Every Unit (continued)

Readiness Element	Key Points
First line hemorrhage medications	Medications for treatment of hemorrhage should be available for immediate access either by kit or available to be obtained in a single-selection manner from an electronic drug storage system. Medical Therapy for Postpartum Hemorrhage • First line therapy - oxytocin • Second line therapy - methylergonovine maleate (ergot alkaloid) or carboprost tromethamine (PGF2α) • Adjunctive agents - Tranexamic acid, Recombinant factor VIIa, • Treatment of uncertain usefulness - misoprostol
Interprofessional and interdepartmental team-based drills	Facilitate drills with simulated patients and timely debriefs that emphasize: • All elements of the facility obstetric hemorrhage emergency management plan • Transfusion protocols • Patient-centered, empathetic, trauma-informed care

Recognition & Prevention — Every Patient

Recognition Element	Key Points
Risk assessment during periods of transition	At a minimum, on admission to labor and delivery, pre-birth, and on transition to postpartum care. The peripartum period can include the second stage of labor and/or upon transition to cesarean delivery.
Quantitative and cumulative blood loss	Quantify blood loss during vaginal and cesarean births. Implementation of quantitative assessment of blood loss includes the following two items: 1. Use of direct measurement of obstetric blood loss (quantitative blood loss) and 2. Protocols for collecting and reporting a cumulative record of blood loss intrapartum, during birth, and during recovery Ensure equipment needed for quantification of blood loss is easily available, including, but not limited to: • calibrated under-buttocks drapes, • laminated cards that denote dry weights for delivery items, • scale to weigh delivery items that become blood soaked
Patient education	Should include: • Who to contact with medical and mental health concerns, ideally stratified by severity of condition or symptoms • Review of warning signs/symptoms • Reinforcement of the value of outpatient postpartum follow up • Summary of delivery events and treatments used • Information about future pregnancies and hemorrhage risk All education provided should be: • Aligned with the person's health literacy, culture, language, and accessibility needs • Include a designated support person for all teaching with patient permission (or as desired)

Response — Every Event

Response Element	Key Points
Evidence-based medication administration	Refer to "First line hemorrhage medications" in Readiness section of Implementation Details
Nonpharmacological interventions for obstetric hemorrhage emergency management	Non-pharmacological interventions may include: • Devices for uterine tamponade (Bakri balloon, Foley catheter, Sengstaken-Blakemore tube, Rusch balloon, Jada system) • Compression techniques (external uterine massage, bimanual compression, aortic compression) • Procedures (manual removal of placenta, manual evacuation of clot, uterine tamponade, uterine artery embolization, laceration repair) • Surgical intervention (curettage, uterine artery ligation, uterine hemostatic compression suturing, hysterectomy) • Blood products and fluid resuscitation
Trauma-informed support for patients and identified support network	Discussions regarding birth events, follow-up care, resources, and appointments should be provided verbally and, ideally, in a written clinical summary that aligns with the person's health literacy, culture, language, and accessibility needs.

Reporting and Systems Learning — Every Unit

Reporting Element	Key Points
Multidisciplinary Case Review	Establish facility definition and criteria of "serious complications," which may include: • ≥4 units total transfusion or ≥4 units RBC transfusion • ICU admissions for other than observation Cases for multidisciplinary review should be identified in a standardized way. Reviews may assess and/or identify: • Alignment with standard policies and procedures • Appropriate updates to standard policies and procedures for future events • Other opportunities for improvement, including identification of discriminatory practices and opportunities to improve respectful, equitable and supportive care. Consistent issues should be reported via established pathways.
System for sharing learned principles	Findings from reviews and data reporting should be shared with all associated staff and involved facility stakeholders.

Respectful, Equitable, and Supportive Care — Every Unit/Provider/Team Member

Respectful Care Element	Key Points
Inclusion of the patient as part of the multidisciplinary care team	• Establishment of trust • Informed, bidirectional shared decision-making • Patient values and goals as the primary driver of this process
Patient support networks may include nonfamilial supports, such as doulas and home visitors, who, with the postpartum person's permission, should be welcomed when any teaching or planning is provided.	
Ensure staff are informed regarding patients who decline blood or blood products and the potential use of blood product alternatives for these patients.	

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