Maternal Safety Bundles for Obstetric Hemorrhage

Perinatal/Neonatal Learning Network Reunion
Turf Valley Conference Center
Ellicott City, MD
December 4, 2014
Dena Goffman, MD
Everyone’s nightmare...
Maternal Mortality and Severe Morbidity
Approximate distributions, compiled from multiple studies

<table>
<thead>
<tr>
<th>Cause</th>
<th>Mortality (1-2 per 10,000)</th>
</tr>
</thead>
<tbody>
<tr>
<td>VTE and AFE</td>
<td>15%</td>
</tr>
<tr>
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<td>10%</td>
</tr>
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<td>Hemorrhage</td>
<td>15%</td>
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<th>Severe Morbidity (1-2 per 100)</th>
</tr>
</thead>
<tbody>
<tr>
<td>VTE and AFE</td>
<td>15%</td>
<td>5%</td>
<td>2%</td>
</tr>
<tr>
<td>Infection</td>
<td>10%</td>
<td>5%</td>
<td>5%</td>
</tr>
<tr>
<td><strong>Hemorrhage</strong></td>
<td><strong>15%</strong></td>
<td><strong>30%</strong></td>
<td><strong>45%</strong></td>
</tr>
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<td>Preeclampsia</td>
<td>15%</td>
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<td>30%</td>
</tr>
<tr>
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<td>25%</td>
<td>20%</td>
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</tr>
</tbody>
</table>
Hemorrhage Perspective

• Obstetric hemorrhage affects 2-5% of all births in the United States and is one of the top causes of maternal death (Callaghan et al, 2010; Berg et al, (2010); Bingham & Jones, 2012)

• Nationwide, blood transfusions increased 92% during delivery hospitalizations between 1997 and 2005. (Kuklina et al, 2009)

• Failure to recognize excessive blood loss during childbirth is a leading cause of maternal morbidity and mortality. (The Joint Commission, 2010)

• Women die from obstetric hemorrhage because of a lack of early and effective interventions. (Berg et al. 2005; Della Torre et al. 2011)
Dominance of Provider QI Opportunities: Hemorrhage and Preeclampsia

- California Pregnancy Associated Mortality Reviews
  - Missed triggers/risk factors: abnormal vital signs, pain, altered mental status/lack of planning for at risk patients
  - Underutilization of key medications and treatments
  - Difficulties getting physician to the bedside
  - “Location of care” issues involving Postpartum, ED and PACU

  Present in >95% of cases

- University of Illinois Regional Perinatal Network
  - Failure to identify high-risk status
  - Incomplete or inappropriate management

  Present in >90% of cases

Addressing the Problem
Development of Patient Safety Bundles
National & NYS efforts
ACOG-CDC Maternal Mortality/Severe Morbidity Action Meeting occurred in Atlanta - November 2012

Participants identified key priorities:

• 6 multidisciplinary working groups were formed

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**Core Patient Safety Bundles**

<table>
<thead>
<tr>
<th><strong>Obstetric Hemorrhage</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>Severe Hypertension in Pregnancy</td>
</tr>
<tr>
<td>Venous Thromboembolism Prevention in Pregnancy</td>
</tr>
</tbody>
</table>

**Supplemental Patient Safety Bundles**

| Maternal Early Warning Criteria |
| Facility Review |
| Family and Staff Support |
OB Hemorrhage Bundle Workgroup

Was comprised of the following individuals with representation from obstetrics, nursing, blood banks, and anesthesia:

- Debra Bingham, DrPH, RN – Washington, DC (AWHONN)
- Dena Goffman, MD, FACOG – New York, NY (ACOG)
- Jed Gorlin, MD – Minneapolis, MN (AABB)
- Gary Hankins, MD, FACOG – Galveston, TX (SMFM)
- David Lagrew, MD, FACOG – Long Beach, CA (CMQCC)
- Lisa Kane Low, PhD, CNM – Ann Arbor, MI (ACNM)
- Elliott Main, MD (Chair) – San Francisco, CA (ACOG)
- Barbara Scavone, MD – Chicago, IL (SOAP)
Recognition of the need to reduce maternal mortality and morbidity in the United States has led to the creation of the National Partnership for Maternal Safety. This collaborative, broad-based initiative will begin with three priority bundles for the most common preventable causes of maternal death and severe morbidity: obstetric hemorrhage, severe hypertension in pregnancy, and peripartum venous thromboembolism. In addition, three unit-improvement bundles for obstetric services were identified: a structured approach for the recognition of early warning signs and symptoms, structured internal case reviews to identify systems improvement opportunities, and support tools for patients, families, and staff that experience an adverse outcome. This article details the formation of the National Partnership for Maternal Safety and introduces the initial priorities.

(Obstet Gynecol 2014;123:973–7)
DOI: 10.1097/AOG.0000000000000219

Issued a Sentinel Alert entitled “Preventing Maternal Death” and proposed various initiatives to decrease maternal mortality including case reporting and review, health care provider education, team training and drills, and thromboembolism prophylaxis.

During the past 2 years, several organizations—including the American College of Obstetricians and Gynecologists (the College), the Centers for Disease Control and Prevention, the Society for Maternal–Fetal Medicine, the Health Resources and Services Administration, the Association of Women’s Health, Obstetric, and Neonatal Nurses, and the American College of Nurse-Midwives—have collaborated to identify priorities for maternal safety. Universal recognition of the need for action to reduce U.S. maternal mortality and morbidity led to the creation of the National Partnership for Maternal Safety. This report outlines a national initiative for every birthing facility...
Endorsed the concept: 3 Maternal Safety Bundles

“What every birthing facility in the US should have…”

The bundles represent outlines of recommended protocols and materials important to safe care but the specific contents and protocols should be individualized to meet local capabilities.

Hemorrhage Safety Bundle details were endorsed by the Council in July 2014.
Goals: OB Hemorrhage Patient Safety Bundle

- Improve **readiness** to hemorrhage by identifying standardized protocols (general and massive)
- Improve **recognition** of OB hemorrhage by performing on-going objective quantification of actual blood loss
- Improve **response** to hemorrhage by utilizing unit-standard, stage-based, obstetric hemorrhage emergency management plans with checklists
- Improve **reporting/systems learning** of OB hemorrhage by performing regular on-site multi-professional hemorrhage drills
PATIENT SAFETY BUNDLE

Obstetric Hemorrhage

READINESS

Every unit

- Hemorrhage cart with supplies, checklist, and instruction cards for intrauterine balloons and compressions stitches
- Immediate access to hemorrhage medications (kit or equivalent)
- Establish a response team - who to call when help is needed (blood bank, advanced gynecologic surgery, other support and tertiary services)
- Establish massive and emergency release transfusion protocols (type-O negative/uncrossmatched)
- Unit education on protocols, unit-based drills (with post-drill debriefs)

RECOGNITION & PREVENTION

Every patient

- Assessment of hemorrhage risk (prenatal, on admission, and at other appropriate times)
- Measurement of cumulative blood loss (formal, as quantitative as possible)
- Active management of the 3rd stage of labor (department-wide protocol)

RESPONSE

Every hemorrhage

- Unit-standard, stage-based, obstetric hemorrhage emergency management plan with checklists
- Support program for patients, families, and staff for all significant hemorrhages

REPORTING/SYSTEMS LEARNING

Every unit

- Establish a culture of huddles for high risk patients and post-event debriefs to identify successes and opportunities
- Multidisciplinary review of serious hemorrhages for systems issues
- Monitor outcomes and process metrics in perinatal quality improvement (QI) committee

Standardization of health care processes and reduced variation has been shown to improve outcomes and quality of care. The Council on Patient Safety in Women’s Health Care disseminates patient safety bundles to help facilitate the standardization process. This bundle reflects emerging clinical, scientific, and patient safety advances as of the date issued and is subject to change. The information should not be construed as dictating an exclusive course of treatment or procedure to be followed. Although the components of a particular bundle may be adapted to local resources, standardization within an institution is strongly encouraged.

The Council on Patient Safety in Women’s Health Care is a broad consortium of organizations across the spectrum of women’s health for the promotion of safe health care for every woman.

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July 2014
**POTENTIAL BUNDLE**

**PREPAREDNESS**

- Every unit
  - Hemorrhage cart with supplies, checklist, and instruction cards for intravascular balloons and compression stitches
  - Immediate access to hemorrhage medications (kit or equivalent)
  - Establish a response team - who to call when help is needed (blood bank, advanced gynecologic surgery, other support and tertiary services)
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**RECOGNITION & PREVENTION**

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**RESPONSE**

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Readiness - Every Unit

Hemorrhage cart

• Immediately available on L&D, antepartum/postpartum

• Multidisciplinary input for development, stocking and maintenance

• Containing supplies, checklist, and instruction cards for intrauterine balloons and compressions stitches
Readiness - Every Unit

Immediate access to hemorrhage medications

• Kit or equivalent
• Considerations include safe storage, reduction
• Multidisciplinary solution
• Assess time to bedside in drills
# Obstetric Hemorrhage Recommended Instruments Checklist

## Hemorrhage Cart

### Vaginal
- □ Vaginal retractors; long weighted speculum
- □ Long instruments (needle holder, scissors, Kelly clamps, sponge forceps)
- □ Intrauterine balloon
- □ Banjo curette
- □ Bright task light
- □ Procedural instructions (balloon)

### Cesarean/Laparotomy
- □ Hysterectomy tray
- □ #1 chronic or plain catgut suture & reloadable straight needle for B-Lynch sutures
- □ Intrauterine balloon
- □ Procedural instructions (balloon, B-Lynch, arterial ligations)

## Medication Kit (for rapid access to medications)

<table>
<thead>
<tr>
<th>Medication</th>
<th>Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pitocin 20 units/liter</td>
<td>1 bag</td>
</tr>
<tr>
<td>Pitocin 10 units</td>
<td>2 vials</td>
</tr>
<tr>
<td>Hemabate 250 micrograms/milliliters</td>
<td>1 ampule *</td>
</tr>
<tr>
<td>Cytotec 200 microgram tablets</td>
<td>5 tabs</td>
</tr>
<tr>
<td>Methergine 0.2 milligrams/milliliters</td>
<td>1 ampule *</td>
</tr>
</tbody>
</table>

* Indicates items that need refrigeration.

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AOG
Safe Motherhood Initiative
Surgical Management

- Uterine curettage
- Placental bed suture
- Uterine artery ligation
- Uteroovarian ligation
- Repair uterine rupture
- B-Lynch suture, multiple square sutures
- Hysterectomy

Images used with permission from:
FEMALE PELVIC SURGERY VIDEO ATLAS SERIES
Mickey Karam, Series Editor

Management of Acute Obstetric Emergencies
Baha Sibai, MD
[Copyright 2011 by Saunders]
Readiness - Every Unit

Establish a response team

- Who/how to call when help is needed
- Anesthesiology, blood bank, pharmacy, advanced gynecologic surgery, additional nursing resources, CCM, IR, main OR, social services, chaplain
Hemorrhage Response Team

Drills and education for teams are critical.

1. Surgical/Critical Care support
   • Gyn Oncology, Maternal-Fetal Medicine, General Ob-Gyn, Critical Care, General Surgery, Urology, Vascular, Trauma

2. Anesthesia support (2nd / 3rd person)

3. Nursing support (additional staff)

4. Administrative (blood bank and laboratory staff, logistical support)
Readiness - Every Unit

Protocols for Emergency Release of Blood Products and Massive Transfusion

• Emergency release of either universally compatible or type specific red blood cells
• MTP facilitates rapid dispensing of RBC, FFP and platelets in a predefined ratio
Readiness - Every Unit

Protocols for Emergency Release of Blood Products and Massive Transfusion

• Emergency release of either universally compatible or type specific red blood cells
• MTP facilitates rapid dispensing of RBC, FFP and platelets in a predefined ratio
In order to provide safe obstetric care institutions must:

- Have a functioning Massive Transfusion Protocol (MTP)
- Have a functioning Emergency Release Protocol (a minimum of 4 units of O-negative/uncrossmatched PRBCs)
- Have the ability to obtain 6 units PRBCs and 4 units FFP (compatible or type specific) for a bleeding patient
- Have a mechanism in place to obtain platelets and additional products in a timely fashion
Blood Bank: Massive Transfusion Protocol

*Important protocol items to be determined at each institution are:*

1. How to activate MTP
2. Blood bank number & location; notify as soon as possible
3. Emergency release protocol that both blood bank staff and ordering parties (MD/RN/CNM) understand
4. How will blood be brought to L&D?
5. How will additional blood products/platelets be obtained?
6. Mechanism for obtaining serial labs, such as with each transfusion pack, to ensure transfusion targets achieved
Readiness - Every Unit

Unit education on protocols, regular unit-based drills with debriefs

• Familiarize all team members with entire safety bundle and new management plan
• Identification of correctable systems issues
• Practice team related skills
OBSTETRIC HEMORRHAGE

Obstetric Simulation & Drills Info

LIST OF OB SIMULATION PRODUCTS

1. Human actor with fake blood (see recipe below)
3. Laerdal: Sim Mom (full-body birthing simulator), MamaNatalie (wearable birthing simulator), Limbs N Things PROMPT birthing simulator (pelvis), PROMPT2 estimated January 2015
4. Gaumard: NOELLE (full-body birthing simulator), models in order of low to high tech:
   - Essential: $550.100, $550, 5551
   - Intermediate: $555.100, $554.100
   - Advanced: $574.100, $575.100, $576.100
5. Model-Med International: Sophie’s Mum (birthing torso with PPH mechanism)
6. Operative Experience: C-Celia (cesarean delivery model)
7. CAE Healthcare: Fidelis Maternal Fetal Simulator

RESOURCES FOR POSTPARTUM HEMORRHAGE SIMULATIONS

1. Recipe for fake blood: http://healthysimulation.com/2632/how-to-make-fake-blood/
3. MedEdPortal (AAMC): access to scenarios and other resources by registering for a free account. Follow link to: https://www.mededportal.org/. Then choose Obstetrics and Gynecology from the Medical Specialties menu on the right, then select Simulation as the Instructional Methodology from the menu on the left. There are 2 cases: Massive Transfusion for Postpartum Hemorrhage; Obstetric Bleeding Curriculum. There is 1 tutorial/multimedia: Vaginal Approaches to the Management of Postpartum Hemorrhage.
5. ACOG Simulations Consortium (for ACOG members):
   https://www.acog.org/About_ACOG/ACOG_Departments/Simulations_Consortium
READINESS

Every unit
- Hemorrhage cart with supplies, checklist, and instruction cards for intrauterine balloons and compression stitches
- Immediate access to hemorrhage medications (kit or equivalent)
- Establish a response team - who to call when help is needed (blood bank, advanced gynecologic surgery, other support and tertiary services)
- Establish massive and emergency release transfusion protocols (type-O negative/unmatched)
- Unit education on protocols and hand-off skills (with new shift staff)

RECOGNITION & PREVENTION

Every patient
- Assessment of hemorrhage risk (prenatal, on admission, and at other appropriate times)
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Recognition and Prevention - Every Patient

Assessment of hemorrhage risk

• Antepartum, on admission to Labor and Delivery, later in labor, on transfer to postpartum care

• Allows for anticipatory

• Multiple tools available

Lyndon A, Lagrew D, Shields L, Melsop K, Bingham B, Main E (Eds). Improving Health Care Response to Obstetric Hemorrhage. (California Maternal Quality Care Collaborative Toolkit to Transform Maternity Care) Developed under contract #08-85012 with the California Department of Public Health; Maternal, Child and Adolescent Health Division; Published by the California Maternal Quality Care Collaborative, July 2010.
# Obstetric Hemorrhage

## Risk Assessment Tables

### Prenatal

<table>
<thead>
<tr>
<th>Risk Factors</th>
</tr>
</thead>
<tbody>
<tr>
<td>Suspected previa/accreta/increta/percreta</td>
</tr>
<tr>
<td>Pre-pregnancy BMI &gt; 50</td>
</tr>
<tr>
<td>Clinically significant bleeding disorder</td>
</tr>
<tr>
<td>Other significant medical/surgical risk (consider patients who decline transfusion)</td>
</tr>
</tbody>
</table>

**Intervention**

- Transfer to appropriate level of care for delivery *

### Antepartum

<table>
<thead>
<tr>
<th>Risk Factors</th>
<th>Timing of Delivery (weeks)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Placenta accreta</td>
<td>34 0/7 – 35 6/7</td>
</tr>
<tr>
<td>Placenta previa</td>
<td>36 0/7 – 37 6/7</td>
</tr>
<tr>
<td>Prior classical cesarean</td>
<td>36 0/7 – 37 6/7</td>
</tr>
<tr>
<td>Prior myomectomy</td>
<td>37 0/7 – 38 6/7</td>
</tr>
<tr>
<td>Prior myomectomy, if extensive</td>
<td>36-37</td>
</tr>
</tbody>
</table>

**Placenta Accreta Management**

For 1 or more prior cesareans, placental location should be documented prior to delivery. Patients at high risk for placenta accreta, should:

- Obtain proper imaging to evaluate risk prior to delivery
- Be transferred to appropriate level of care for delivery if accreta is suspected

* Review availability of medical/surgical, blood bank, ICU, and interventional radiology support

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ACOG

Safe Motherhood Initiative
# Obstetric Hemorrhage

## Risk Assessment Tables

### Labor & Delivery Admission

<table>
<thead>
<tr>
<th>Risk Factors</th>
<th>Medium Risk</th>
<th>High Risk</th>
</tr>
</thead>
<tbody>
<tr>
<td>Prior cesarean, uterine surgery, or multiple laparotomies</td>
<td>☑</td>
<td>☑ Placenta previa/low lying</td>
</tr>
<tr>
<td>Multiple gestation</td>
<td>☑</td>
<td>☑ Suspected accreta/percreta</td>
</tr>
<tr>
<td>&gt; 4 prior births</td>
<td>☑</td>
<td>☑ Platelet count &lt; 70,000</td>
</tr>
<tr>
<td>Prior PPH</td>
<td>☑</td>
<td>☑ Active bleeding</td>
</tr>
<tr>
<td>Large myomas</td>
<td>☑</td>
<td>☑ Known coagulopathy</td>
</tr>
<tr>
<td>EFW &gt; 4000 g</td>
<td>☑</td>
<td>☑ 2 or more medium risk factors</td>
</tr>
<tr>
<td>Obesity (BMI &gt; 40)</td>
<td>☑</td>
<td>/</td>
</tr>
<tr>
<td>Hematocrit &lt; 30% &amp; other risk</td>
<td>☑</td>
<td>/</td>
</tr>
</tbody>
</table>

**Intervention**

<table>
<thead>
<tr>
<th></th>
<th>Medium Risk</th>
<th>High Risk</th>
</tr>
</thead>
<tbody>
<tr>
<td>Type &amp; SCREEN, review protocol</td>
<td>☑</td>
<td>☑ Type &amp; CROSS, review protocol</td>
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</tbody>
</table>

### Intrapartum

<table>
<thead>
<tr>
<th>Risk Factors</th>
<th>Medium Risk</th>
<th>High Risk</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chorioamnionitis</td>
<td>☑</td>
<td>☑ New active bleeding</td>
</tr>
<tr>
<td>Prolonged oxytocin &gt; 24 hours</td>
<td>☑</td>
<td>☑ 2 or more medium (admission and/or intrapartum) risk factors</td>
</tr>
<tr>
<td>Prolonged 2nd stage</td>
<td>☑</td>
<td>/</td>
</tr>
<tr>
<td>Magnesium sulfate</td>
<td>☑</td>
<td>/</td>
</tr>
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**Intervention**

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*Establish a culture of huddles for high-risk patients and post-event debriefing*

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Safe Motherhood Initiative
Recognition and Prevention - Every Patient

Measurement of cumulative blood loss

- Formal, accurate measurement (QBL)
  - Calibrated drapes/canisters
  - Weighing blood soaked items and clots
- Cumulative record throughout
Recognition and Prevention - Every Patient

Active management of the 3rd stage of labor

• Departmental protocol for routine oxytocin use in the immediate postpartum period

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Response - Every Hemorrhage

Unit-standard, stage-based, obstetric

Hemorrhage emergency management plan

• Triggering events
• Response team and roles
• Communication plan for activation
• Necessary medications/equipment and tools
• Multidisciplinary design
• Drills/debriefs/reviews

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ACOG District II Safe Motherhood Initiative (SMI)
Obstetric Hemorrhage Checklist

1. Blood loss > 500 ml vaginal or blood loss > 1000 ml cesarean with normal vital signs and lab values
   - Record hs O2 saturation every 5 minutes
   - Record cumulative blood loss
   - Insert Foley catheter
   - IV access 16 gauge if possible
   - Increase IV fluid (crystalloid-estimated blood loss in 2:1 ratio without oxytocin)

2. Medications
   - Oxytocin (Pitocin) 40-60 international units/intravenously, or the equivalent
   - Methylergometrine (Methergine) 0.2 milligram intramuscularly (may be repeated every 2-4 hours)
   - Misoprostol (Cytotec) 200 micrograms intravenously (may repeat every 15 minutes, maximum 8 doses)

3. Continued bleeding with EBL > 1500 ml OR 2 units PRBCs given OR patient at risk for occult bleeding (post-cesarean), DIC OR any patient with abnormal vital signs/lab/oliguria
   - Outline management plan, re-evaluation, communicate with hemorrhage team
   - Replacement RBC FFP: Platelets in a 6:1 ratio (trigger Massive Transfusion Protocol - MTP) IT coagulopathic, add cryoprecipitate
   - Consider consultation for alternative agents
   - Identify etiology for bleeding (if unclear)
   - Rule out lacerations (exams), coagulopathy (labs), occult bleeding (imaging)
   - Achieve hemostasis immediately, interventions based on etiology
   - Adopt additional measures (if poor response)

4. Cardiovascular Collapse: For patients with cardiovascular collapse in setting of massive hemorrhage
   - Profound hypovolemic shock (blood loss not replaced)
   - AFE (sudden CV collapse followed by heavy uterine bleeding from uterine relaxation and associated coagulopathy)

   In these situations, immediate surgical intervention to ensure hemostasis (hysterectomy) may be necessary. This should take place with simultaneous aggressive blood and factor replacement and medical interventions regardless of the patient's coagulation status. Expedient hemostasis is the only step that will maximize survival rates for these critical patients.

Post-Hemorrhage Management

- Clinical considerations (including disposition of patient)
- Debrief
- Document after team debrief
- Discuss with patient/family members
Continued bleeding EBL up to 1500 ml OR any patient requiring ≥ 2 uterotonics with normal vital signs and lab values

- 2nd IV access (16 gauge if possible)
- STAT labs, with coags & fibrinogen
- Warming blanket
- For uterine atony ➔ Consider uterine balloon or surgical interventions
- Blood bank: DO NOT wait for labs. Transfuse per clinical signs/symptoms
  - Notify of OB hemorrhage, bring 2 units PRBCs to bedside, thaw 2 units FFP
- Medications: Continue medications from Stage 1
- Consider moving patient to OR (better exposure, potential D&C)
- Mobilize additional team members as necessary
Continued bleeding with EBL > 1500 ml OR > 2 units PRBCs given OR patient at risk for occult bleeding (post-cesarean), DIC OR any patient with abnormal vital signs/labs/oliguria

- Outline management plan ➔ Serial re-evaluation ➔ Communicate with hemorrhage team
- Replacement ➔ RBC-FFP-Platelets in a 6:4:1 ratio (trigger Massive Transfusion Protocol - MTP) ➔ If coagulopathic, add cryoprecipitate. Consider consultation for alternative agents
- Identify etiology for bleeding (if unclear)
- Rule out lacerations (exam), coagulopathy (labs), occult bleeding (imaging)
- Achieve hemostasis immediately, interventions based on etiology
- Adopt additional measures (if poor response)
Response - Every Hemorrhage

Support program for patients, families, and staff for all significant hemorrhages

- Traumatic for all
- Resources available

Lyndon A, Lagrew D, Shields L, Melsop K, Bingham B, Main E (Eds). Improving Health Care Response to Obstetric Hemorrhage. (California Maternal Quality Care Collaborative Toolkit to Transform Maternity Care) Developed under contract #08-85012 with the California Department of Public Health; Maternal, Child and Adolescent Health Division; Published by the California Maternal Quality Care Collaborative, July 2010.

ACOG District II Safe Motherhood Initiative (SMI)
PATIENT SAFETY BUNDLE

Obstetric Hemorrhage

REPORTING/SYSTEMS LEARNING

Every unit
- Establish a culture of huddles for high risk patients and post-event de briefs to identify successes and opportunities
- Multidisciplinary review of serious hemorrhages for systems issues
- Monitor outcomes and process metrics in perinatal quality improvement (QI) committee

RECOGNITION & PREVENTION

Every patient
- Assessment of hemorrhage risk (prenatal, on admission, and at other appropriate times)
- Measurement of cumulative blood loss (formal, as quantitatively as possible)
- Active management of the 3rd stage of labor (department-wide protocol)

RESPONSE

Every hemorrhage
- Uni-standard, stage-based, obstetric hemorrhage emergency management plan with checklists
- Support program for patients, families, and staff for all significant hemorrhages

http://teamstepps.ahrq.gov/

Standardization of health care processes and reduced variation has been shown to improve outcomes and quality of care. The Council on Patient Safety in Women's Health Care disseminates patient safety bundles to help facilitate the standardization process. This bundle reflects emerging clinical, scientific, and patient safety advances as of the date issued and is subject to change. This information should not be construed as dictating an exclusive course of treatment or procedure to be followed. Although the components of a particular bundle may be adapted to local resources, standardization within an institution is strongly encouraged.

The Council on Patient Safety in Women's Health Care is a broad consortium of organizations across the spectrum of women's health for the promotion of safe health care for every woman.
Establish a culture of huddles and debriefs to identify successes and opportunities for improvement

- Briefs, huddles and debriefs become part of the routine
- Will improve role clarity, situational awareness and utilization of available resources

Lyndon A, Lagrew D, Shields L, Melsop K, Bingham B, Main E (Eds). Improving Health Care Response to Obstetric Hemorrhage. (California Maternal Quality Care Collaborative Toolkit to Transform Maternity Care) Developed under contract #08-85012 with the California Department of Public Health; Maternal, Child and Adolescent Health Division; Published by the California Maternal Quality Care Collaborative, July 2010.
Reporting/Systems Learning - Every Unit

Multidisciplinary review of serious hemorrhages for systems issues

• Formal meetings to identify any systems issues or breakdowns that influenced the outcome of the event
• Multidisciplinary Perinatal Quality Committee
• Sanctioned and protected

www.safehealthcareforeverywoman.org
Monitor outcomes and process metrics in perinatal quality improvement (QI) committee

- Process measures used to document the frequency that a new approach is used
- Outcome measures used to determine project success
- Goal: reduce the number of hemorrhages that result in severe maternal morbidity or mortality
- Follow internally 4 or more units of RBC and require ICU care
Things to Remember

• Early opportunities exist to assess risk, anticipate, and plan in advance of an obstetric hemorrhage.

• Development of a multidisciplinary taskforce with physician and nursing champions from OB, anesthesia, and blood bank is critical.

• A standardized approach to obstetric hemorrhage includes a clearly defined, staged approach and can help to improve patient outcomes.

• Don’t reinvent the wheel – use available resources to help develop (or refine) and implement your hospital’s individualized response plan.

• Simulation is a great way to educate, practice new behaviors and test your infrastructure – make time for it.

• Debriefings are critical for continuous quality improvement and effective debriefing is a skill that needs to be taught and practiced.
Available Resources

www.safehealthcareforeverywoman.org

Current
• Summary of 13 components (as shown)

Future
For each of the 13 components (downloadable and customizable):
• Introduction
• Available Resources
• Implementation Strategies
• References
Key OB Hemorrhage QI Toolkits: Full of Resources

www.CMQCC.org
v2.0 available soon

ACOG District II Website
(thru ACOG website)

www.pphproject.org

More resources are coming on-line especially from state Perinatal Collaboratives. Later in the year, the NPMS Bundle will be published with an index to resources.