ACLS Maternal Focus

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What is ACLS Maternal Focus?

What the OB RN can expect to learn:

- Dangerous Rhythms
- BLS-ACLS
- ACLS Modifications during Pregnancy
- Operative Vaginal Deliveries
- Shoulder Dystocia
- Postpartum Hemorrhage
- Uterine Rupture
- Prolapsed Umbilical Cord
- Decision to Incision
- Scenarios and hands-on skill training
Evidence Based Practice
Question the status-quo

**Purpose**

- Standardized approach to maternal resuscitation
- Avenue for ongoing competence through mock codes
- Identify needs improvement through ongoing emergent drill critiques

**Benefits**

- Improving current process
- Effective communication
- Creating a common language
- Preventing potential human errors
- Improving response time
- Improving patient outcomes
- Increasing nursing confidence and competence

ACLS Maternal Focus
Why do we need this?
Resistance to Integrating ACLS in the OB World

- Why us?
- I’m not the expert in cardiac?
- I can interpret a fetal heart strip, NOT a maternal heart strip
- I’m already so busy
- Why do I have to take another class?
- I’m never going to use this
- I’m not going to remember what I need to do with ACLS
- Why fix something that isn’t broke?
Did you know that maternal deaths in the United States are on the rise?

In 2010, the World Health Organization (WHO) reported that 49 countries had lower maternal mortality rates than the United States, and that 28% to 50% of maternal deaths were preventable (Jones, Baird, Thurman, and Gaskin, 2012)

Can we afford NOT to breakdown our preconceived notions?
Can the BEST be surprised?
We can’t afford to have preconceived notions or we are going to miss being the BEST!!
Current Statistics

**54-93%**  
Leading cause of maternal death in the United States is Postpartum Hemorrhage, and 54% to 93% of these deaths are preventable (Bingham and Jones, 2012)

**1:20,000**  
Frequency of cardiac arrest in pregnancy is 1:20,000 maternities. Survival rates are poor at only 6.9% (AHA, 2010)

**529,000**  
Every minute at least one woman dies from complications related to pregnancy or childbirth—that puts the death toll at 529,000 women a year (WHO, n.d.)

ACLS Maternal Focus
How did we tackle this?

Team identified the need to improve recognition, readiness, and responsiveness to obstetrical emergencies.

Committee composed of management, educator, staff nurses, and physicians for development and implementation.

Partnership with UAMS to integrate ACLS with OB.

100% staff certified in ACLS with Maternal Focus.

Sustainability through mock codes and ongoing evaluation.

Data Survey Collection.
What Did We Learn?
Postpartum Hemorrhage

Leading cause of maternal death in the United States

2.9% of all births are complicated by obstetrical hemorrhage

Importance of early detection and utilization of the PPH Kit

It's essential for nurse leaders, researchers, and reviewers to eliminate preventable, obstetric hemorrhage-related mortality and morbidity
Decision to Incision

Communication–Development of Algorithm

Time Sensitivity

Defined Roles

ACLS Maternal Focus
Prolapsed Umbilical Cord
When the umbilical cord lies beside or below the presenting part of the fetus

- Occurs in 0.1%-0.6% of all pregnancies
- Prevent fetal asphyxia/death—occurs in minutes

**Goals:**
1. Prompt recognition
2. Activate OB emergency algorithm
3. Know your role
4. Preserve and restore fetal health
### Cardiac Modifications in Pregnancy

**Why do we need ACLS with Maternal Focus?**

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<thead>
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<tbody>
<tr>
<td>1</td>
<td>Frequency of cardiac arrest in pregnancy is 1:20,000 maternities</td>
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<tr>
<td>2</td>
<td>Survival rates are poorer at 6.9%</td>
</tr>
<tr>
<td></td>
<td><strong>Why Are We At A Higher Risk?</strong></td>
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<tr>
<td>✓</td>
<td>85% of children born with congenital heart disease now surviving into adulthood</td>
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<tr>
<td>✓</td>
<td>Physiological changes during pregnancy: Heart elevated, displaced to left, and 15% larger</td>
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<td>✓</td>
<td>Blood volume increases 30-50% (1,500-2,000 mL) with single fetus. Each contraction pushes 300-500 mL of blood back into systemic circulation</td>
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<td>Advanced maternal age, increased co-morbidities, recreational drug abuse, trauma</td>
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ACLS Maternal Focus
What is different?

Modifications in ACLS

- Circulation: Location of compressions
- Uterine displacement is essential
- Early intubation
- Defibrillation of a pregnant patient
- Delivery of fetus within 4-5 minutes
- Perimortem Cesarean

C-A-B-D-D-D-D
- Compressions
- Airway
- Breathing
- Defibrillation
- Drugs
- Delivery
Pre and Post Nursing Surveys
Questions asked utilizing Likert scale…

• I expect to learn something that I previously did not know.
• I learn best when the instructor tells me specific things I can do to improve my practice.
• I would rank my current confidence level in resuscitating a patient in arrest as HIGH.
  
  Confidence defined: the state of feeling certain about the truth of something
• I would rank my current competence level in resuscitating a patient in arrest as HIGH.
  
  Competence defined: The ability to do something successfully or efficiently.
• After completing the mock code educational drills, I think that my practice will differ from my practice prior to the educational drills.
• I would rate my own nursing care delivered during a code as HIGH.
• Codes are managed in a standardized and/or organized manner in my department.
Confidence

I would rank my current confidence level in resuscitating a patient in arrest as HIGH.

Confidence defined: the state of feeling certain about the truth of something.
I would rank my current *competence* level in resuscitating a patient in arrest as HIGH

*Competence defined: the ability to do something successfully or efficiently*
Sustainability?

“1st Responder”
- Determine Unresponsiveness
- “Scan the Chest” for breathing
- Flatten bed, remove pillows

Call 1234 Cardiac Conference
C: Check pulse up to 10 seconds
- No pulse, start Compressions

A: Open Airway
B: Give two Breaths
- using Ambu bag/ chest rise

Continue Compressions

“2nd Responder”
- Announce “I’m the SECOND responder”
- Bring in crash cart, plug in defibrillator
- Turn power on
- Place backboard
- Attach quick combo pads
- Operate defibrillator as needed

“3rd Responder”
- Announce “I’m the THIRD responder”
- Set up bag mask ventilation with 100% O2
- Confirm/establish IV site
- Confirm suction
- Prepare/anticipate ETT insertion
- Assist in 2-rescuer CPR
- (switch every 2 minutes)
- “Breathe and Leave”
Three lives saved

Unmeasureable!

Hemorrhage  Uterine Inversion  Prolapsed Cord
**ACLS* Maternal Focus**

**Washington Regional**

**Meredith Green, BSN, RN, Fellow, STTI, MCH-NLA**

**Carla Rider, MBA, BSN, RNC, Mentor, STTI, MCH-NLA**

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**Background**

**Did you know?**

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<td>In 2016, the World Health Organization (WHO) reported that 48 countries had lower maternal mortality rates than the United States and that 28% to 50% of maternal deaths were preventable. Every minute, at least one woman dies from complications related to pregnancy or childbirth—therefore, it’s critical to ensure timely and effective emergency care. Leading causes of maternal death in the United States are Postpartum Hemorrhage, and 54% to 63% of these deaths are preventable. Frequency of cardiac arrest in pregnancy is 120,000 in the United States. Survival rates are poor at only 4-6%.</td>
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Based on these staggering statistics, it is evident that disparities among pregnant patients result in a lack of consistent and systematic approaches to maternal resuscitation and management of emergent situations. Maternal cardiac arrest is a key concern in obstetric emergency situations. Methods of management vary depending on the location and resources available.born child. In 2016, 1,700 newborns died of complications related to pregnancy or childbirth, leading to calls for improved maternal and newborn health care. Every minute, at least one woman dies from complications related to pregnancy or childbirth—therefore, it’s critical to ensure timely and effective emergency care. Leading causes of maternal death in the United States are Postpartum Hemorrhage, and 54% to 63% of these deaths are preventable. Frequency of cardiac arrest in pregnancy is 120,000 in the United States. Survival rates are poor at only 4-6%.

**Purpose**

The purpose of the ACLS Maternal Focus Project is to create a standardized approach to maternal resuscitation and increase awareness, confidence, and competence in obstetric emergent situations. After the implementation of this project, the percentage of night call ACLS-certified, 24/7/365, in Washington Regional Medical Center (WRMC) Women’s Services is recorded through a standardized and comprehensive approach to maternal resuscitation. The survey included 30% of newborns died of complications related to pregnancy or childbirth, leading to calls for improved maternal and newborn health care. Every minute, at least one woman dies from complications related to pregnancy or childbirth—therefore, it’s critical to ensure timely and effective emergency care. Leading causes of maternal death in the United States are Postpartum Hemorrhage, and 54% to 63% of these deaths are preventable. Frequency of cardiac arrest in pregnancy is 120,000 in the United States. Survival rates are poor at only 4-6%.

At the end of this study the following goals were met:

- Increased nursing confidence and competence in performing ACLS
- Sustained standardized approach with implementation of mock code drills

**Methods**

- **Management and Education Team** identified the need to improve recognition, readiness, and responsiveness to obstetrical emergencies. The team created a committee composed of management, education, staff nurses, and physicians for development and implementation.
- **Participates received ACLS Certification**
- **ACLS Maternal Focus Delta, Extended Cardiac Arrest Package, Opened Aorta**
- **All Participants received Responsion Cards**
- Pre and post mock code nursing surveys completed

**Evaluation**

With the creation of ACLS Maternal Focus, nurses and physicians collaborated to form a healthcare team that recognized immediate actions and measures which in turn produced a profound effect on patient safety and outcome.

**Ongoing Future Benefits**

- Increased knowledge base of staff
- Standardized approach to obstetrical emergent situations
- Cost savings

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**Discussion**

By implementing this project, the following changes have been established:

- Standardized Processes
- Consistent language
- Improved outcomes
- Increased human errors
- Reduced patient outcomes
- Improved response times
- Improved nursing confidence and competence

**Sustainability**

- Collaborative and cost-effective with faster resolution of important obstetrical cases
- Minimized human errors
- Reduced patient outcomes
- Improved response times
- Improved nursing confidence and competence

**Sustainability achieved by:**

- Ongoing education through mock codes
- Assessment of high-quality CPR
- Implementation and ongoing review of emergency critique forms
- Creating an avenue to identify needs improvement

**Leadership Journey**

- **Educate the Heart**
  - Educate the heart to be consistent and transparent
  - Improve with ongoing education
  - Measure with standardized processes
  - Improve with measured improvements

**Ongoing Code Drills**

- **Open Aorta**
- **ACLS Maternal Focus Delta**
- **Extended Cardiac Arrest Package**
- **Mock Code Drills**

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**ACLS Maternal Focus Project Team**

- Cindy Allen, RN CEN, CCRN, Certificate of Excellence in Obstetric Nursing, University of California, Los Angeles School of Nursing
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- Samantha Hall, RN, Global Clinical Liaison, Women's Services, Johnson & Johnson
- Karen Mears, BSN, RN, FHEC, FNP, FTI, STTI, MCH-NLA

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**Staff RN Perceptions of Training**

- Increased nursing confidence and competence in performing ACLS
- Sustained standardized approach with implementation of mock code drills

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**Press release: 2016-01-01**

The staff participants in the post- and pre-code nursing surveys in order to obtain data. The survey included 30% of newborns died of complications related to pregnancy or childbirth, leading to calls for improved maternal and newborn health care. Every minute, at least one woman dies from complications related to pregnancy or childbirth—therefore, it’s critical to ensure timely and effective emergency care. Leading causes of maternal death in the United States are Postpartum Hemorrhage, and 54% to 63% of these deaths are preventable. Frequency of cardiac arrest in pregnancy is 120,000 in the United States. Survival rates are poor at only 4-6%.

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**More Resources**

- The content provided in this document is intended for educational purposes and should not be considered medical advice. For more information, please consult a qualified healthcare professional.
How do we get to greatness?
Improving outcomes...it's all about our patients!

100% staff ACLS maternal focus trained
Create your greatness!