

OBSTETRIC HEMORRHAGE

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IMPROVEMENTS IN HEALTHCARE

- MOTIVATION
- KNOWLEDGE
- RESOURCES
- SYSTEMS

OBJECTIVES

- Motivate your involvement in decreasing maternal mortality due to Hemorrhage
- Increase your Knowledge in treating Obstetric Hemorrhage
- Describe a System for managing Obstetrical Hemorrhage emergencies
- Offer Resource assistance for your development of systems improvement

MOTIVATION

- Every day across the United States, 2-3 women die due to pregnancy-related complications (World Health Report 2005)
- New York State has the highest rate of maternal mortality in the United States, 12.8/100,000 (2002).
- The most common causes of maternal death are pregnancy induced hypertension (PIH), embolism, obstetrical hemorrhage and infection.
- Obstetrical hemorrhage is known as the most *preventable* cause of maternal mortality.

MOTIVATION II

- Hemorrhage accounted for 15.2% of all reported maternal mortalities in New York State between 2003 and 2005 (SMI ACOG Report 2005).
- Ninety-seven percent (97%) of all hemorrhagic deaths occurred while women were hospitalized.
- These deaths spanned all socioeconomic classes; in addition to the deaths, an even larger number of “near misses”, women who had severe hemorrhages but survived, were reported.

MOTIVATION III

- **To Decrease Maternal Mortality due to Hemorrhage, ACOG and the NYDOH recommend that all Obstetric Units develop effective guidelines for the management of Obstetrical Hemorrhage.**

KNOWLEDGE

- What is the mechanism of death in acute obstetric hemorrhage?
- How can you delay this death with one hand?

KNOWLEDGE

- What is the mechanism of death in acute hemorrhage? --- Cardiac Decompensation
- The coronary arteries fill only in diastole.
- Hemorrhage decreases diastolic pressure and filling time (decreasing O₂ to the heart) while increasing cardiac oxygen requirements.

KNOWLEDGE

How can you delay this death with one hand? --- Manual Compression at the Bifurcation of the Aorta.

Restores diastolic pressure and slows heart rate to allow improved coronary perfusion and decreased cardiac oxygen consumption.

“Buys time” until blood and help can come.

SYSTEM

In an effort to decrease the risk of maternal hemorrhage related morbidity and mortality, the Perinatal Service at Stony Brook University Hospital developed a Maternal Hemorrhage Task Force.

Code Noelle: An Interdisciplinary Approach to Reducing Maternal Morbidity and Mortality Secondary to Maternal Hemorrhage

A. Combs, RNC, W. Davila, RNC,
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METHODS I

- An interdisciplinary group was formed and charged with improving the processes related to caring for pregnant women at risk for hemorrhage and systems that impact their care.
- The task force then developed interdisciplinary hemorrhage protocols with emphasis on rapid access to blood products.

METHODS II

- Educational programs with didactic components and simulation drills were developed to assist the staff with preparing for emergencies and to identify system issues.
- Monthly debriefing meetings to review the responses to simulated and real maternal hemorrhages and to identify areas of strength and areas that require improvement have been established.

OUTCOMES I

- Order sets have been developed by a team including Nursing, Obstetrics, Anesthesiology, and Blood Bank.
- The order sets include admission orders for all OB patients which identify risk of hemorrhage and a set of orders specifically designed for maternal hemorrhage.
- A “Code Noelle” administrative policy and procedure has been developed.

OUTCOMES II

- Education and ongoing simulation drills utilizing a computerized obstetrical mannequin are ongoing.
- Monthly interdisciplinary meetings occur to address issues identified by reviewing evaluation tools from simulations and chart review for any actual maternal hemorrhage.

