Objective: Upon completion of this presentation, participants will understand the role maternal hemorrhage has in the increasing maternal mortality rate. The management of hemorrhage including the use of cell salvage and rapid infusion protocol will be discussed and the importance of team work will be stressed.

Summary: Maternal mortality has increased in the United States from approximately 7 per 100,000 live births in 1996 to 13.3 in 2006. In 2010 The Joint Commission issues a sentinel alert entitled, “Preventing deaths during and after pregnancy.” Peripartum hemorrhage (PH) is one of the three leading cause of maternal mortality along with thromboembolism and hypertensive disorders of pregnancy.

The etiology of PH includes placenta previa, placenta abruption and placenta accreta. In particular, the incidence of placenta accreta has increased. Flood et al, assessed the etiology of peripartum hysterectomy in Dublin from 1965 through 2005. They found that placenta accreta was the inciting factor in only 5% of PH from 1965-1975 but increased to 47% from 1996-2005. The most likely explanation for the increase in placenta accreta is the rise in the cesarean delivery rate. The cesarean delivery rate in the United States has increased from roughly 21% in 1997 to 35% in 2010 and appears to be increasing further. Diagnoses of placenta accreta can be difficult since imaging modalities including sonography and MRI are associated with false negative results.

The key to a successful outcome is team work and coordination of care with the obstetricians, gynecology/oncology surgeons, blood bank, and interventional radiology. Anesthesia management of the patient at risk for hemorrhage includes placement of large bore IV access and arterial line and aggressive replacement of blood and blood products. Rapid transfusion protocols are becoming more common and has been shown in trauma to be associated with improved outcomes including decreased incidence of mortality, pneumonia, pulmonary failure, and sepsis.

Key Points:
1. Maternal mortality is increasing and maternal hemorrhage is a common etiology.
2. Teamwork and preparation is the key to a successful outcome
3. The use of a massive transfusion protocols may improve outcome.

Key References: