

New Technology Could Improve Safety of Childbirth

The failure to recognize excessive blood loss during child birth is one of the leading causes of maternal death in the country, according to the Joint Commission, which accredits hospital systems and programs in the United States. OSF Ventures, the corporate investment arm of OSF HealthCare, is hoping to remedy that with an investment in technology that can help clinicians identify postpartum bleeding sooner.

Gauss Triton is a comprehensive monitoring solution, developed by Gauss Surgical, that helps surgeons and other clinicians accurately estimate blood loss in real-time. This allows for early recognition of postpartum hemorrhage and an ability to make more informed clinical decisions in a timely manner. The technology is being piloted at OSF HealthCare St. Joseph Medical Center in Bloomington.

“We know that obstetrical hemorrhage is a nationwide problem,” said Cassi Adkins, birthing center supervisor, OSF St. Joseph. “Moms who are affected by this are in much larger numbers than we would like them to be and outcomes can be as bad as death, but can be something like delayed breast-feeding onset, and a longer hospital stay and some other medical concerns that we worry about.”

Clinicians in the operating room use the mobile application on a tablet to take photos of sponges and suction canisters collecting blood, amniotic fluid and wound irrigation during surgical procedures. Through machine learning and computer vision algorithms developed by Gauss, Triton accurately estimates how much blood is lost during surgery. Clinicians also use Triton to help quantify blood loss for vaginal deliveries and postpartum care, creating a comprehensive blood monitoring solution for obstetrics departments.

Adkins says without technology like Triton, clinicians currently quantify blood loss by weighing sponges on an old-fashioned scale, many times after the procedure is completed and the physician has left the operating room due to time demands.

“By using the Triton, we can real-time calculate how much blood a mom is using. So even in the middle of a surgical case, we know that the mom has lost a certain amount and we can begin replacing blood products or fluid quickly versus waiting until after it's over—sometimes even as late as the next day. And we know that our number's a lot more accurate.”

Many leading obstetrics and gynecology organizations have recommended quantified blood loss (QBL) as a tool for early recognition of hemorrhage. Illinois recently mandated hospital systems to report measurements of blood loss for all deliveries.

“We're really excited to adopt this technology,” said Stan Lynall, vice president of Venture Investments for OSF Ventures. “It will assist us in complying with this relatively recent Illinois regulation and our goal is that it will ultimately be deployed across the Ministry for the benefit of our patients.”

Lynall says another reason OSF Ventures invested in Gauss Surgical is the company's work to develop broader surgical applications. Garrett Vygantas, MD, managing director for OSF Ventures will join the Gauss Surgical board of directors as an observer to advance partnership opportunities.