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Center for Maternal Health Innovations, Kisumu Medical and Education Trust, the African Institute for Health Transformation (AIHT) at Sagam Community Hospital, PATH, One Heart Worldwide, CEFORP, World Vision, Pathfinder, UNICEF, the Kenya Obstetrics and Gynecology Society, several Country and County Ministries of Health, Inter-American Development Bank, Mahatma Gandhi Institute of Medical Sciences, Peruvian Association of Midwifery and Nursing, Jhpiego, Harvard School of Public Health, Boston Consulting Group, Villgro, Muhimbili National Hospital, Saving Lives at Birth partners, ELMA, CICF, Every Mother Counts, HDIF, IZUMI.

Status: Fully developed; clinical studies with compelling evidence

Product Cost: \$2.85 per UBT device

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Every Second Matters – Uterine Balloon Tamponade

Executive Summary: Postpartum hemorrhage (PPH) is the leading cause of maternal morbidity and mortality in low- and middle-income countries, accounting for approximately 130,000 deaths and 2.6 million disabled women annually. Access to second-line treatment options such as emergency hysterectomy and other surgical interventions to address uncontrolled PPH refractory to uterotonics is particularly limited in these settings. However, maternal deaths and disabilities from PPH can be avoided if health care providers and pregnant women have access to necessary life-saving knowledge, skills and tools. **Through integration and bundling of the award-winning innovation, “Every Second Matters for Mothers and Babies - Uterine Balloon Tamponade” (ESM-UBT™) package into the clinical practice of maternal care, postpartum hemorrhage deaths and disabilities can be averted.**



Description: The ESM-UBT is an ultra-low-cost, easy to use, safe and highly cost-effective package designed to address the number one killer of pregnant women in the world. The ESM-UBT package includes a 3-hour training curriculum, which incorporates WHO and FIGO standards for PPH management; a PPH wall poster checklist; a job-aid checklist; a trainer’s teaching flipchart; a learner’s booklet; and an ESM-UBT device. **The ESM-UBT device rapidly halts blood loss in women suffering from uncontrolled PPH.**

Existing Evidence: Over the past eight years, the ESM-UBT package has been introduced by the Massachusetts General Hospital (MGH) Division of Global Health and Human Rights and its partners in India, South Sudan, Kenya, Sierra Leone, Ghana, Senegal, Tanzania, Zambia, Peru, Honduras, Uganda and Nepal. 645 UBT uses have been documented in study facilities to date. Hundreds of critically ill women with uncontrolled PPH who have had ESM-UBT devices placed have been closely followed (see references):



- 97% of women survived overall
- 100% survived if the ESM-UBT device was placed BEFORE going into advanced shock
- 97% of women survived if in advanced (Class III) shock
- 86% of women survived in severe/end stage (Class IV) shock
- Two- and 6-week follow-up confirmed device safety
- The ESM-UBT device averts emergency hysterectomies
- All levels of trained birth attendants are able to place the device
- The incremental cost per DALY averted is \$26 USD, reaching the threshold of a “highly cost-effective intervention”



Considerations for Introduction or Use of ESM-UBT: Since 2012, the WHO PPH guidelines have recommended use of the uterine balloon for uncontrolled PPH. The ESM-UBT device is part of the overall ESM-UBT package, which is adapted to fit within country-specific existing competency-based training programs. Health providers may need to be trained on an ongoing basis to maintain competency and confidence.

Field experience suggests the nomination of regional- and facility-based ESM-UBT “champions” are vital to ensure uptake. The ESM-UBT package has received considerable accolades and endorsements from multiple sources,

and over the past two years a center for assembly, distribution, and product storage, as well as training, was constructed in western Kenya (see photo on right). In early 2016, a social enterprise (Center for Maternal Health Innovations) was formally launched in order to take on the task of developing a commercial approach to ESM-UBT expansion. Leading stakeholders from many additional low-resource countries have specifically requested assistance with country implementation of the ESM-UBT package to reduce maternal mortality.



The ESM-UBT package is highly effective, ultra-low-cost, easy to use, and ready for global scale in order to end the many unnecessary deaths of our world’s mothers.

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13. Altawil Z, de Redon E, Dinh H, Eckardt M, Nelson BD, Burke TF. Uterine Balloon Tamponade awareness in United States. Submitted to *Journal Midwifery & Women's Health*.
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16. Mvundura, Mercy, et al. "Cost-effectiveness of condom uterine balloon tamponade to control severe postpartum hemorrhage in Kenya." *International Journal of Gynecology & Obstetrics* (2017).
17. Tindell, K., et al. "Uterine balloon tamponade for the treatment of postpartum haemorrhage in resource-poor settings: a systematic review." *BJOG: An International Journal of Obstetrics & Gynaecology* 120.1 (2013): 5-14.
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Links to UBT videos:

1. Medical Aid Films UBT Training Video
<https://vimeo.com/216844662> (password: ubt2017)
2. Dr. Olunga's Story
<http://www.massgeneral.org/emergencymedicineglobalhealth/news/multimedia.aspx?id=651>
3. Midwives Stories from Africa
<http://www.massgeneral.org/emergencymedicineglobalhealth/news/multimedia.aspx?id=652>
4. Uterine Balloon Tamponade: Saving Women's Lives Across Africa
<http://www.massgeneral.org/emergencymedicineglobalhealth/news/multimedia.aspx?id=653>
5. UNICEF - UBT Technique video
<https://www.youtube.com/watch?v=ULJ1lwdPWaU>