Department of Defense Prolonged Field Care Research Award Winners

**Gastroesophageal Resuscitative Occlusion of the Aorta (GROA)**

**AWARD AMOUNT: $3M**

**THE TEAM**

- Kevin Ward, MD
  Emergency Medicine
- Stewart Wang, MD, PhD
  Surgery
- Hakam Tiba, MD
  Emergency Medicine
- Jonathan Eliason, MD
  Surgery
- Albert Shih, PhD
  Mechanical Engineering & Biomedical Engineering
- Steven White, PhD
  Medical Device Engineering Consultant
- Stewart Wang, MD, PhD
  Surgery
- Hakam Tiba, MD
  Emergency Medicine
- Jonathan Eliason, MD
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- Albert Shih, PhD
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- Steven White, PhD
  Medical Device Engineering Consultant

**THE PROBLEM**

Uncontrollable hemorrhage is a significant cause of preventable death on the battlefield. It is particularly difficult to stop bleeding in the abdomen and pelvis, with traditional treatments such as applying direct pressure or using tourniquets often rendered useless.

- No effective options for aortic zone 1 & 2
- No battlefield-tailored solutions
- Current options not scalable
- Lack of rapid treatments

**THE SOLUTION**

GROA is a minimally invasive device that can be used to rapidly stabilize a patient by controlling severe non-compressible abdominal hemorrhage at the point of impact.

- Easily implemented in austere environments
- Minimally invasive device placed orally
- Works in tandem with secondary treatments
- Preliminary experiments proven successful

**THE TECHNOLOGY**

- The device allows partial to full mechanical occlusion of the aorta through the esophagus and/or stomach to stop hemorrhage.
- GROA leverages the anatomical relationship between the esophagus and stomach to the thoracic and abdominal aorta.