

## Endovascular Occlusion Device for Controlling Traumatic Hemorrhage

**Inventors:**

*James R. Stone, MD, PhD*

*John F. Angle, MD*

*Saher S. Sabri, MD*

*Ziv J. Haskal, MD*

**Executive Summary**

University of Virginia clinicians and researchers have developed an endovascular occlusion device for limiting hemorrhage following pelvic fracture prior to definitive repair. An intravascular ultrasound probe placed distal to the balloon provides real-time feedback on location relative to the target site, while a pressure sensor placed proximal to the balloon provides feedback on optimal balloon inflation.

Arterial hemorrhage is the most serious complication associated with pelvic fractures, and remain the leading cause of death. Mortality rates have been reported to be as high as 54% for patients with hemorrhagic shock. These injuries require transcatheter embolization to control the bleeding. Fluoroscopy is often used to localize the balloon at the target site and to ensure optimal inflation. However, fluoroscopy is not available to many first responders.

**Market size**

- Approximately 111,000 pelvic fractures occur in the US annually
- Open pelvic fractures account for 2-4% of pelvic fractures in adults and 13% in children

**Opportunity**

- Partnership for development
- Exclusive/Non-exclusive licensing

**Benefits**

- Earlier stabilization of arterial hemorrhage
- Real-time feedback on balloon positioning and optimal inflation

**Patent Information**

- US Patent Application No 14/714,695 filed May 16, 2014

