"Device to Control Difficult to Compress Hemorrhage" VCU #06-038

Applications

- Treatment of injuries not amenable to tourniquet application
- Groin punctures or traumas
- Femoral artery/vein injuries
- Civilian or military emergency medicine
- Control of bleeding due to complications with femoral artery catheterization

Advantages

- Small size
- Easily portable
- Low cost
- Re-usable

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Market Need

Treatment of wounds in areas where pressure is difficult to apply and in adverse conditions is a significant obstacle in emergency medicine. Deep pelvic bleeding from the femoral artery or vein caused by puncture wounds to the groin area are particularly hard to treat. Similar bleeding can result from complications during femoral artery catheterization. Traditional treatment methods require the location and clamping of the artery as well as direct pressure to the afflicted region for extended periods of time. This method poses even greater difficulties in emergency or adverse military situations.

Technology Summary

A VCU researcher has developed a novel device that is capable of applying direct pressure to these hard to treat regions. After placement, the device can apply pressure sufficient to reduce or eliminate blood flow for extended periods, as shown in one set of experimental results depicted below. It has been designed so it can be easily administered by first responders or by the injured persons themselves on the battlefield. Further, once placed, it does not require further intervention by medics.

Technology Status

Working prototype has been developed. It measures less than 1000 cm^3 in size, making it extremely portable. It has been fabricated out of high quality, durable materials that permit it to stand up to the harshest conditions.
Patent pending: U.S. and foreign rights are available.
This technology is available for licensing to industry for further development and commercialization.