

## Innovative Bandage Saves Lives

University of North Carolina Chapel Hill



Severe blood loss is one of the leading causes of death in traumatic injury cases. Despite the abundant research that exists on ways to stop surface bleeding (hemostasis), little work has been done to develop special materials that can be applied to wounds to staunch bleeding. This is especially critical in combat casualty care, where control of non-compressible bleeding is one of the biggest unmet needs in military emergency medicine. Blood loss through gauze dressings is a major factor in the death of wounded soldiers on the battlefield.

“ *The unique fabric activates the body’s own hemostatic systems when applied to a wound.* ”

To reduce death and injury from substantial blood loss, a joint research team from the University of North Carolina at Chapel Hill and East Carolina University in Greenville, N.C., developed a technology consisting of a fabric of woven specialty fibers, including glass, silk, bamboo, cotton, flax, hemp and zeolite. Additional co-factors such as thrombin, RL platelets, RL blood cells, fibrin, fibrinogen, and other hemostatic agents can be incorporated into the textile. The fabric is soft, strong, and absorbent, can be cut to any needed size or shape, is temperature-stable, and may be used to

support other hemorrhage-control methods.

This technology was licensed to Entegriion, a University of North Carolina startup company. In 2007 Entegriion received Food and Drug Administration approval for its hemostatic textile technology called Stasilon™. AlphaBandage™, the company's emergency bandage that promotes blood coagulation and reduces bleeding, was distributed to battlefield medics and performed well during pilot testing.

The product has demonstrated the ability to reduce blood loss as compared with gauze by improving rates of clot formation. Entegriion is developing other wound-dressing products for military and commercial markets in the United States.

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