

**TATRC Highlighted Research News Article:  
A Multi-Purpose Sprayable Liquid Wound Dressing for the Far-Forward  
Battlefield Stabilization of Injury, Pain, Infection, Bleeding & Hemorrhage**

**June 23, 2009**

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**New Sprayable Liquid Wound Dressing to Improve Care on the Battlefield**



*The GelSpray™ sprayable liquid wound dressing sets in seconds to a protective, flexible hydrogel that conforms to wounds yet is easily removed by gentle peeling.*

Images courtesy of BioCure, Inc.

Researchers are developing a new, sprayable liquid wound dressing technology that an injured warrior could apply one handed in a combat setting. The spray forms a tough hydrogel in seconds that conforms directly to the wound without sticking to it when removed.

The GelSpray™ Liquid Bandage was approved by the U.S. FDA for minor cuts and irritations in 2008, and its developers are preparing for a human clinical study required to extend the technology to battlefield care. The team is also working on variations that include medications to treat infection, speed healing and relieve pain.

Explains investigator Dr. Joachim Kohn of Rutgers University, “Because GelSpray conforms to the wound bed while in direct contact with the wound margins, it offers significant clinical advantages: The thick, protective film limits bleeding, absorbs wound fluids and directly transports medication to the entire wound bed. It does not significantly adhere to the wound bed—unlike most other dressings, where there is re-bleeding or delayed healing due to removal of granulation tissue whenever the wound dressing is removed.”

The GelSpray product for the far forward Soldier is designed for lacerations, small burns and gunshot and shrapnel wounds that are often on irregular surfaces such as the hand,

face, neck and outer ear. It is meant to provide flexible protection that enables the Soldier to complete his or her mission.

Col. Dallas Hack, director of the U.S. Army Medical Research and Materiel Command's (USAMRMC) Combat Casualty Care Research Program (CCCRP), says, "This technology shows promise for quicker wound healing with less care needed. The dressing is breathable, and if it can include an antimicrobial to prevent infection, then we may not need to damage tissue further through debridement [removing dead or contaminated tissue]."

Kohn is the principal investigator of the Center for Military Biomaterials Research (CeMBR), a network of academic, industry and military organizations whose mission is to support wounded warriors on and off the battlefield with practical, leading edge innovations. He notes, "CeMBR partnered with BioCure, Inc., to develop the GelSpray technology. Under the leadership of BioCure co-investigator Sameer Shums, we have made significant progress."

CeMBR research programs are supported and guided by USAMRMC's Telemedicine and Advanced Technology Research Center (TATRC). "Feedback provided by TATRC's national expert review panels has guided our product design efforts," says Kohn. "TATRC and our program manager there, Wilbur Malloy, have provided us unwavering support."

Kohn adds, "Our goal is to address the most critical needs of injured warriors for improved wound dressings. There is no other product that provides all these benefits and is specifically designed to meet military requirements."