

When 'clean' is not clean enough

December 22 2011



DHS S&T has developed a disposable synthetic material backboard cover for emergency patients while they're being stabilized. "Board Armor was a good idea," says S&T's Greg Price. "You wouldn't dream of sleeping on a hotel bed that wasn't covered with a clean sheet, yet that's essentially what we've been having our emergency patients do. Board Armor will prevent cross-contamination." Credit: DHS S&T

Some solutions are just no-brainers. Take medical backboards, for example, those hard plastic boards used to stabilize patients during emergencies before the patient is lifted onto the gurney and hurried into the ambulance. After each call, technicians scrub down their equipment to avoid exposing the next patient to diseases, microbes or bodily fluids, but despite these efforts, a study conducted in partnership with the University of Miami examined 55 "cleaned" active-duty backboards and found that every backboard was contaminated with at least 11 different strains of bacteria and microorganisms.

To solve this problem and eliminate cross-contamination, Scott Neusch, a retired [firefighter](#) and paramedic from Orlando, FL submitted an idea for a backboard cover to the U.S. [Department of Homeland Security](#) (DHS) Science and Technology Directorate (S&T). S&T's program for first responders, TechSolutions, works to provide solutions to technology gaps identified by first responders, such as Neusch. S&T's TechSolutions team researched the market to determine the novelty and value to EMS responders for a backboard cover, and conducted a focus group of EMS responders who validated and improved upon the idea.

The result is Board Armor – a synthetic material disposable backboard cover that reduces infection rates in patients and saves valuable emergency response time. It is made of a non-porous medical-grade material that prevents bodily fluids from contaminating the backboard itself and eliminates the need to clean the backboard between each use. Board Armor provides a clean surface for a patient to lie on and reduces turnaround time for Emergency Medical Service providers.

DHS S&T has developed a number of tools to support the first responder community through the TechSolutions program, including Multi-Band Radio Technology, which enables emergency responders to communicate with partner agencies regardless of the radio band on which they operate, as well as the Next Generation Self-Contained Breathing Apparatus that incorporates new pressure vessel technology allowing emergency responders to experience less stress, be able to move more easily in confined spaces and avoid entanglement, and to operate more safely in hazardous response environments.

Provided by US Department of Homeland Security

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