



ConvaTec

PRESS RELEASE

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NEW IN VITRO STUDY DATA SHOW THAT WOUND DRESSING WITH SILVER KILLS MRSA AND OTHER 'SUPERBUGS' RESISTANT TO ANTIBIOTICS

Silver-containing sodium carboxymethyl cellulose wound dressing killed range of bacteria in vitro that represent significant risks for patients in hospitals and other health facilities

BRUSSELS, BELGIUM (25 May, 2011) – ConvaTec, a world-leading developer and marketer of innovative medical technologies for community and hospital care, today announced new *in vitro* study results showing that a wound dressing containing ionic silver is able to kill several strains of highly-resistant bacteria, commonly referred to as 'superbugs.' The study showed that bacteria found beneath the dressing died within 48 hours.¹ The study results were presented at the European Wound Management Association 21st Annual Conference in Brussels Belgium.

In the *in vitro* study, a simulated wound fluid (serum and peptone water) model was designed to measure antimicrobial activity over a seven-day wear time. A sample of the silver-containing sodium carboxymethyl cellulose wound dressing was aseptically transferred to the simulated wound fluid containing 1×10^6 cfu/ml of a wound pathogen (*A. baumannii*, *C. difficile*, CA-MRSA, or ESBL-producing bacteria). Following incubation, total viable counts (TVCs) were performed on each test model using a pour plate method. TVCs were performed on each model at four, 24, 48, 72, and 96 hours, and at seven days. All models were re-inoculated with a fresh challenge of the same bacteria at 72 hours.

Bacteria from external sources such as the surrounding skin, gut and mouth are often found in wounds associated with surgery, trauma, disease or other causes. Any wound, especially one that does not heal quickly or at all, presents an opportunity for bacterial colonization and difficult-to-treat infections. An increasing prevalence of bacteria with enhanced virulence that are resistant to antibiotics is becoming a major concern for treating clinicians and hospitals. To reduce the risk of infection, many wound dressings are designed to conform well to a wound's unique topography to position an antimicrobial agent to be in contact with threatening bacteria.

In the study, bacteria samples were covered with silver-containing sodium carboxymethyl cellulose wound dressing. The dressing was shown to be effective against emerging pathogens over a seven-day test period, including against re-inoculation. The dressing killed ESBL-producing bacteria and *A. baumannii* quickly and consistently, with an approximate 100,000-fold reduction of all pathogens within 24 hours. The rate of kill for *C. difficile* was rapid, with an approximate 100,000-fold reduction of all bacteria after four hours. The potency of silver-containing sodium carboxymethyl cellulose wound dressing against CA-MRSA was effective with a 100-fold reduction in bacterial population within 48 hours and no bacteria detected by day seven.

About Methicillin Resistant *Staphylococcus aureus* and Community-Associated Methicillin Resistant *Staphylococcus aureus*

Methicillin-resistant *Staphylococcus Aureus* (MRSA) is a type of staph bacteria that is resistant to certain antibiotics called beta-lactams. These antibiotics include methicillin and other more common antibiotics such as oxacillin, penicillin, and amoxicillin. In the community, most MRSA (CA-MRSA) infections are skin infections and they are genetically and phenotypically distinct from the typical MRSA strain. More severe or potentially life-threatening MRSA infections occur most frequently among patients in healthcare settings. While 25% to 30% of people are colonized in the nose with staph, less than 2% are colonized with MRSA.^{2,3}

About *Acinetobacter baumannii*

Acinetobacter is a group of bacteria commonly found in soil and water. While there are many types or “species” of *Acinetobacter* and all can cause human disease, *Acinetobacter baumannii* accounts for about 80% of reported infections. Outbreaks of *Acinetobacter* infections typically occur in intensive care units and healthcare settings housing very ill patients. *Acinetobacter* infections rarely occur outside of healthcare settings.⁴

About *Clostridium difficile*

Clostridium difficile is a bacterium that can colonize in the gut most often following the prolonged use of antibiotics during healthcare treatment. *Clostridium difficile* infections cause diarrhea and more serious intestinal conditions such as colitis.⁵

About Extended-Spectrum beta-Lactamase Bacteria (ESBL)

ESBLs are enzymes that mediate resistance to extended-spectrum (third generation) cephalosporins (e.g., ceftazidime, cefotaxime, and ceftriaxone) and monobactams (e.g., aztreonam) but do not affect cephamycins (e.g., cefoxitin and cefotetan) or carbapenems (e.g., meropenem or imipenem).⁶

About ConvaTec

ConvaTec is a leading developer and marketer of innovative medical technologies that have helped improve the lives of millions of people worldwide. With four key focus areas – Ostomy Care, Wound Therapeutics, Continence and Critical Care, and Infusion Devices – ConvaTec products support healthcare professionals from the hospital to the community health setting. For more information, please visit www.convatec.com.

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¹ Welsby S, Towers V, Joseph A, Booth R, Hogarth A, Bowler P. The *In Vitro* Susceptibility of ‘Superbugs’ to a Silver-Containing Sodium Carboxymethyl Cellulose Wound Dressing. Poster Presented at: 24th Annual Symposium on Advanced Wound Care and Wound Healing Society Meeting; April 15-17, 2011; Dallas, TX.

² MRSA information page. Centers for Disease Control and Prevention Web site. <http://www.cdc.gov/mrsa/definition/index.html>. Accessed April 6, 2011.

³ Gorwitz RJ, Kruszon-Moran D, McAllister S, et al. Changes in the Prevalence of Nasal Colonization with *Staphylococcus aureus* in the United States, 2001-2004. *J of Infect Dis*. 2008;197(9):1226-34.

⁴ Healthcare-associated infections information page. Centers for Disease Control and Prevention Web site. <http://www.cdc.gov/HAI/organisms/acinetobacter.html>. Accessed April 6, 2011.

⁵ Healthcare-associated infections information page. Centers for Disease Control and Prevention Web site. http://www.cdc.gov/HAI/organisms/cdiff/Cdiff_infect.html. Accessed April 6, 2011.

⁶ Healthcare-associated infections information page. Centers for Disease Control and Prevention Web site. http://www.cdc.gov/HAI/settings/lab/lab_esbl.html. Accessed April 6, 2011.