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New Data Demonstrate Advanced Features of Hydrofiber® Technology

In Vitro Studies Presented at EWMA Conference Compare ConvaTec Dressings with Foams and Alginates¹⁻⁴

HELSINKI (20 May 2009) – Researchers with ConvaTec Wound Therapeutics presented a series of in vitro studies demonstrating the advanced features and fluid handling capacity of the company's proprietary dressings containing Hydrofiber® Technology this week at the 19th Conference of the European Wound Management Association.

Developed by ConvaTec, a world-leading provider of innovative medical technologies for community and hospital care, dressings containing Hydrofiber® Technology, including AQUACEL® and Versiva® XC™ dressing, gel on contact with wound fluid to provide a moist wound healing environment, manage exudate, protect the periwound skin⁵ and reduce pain in situ and on removal.^{6,7,8} With the inclusion of ionic silver, AQUACEL® Ag dressing provides on demand antimicrobial activity, responding to increased bacteria with increased silver ion availability.^{9,10*}

In the laboratory studies presented, researchers demonstrated a range of beneficial properties enabled by the unique gelling action of Hydrofiber® Technology. In one test comparing the fluid absorption and retention capabilities of AQUACEL® dressing against three alginates, researchers found the dressing containing Hydrofiber® Technology absorbed more fluid and, when under pressure, retained a higher proportion of fluid than the alginate dressings.¹

A further laboratory test showed how the ability of Hydrofiber® Technology to conform and contour to irregular wound surfaces could reduce wound bioburden, and may make dressing application and removal easier and less painful.¹¹

Comparing AQUACEL® Ag dressing to a nanocrystalline silver coated dressing, the test examined the antimicrobial activity of moistened dressings on plates indented and inoculated with methicillin-resistant *Staphylococcus aureus* (MRSA). After 24 hours, AQUACEL® Ag dressing produced zones of >90% that were clear of bacterial growth whilst the clearance zone for the comparator silver dressing was <10%.²

“As these and other studies have demonstrated, the unique gelling action of Hydrofiber® Technology drives the performance of ConvaTec advanced dressings, absorbing and ‘locking in’ exudate and its harmful components and contouring closely to uneven wound surfaces,” said Michael Lydon, Vice President, Global Research and Development.

In a separate in vitro study, ConvaTec researchers also demonstrated how the composition of exudate can dramatically affect a dressing's moisture vapour transmission rate (MVTR).⁴ Vapour transmission (or evaporation from the dressing surface), along with absorption, retention and sequestration, are the modes of action by which modern dressings handle wound fluid.¹²

*The amount of silver released is controlled by the maximum concentration of silver that can enter solution.



Using serum solutions to simulate normal and viscous “sloughy” wound exudate alongside the standard saline solution test, researchers compared the MVTR of a foam dressing to Versiva[®] XC[™] “gelling foam” dressing. Results showed that the MVTR of the traditional foam dressing decreased by more than 60% when using the serum vs. saline solution over 24 hours, and by a further 40% when using a gelatinous serum vs. simulated normal wound exudate over 72 hours. In contrast, the MVTR for Versiva[®] XC[™] dressing stayed constant, regardless of the solution used.⁴

“These data strongly suggest that vapour transmission rates based on saline testing are an inaccurate measurement for how a dressing might handle exudate in a clinical setting, and re-emphasizes the importance of considering all aspects of a dressing’s fluid handling capacity to achieve an optimal moist healing environment,” added Lydon.

Advanced Wound Dressings Containing Hydrofiber[®] Technology from ConvaTec

Hydrofiber[®] Technology is a pure polymeric sodium carboxymethylcellulose derived from natural cellulose and spun into fibres. Upon contact with wound exudate, fluid is absorbed directly into the fibres, which coalesce to form a cohesive gel.

AQUACEL[®] and AQUACEL[®] Ag Dressings are soft, absorbent non-woven wound dressings based on Hydrofiber[®] Technology. Indicated for a wide range of moderate-to-highly exuding acute and chronic wounds, AQUACEL[®] and AQUACEL[®] Ag Dressings come in a variety of shapes, sizes and formats. AQUACEL[®] Ag Dressings also provide the broad-spectrum antimicrobial properties of ionic silver, which kills a broad range of pathogens in the dressings, including MRSA and vancomycin-resistant enterococci (VRE).⁹

Versiva[®] XC[™] Gelling Foam Dressings consist of three components:

- A waterproof polyurethane layer that protects the wound from external contaminants and manages moisture vapour transmission of exudates absorbed by the dressing.
- An absorptive, non-woven, fibrous layer of Hydrofiber[®] Technology.
- A thin non-adhesive wound contact layer. In the Adhesive formulation a gentle hydrocolloid adhesive border allows for secure retention.

Versiva[®] XC[™] Dressings come in convenient shapes for a variety of wound types, and can be used as primary or secondary dressings, alone or in combination with other wound care products.

ConvaTec Dressings containing Hydrofiber[®] Technology have been studied in numerous randomized clinical trials across a variety of chronic and acute wounds, including pressure ulcers, leg ulcers, diabetic foot ulcers, partial thickness (second degree) burns and surgical incisions.

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 business divisions – Ostomy Care, Wound Therapeutics, Continence and Critical Care and Infusion Devices – ConvaTec products support health care professionals from the hospital to the community health setting. From its headquarters in Skillman, New Jersey, the company oversees more than 8,000 employees in over 90 countries serving consumers and their health care professionals on six continents. For more information, please visit www.convatec.com.



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