

NEWS

TIELLE® Plus with LiquaLock® does more with optimal MVTR

Maintaining a moist wound healing environment is essential to achieve optimal wound healing. Hard-to-heal wounds often produce large volumes of exudate, which must be managed to minimise the risk of maceration and deterioration of the wound. Modern foam dressings have been developed to achieve this, through a combination of high absorbency and moisture vapour permeability. However these dressings also need to maintain a barrier to the external environment and also to prevent strikethrough and leakage, which not only causes staining of clothes, and bedclothes but can also facilitate bacteria accessing the wound and causing infection.

In a recent in vitro study, several foam dressings were evaluated for their ability to allow the transfer of moisture vapour through the dressing whilst preventing strikethrough of fluid. Moisture vapour

transmission rate (MVTR) was determined using standard test methods. Fluid strikethrough was determined using a continuous flow model with simulated wound fluid containing blue dye. The blue dye has been shown to be non-volatile therefore any transfer of dye through the dressing was due to transfer of liquid rather than moisture vapour.

Strikethrough was observed in two dressings tested (Allevyn Adhesive and Allevyn Gentle Border). These dressings also had the highest MVTR measured. No strikethrough was observed in dressings with lower MVTR.

The in vitro data showed that although the breathability of these foam dressings varies, having a high MVTR may not always be optimal as the risk of strikethrough of liquid is significantly increased.

Aickin, S. and Delbono, M. Evaluation of high breathability foam dressings to prevent strikethrough of fluid, Poster, SAWC 2010

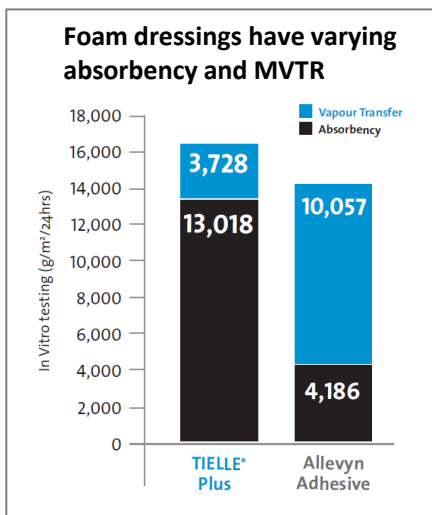


Fig 1: Graph from An evaluation of wound dressings to manage wound exudate and conform to the wound bed, Cullen B. et al, Poster SAWC 2010.

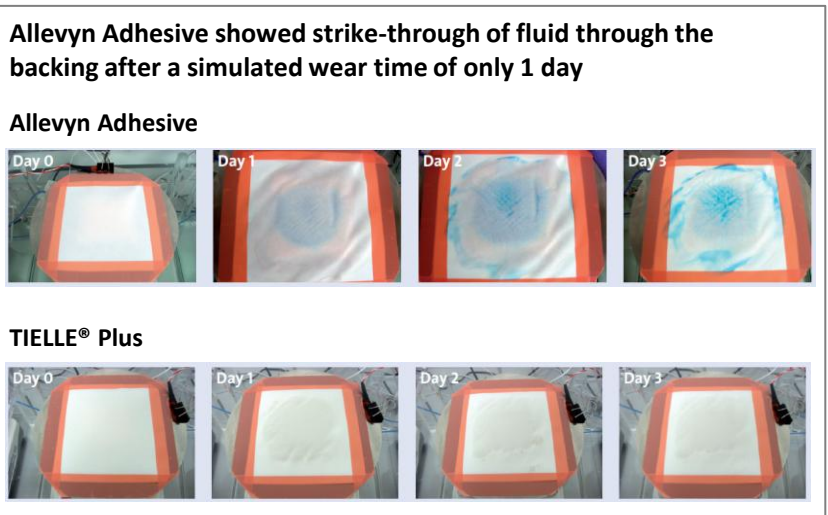


Fig 2: In vitro testing, WRAP wound model simulating dressing in-use Simulated wound fluid - 140mmol NaCl, 3mmol CaCl2 containing a blue dye from *Aickin, S. and Delbono, M. Evaluation of high breathability foam dressings to prevent strikethrough of fluid, Poster, SAWC 2010*

Application of TIELLE® Xtra with LiquaLock® may result in fewer dressing changes

Wound exudate must be managed to avoid maceration and leakage, however the routine in vitro fluid handling capacity measures may not accurately correlate to how a dressing will perform clinically. A simulated vertical leg model can help assess how dressings manage wound fluid in a clinically-relevant situation.

A vertical leg model was developed whereby simulated wound fluid containing a blue dye was continuously fed onto moist wound healing dressings (5.5–8 ml/24 hrs), simulating a heavily exuding wound. Dressings were monitored daily for fluid absorption, retention and leakage.

TIELLE® Xtra had the best overall performance of all dressings tested*, including the longest time until breach of test fluid from the dressing, minimal leakage onto test cylinder and better distribution of fluid. Fluid was also distributed evenly throughout the TIELLE® Xtra dressing and retained, due to the LiquaLock® technology, which may help reduce the risk of wound maceration.

The results suggest that application of TIELLE® Xtra may result in fewer dressing changes than other moist wound healing dressings and may reduce the risk of wound maceration

Delbono, M. et al, The Development of a Leg Simulation Model to Assess the Fluid Handling Capabilities of Dressings, poster WIC 2011

* Clinical results may vary from simulation

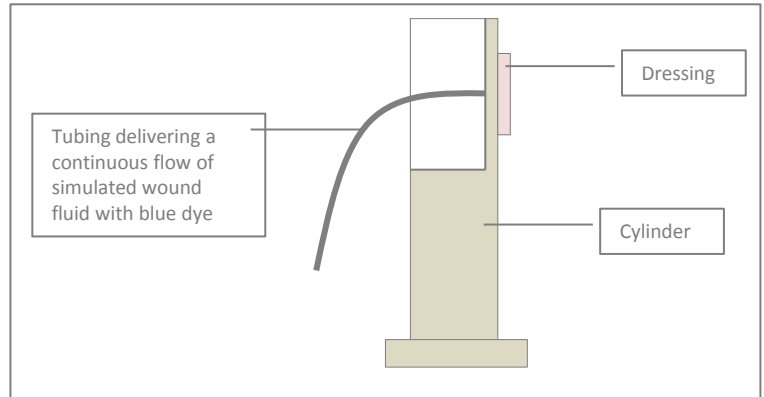


Fig 1: Leg model



Fig 2: Dressings at 24 Hours (rear view)

DRESSING	TIME TO DRESSING EDGE	TIME TO FAILURE (leakage)
TIELLE® Xtra	4-6 days	Range 5-7 days
Allevyn Non-adhesive	1-2 days	Inconsistent results Range 2-6 days
Mepilex	Less than 1 day	Range 3-4 days

Fig 3: Results summary

Let's Talk...

To learn more about the benefits of the TIELLE® Family, contact your Systagenix representative or visit www.systagenix.com