Smith+Nephew

IV3000◊ Moisture Responsive Intravenous Catheter Dressing had the greatest moisture vapour transmission rate (MVTR) and high conformability in a UK NHS clinical review of intravenous (IV) film dressings

✚ Plus points

High conformability
with IV3000 Dressing
(mean inflation pressure 130.5mmHg)
versus most other dressings tested[1]

6.5 times greater MVTR with IV3000 Dressing than the mean for all dressings assessed
(19,000 vs 2,928g/m²/24hr)[1]

>4.5 times greater MVTR
with IV3000 Dressing
versus the next best dressing
(Tegaderm™ I.V. Advanced;
19,000 vs 4,102g/m²/24hr)[1]

Overview

- Intravenous vapour permeable film dressings (IV film dressings) are used to protect and secure peripheral cannulae[1] and central venous access devices[2]
- IV film dressings should keep the insertion site dry (assessed using MVTR), as well as be conformable and waterproof[1,2]
- Accumulation of moisture at the insertion site can lead to maceration and may increase the risk of infection[3–6]
- MVTR is an important consideration when using IV film dressings although clinicians are often unaware how this compares for different dressings[1,2]
- Independent testing of IV film dressings available to the UK NHS framework was performed to compare results for these three features (European Standards were used for MVTR and waterproofing tests)[1,2]

Results

MVTR

- IV3000 Dressing had the greatest MVTR of all the 13 dressings (Figure 1)[1]
  - 6.5 times greater than the mean MVTR for all dressings (19,000 vs 2,928g/m²/24hr)[1]
  - More than 4.5 times greater than the next best dressing (Tegaderm™ I.V. Advanced; 4,102g/m²/24hr)[1]

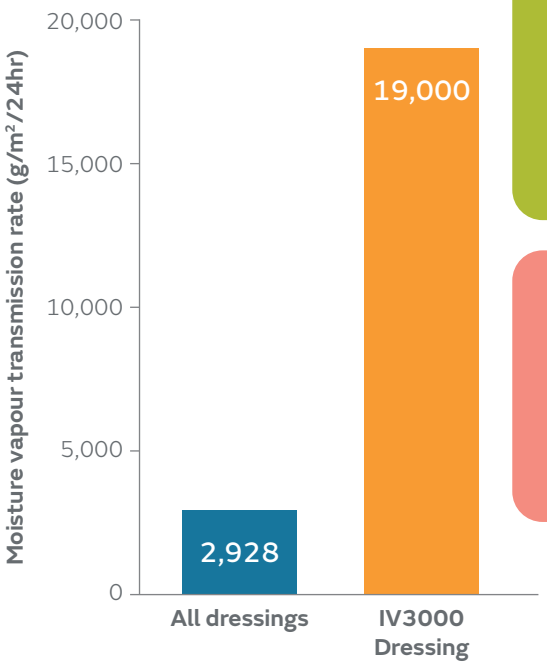

Figure 1. Mean MVTR of all other dressings evaluated versus IV3000 Dressing (range, 790 to 19,000g/m²/24hr)[1]

6.5 times greater MVTR with IV3000 Dressing
versus the mean of all dressings assessed
(19,000 vs 2,928g/m²/24hr)

>4.5 times greater MVTR with IV3000 Dressing
versus the next best dressing assessed
(19,000 vs 4,102g/m²/24hr)

Results *(continued)*

Conformability and waterproofing

- IV3000◊ Dressing had high conformability (low mean inflation pressure) compared with most of the other dressings (Figure 2)
  - Greater conformability than the mean of all dressings (13.5% relative difference in mean inflation pressure; 130.5 vs 150.9mmHg)[1]
  - Greater conformability than 9 of the 12 other dressings[1]
- All dressings evaluated were shown to be waterproof[1]

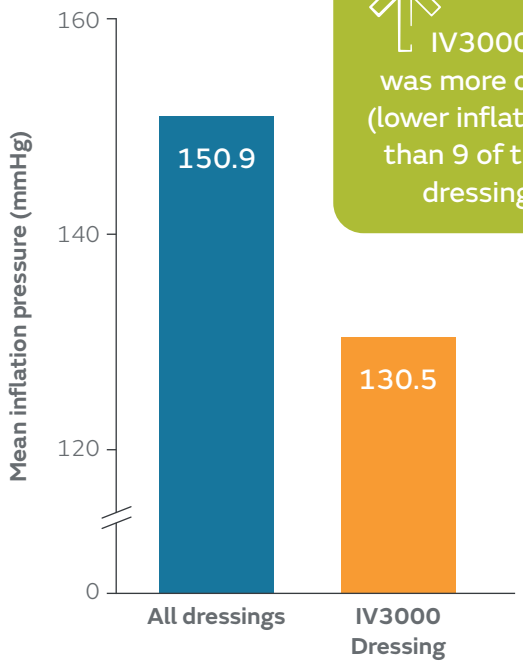

Figure 2. Mean conformability (inflation pressure) of IV3000 and all dressings evaluated (range, 58.1 to 202.9mmHg)[1]

Other dressings:[1,2]

365-36590046 (365 Healthcare, UK)
Clearfilm™ IV (Richardson Healthcare Ltd, UK)
Clearfilm™ IV Pro (Richardson Healthcare Ltd, UK)
Curafix IV (L & R Medical; UK)
Dermafilm (Vygon Ltd, UK)
Hydrofil™ IV (PAUL HARTMANN Ltd, UK)
Leukomed™ IV (BSN Medical Ltd, UK)
Mepore™ IV (Mölnlycke Health Care Ltd, UK)
Premier Film™ IV (Premier Healthcare and Hygiene Ltd, UK)
Tegaderm™ I.V. Advanced (3M UK PLC, UK)
Tegaderm™ I.V. (3M UK PLC, UK)
Tegaderm™ Diamond (3M UK PLC, UK)

Summary

- In independent testing commissioned by the UK NHS, IV3000 Dressing had the **greatest MVTR** of the products evaluated:
  - **More than 4.5 times greater** than the next best dressing[1]
  - **6.5 times greater** than the mean value for all dressings[1]
- Furthermore, IV3000 Dressing had **greater conformability** (lower inflation pressure) than most of the dressings evaluated[1]
- A key feature of IV film dressings is that they act as a barrier to infection and keep the insertion site dry to help reduce the risk of maceration[3,4]
  - Products with high MVTR are more likely to keep insertion sites dry than those with low MVTR[5,6]

For detailed product information, including indications for use, contraindications, precautions and warnings, please consult the product's applicable Instructions for Use (IFU) prior to use.

References
1. NHS Business Services Authority. Clinical review. Intravenous vapour permeable film dressings (IV films) – Part one. Securing peripheral cannulae in adults. March 2018. Available at: https://wwwmedia.supplychain.nhs.uk/media/Clinical-Review-for-IV-Film-Dressings-March-2018.pdf. Accessed October 2020. **2.** NHS Clinical Evaluation Team. Clinical review. IV film dressings – Part 2. Securing central venous access devices (CVAD). October 2018. Available at: https://wwwmedia.supplychain.nhs.uk/media/Clinical_Review_IV_Film_Dressings_Part-2_Report_October_2018.pdf. Accessed October 2020. **3.** Maki DG, Ringer M. Evaluation of dressing regimens for prevention of infection with peripheral intravenous catheters. Gauze, a transparent polyurethane dressing, and an iodophor-transparent dressing. *JAMA*. 1987;258(17):2396–2403. **4.** Treston-Aurand J, Olmsted RN, Allen-Bridson K, Craig CP. Impact of dressing materials on central venous catheter infection rates. *J Intraven Nurs*. 1997;20(4):201–206. **5.** Sussman G. Technology update: Understanding film dressings. *Wounds International*. 2010;4:23–25. **6.** Cutting KF. Avoidance and management of peri-wound maceration of the skin. *Nurs Times*. 2002;18(1):35–36.