

+ Evidence in focus

Clinical case series:

Helping to prevent infection with intravenous (IV) therapy using IV3000[◇] Moisture Responsive Intravenous Catheter Dressing

Smith+Nephew

IV3000[◇]

Moisture Responsive Intravenous Catheter Dressing

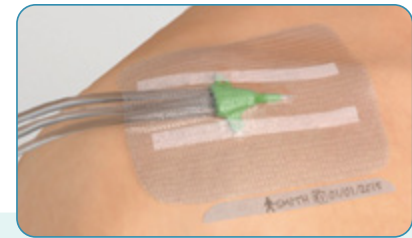




Contents



IV3000 Dressing Ported



IV3000 Dressing Non-Ported

Types of vascular access devices¹

- **Peripheral venous catheters (PVCs)**
For short-term use, usually in the hand or forearm
- **Midline catheters**
For mid-term use (up to 4 weeks), inserted in the antecubital fossae with the tip in the axillary vein of the upper arm
- **Central venous catheters (CVCs; non tunnelled)**
Temporary access in emergency and critical care situations via the subclavian, jugular or femoral veins; require close monitoring and have the highest risk of catheter-related bloodstream infections (CRBSIs)
- **Tunnelled CVCs**
Can be indwelling for years; inserted into a jugular or subclavian vein
- **Peripherally inserted central catheters (PICCs)**
Long-term use, particularly in oncology settings; inserted into a peripheral vein until the tip lies within a central vein
- **Implanted ports**
Long-term intermittent therapy; inserted into a surgically created subcutaneous pocket and the port is connected to a central vein via a catheter



Major risks with all vascular access devices are:²

- Increased risk of CRBSIs
- Dislodgement
- Accidental device loss
- Phlebitis
- Leakage of infusate
- Extravasation

Reducing the risks of venous access devices using IV dressings¹

IV dressings should help to:^{3,4}

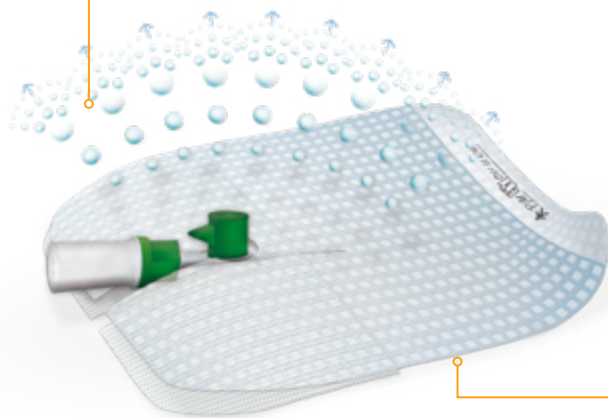
- Prevent device dislodgement
- Facilitate assessment of the device and surrounding skin
- Protect the device entry site and thereby reduce the risk of infection

IV3000[◇] Dressing with REACTIC[◇] Film* incorporates the features of an ideal IV dressing⁴

- Specifically designed for IV sites,⁵ the dressing film has a low-allergy adhesive with a unique grid pattern,⁶ is transparent,^{4,7} and is easy to remove⁷⁻⁹
- IV3000 Dressing helps to keep the skin dry and minimise the risk of skin maceration due to its high moisture vapour transmission rate (MVTR) compared with other film dressings^{5,10,11}
- IV3000 Dressing helps to prevent moisture build-up and provide a bacterial barrier,¹²⁻¹⁵ which helps to minimise the risk of infection and external contamination

High MVTR:^{5,10,11}

Helps keep skin dry and reduces risk of skin maceration



Grid pattern adhesive:
Low allergy⁶

Case studies: real-world use of **IV3000[◇]** Dressing



To learn more about the use of IV3000 Dressing with various vascular access devices in both hospital and ambulatory care settings, please select one of the following eight studies:⁴



Case 1:

Non-tunnelled CVC following surgery⁴



Patient profile

- 64-year-old female undergoing elective surgery to remove a cancerous pelvic mass
- Preoperatively, a quadruple lumen non-tunnelled CVC was inserted in the patient's internal jugular vein for postoperative management (in place for 7 days), which was secured with a ported IV3000 Dressing



IV3000 Dressing in situ over a dual-lumen non-tunnelled CVC



Results with use of IV3000[®] Dressing

- Easy to apply and provided good securement while the CVC was in place
- Transparency of the dressing meant that the insertion site and skin could be easily assessed
- No signs of moisture build up, infection, erythema, tenderness or oozing at the entry site
- The patient did not find the CVC troublesome and found the dressing comfortable
- Remained intact throughout the postoperative period and was considered to be cost effective

Case 2: CVC in an outpatient haematology unit⁴



Patient profile

- 25-year-old female with acute lymphocytic leukaemia preparing for bone marrow transplant required a dual-lumen cuffed tunnelled CVC (for chemotherapy and other IV support)
 - The patient was prone to infection
- At time of evaluation, the CVC, secured with an IV3000 Dressing (changed weekly), had been in place for 68 days
- Catheter site was examined daily over a 7-day evaluation period when the patient attended the outpatient haematology unit for treatment



IV3000 Dressing in situ over a dual-lumen tunnelled CVC



Results with use of IV3000[®] Dressing

- Successful application as part of a care and maintenance strategy to help prevent infection in a vulnerable patient
- Over 6 days, there was slight redness (~0.5cm around exit site), which the patient reported had occurred previously; however, the site was not painful or uncomfortable (swabs and blood samples did not indicate bacterial growth)
- The patient found the dressing comfortable and showered daily without a protective cover over the dressing, which only started to peel slightly at the edges on day 7
 - Peeling did not affect integrity over the CVC site

Case 3: PICC in an ICU setting⁴



Patient profile

- 70-year-old male who developed sepsis after bowel cancer surgery and required a PICC for parenteral nutrition and IV medication (up to 14 days)
- The patient was febrile with clammy skin when the PICC was inserted, which was left in place for 6 weeks secured with a ported IV3000 Dressing (changed weekly)



Patient skin before first
IV3000 Dressing was applied



Patient skin after
dressing removal



Patient skin intact despite
2-hourly patient repositioning



Results with use of IV3000[◇] Dressing

- The skin beneath the ported dressing was dry and intact at each dressing change with no signs of irritation; there was no need to switch to chlorhexidine gluconate-containing IV dressings to help prevent infection
- IV3000 Dressing secured the PICC line and its stabilisation device, reducing the risk of migration and contamination; the dressing design helped to secure the PICC line
- It was considered to be cost effective as it remained intact until the scheduled dressing changes
- IV3000 Dressing was easy to remove using the clear guidance on the order of removal; no adhesive was left on the skin and there was no skin irritation
- It remained intact despite the patient being repositioned every 2 hours, who did not complain of dressing-related discomfort

Case 4: PICC in an acute oncology setting⁴



Patient profile

- 77-year-old female receiving chemotherapy after breast cancer surgery
- Developed pyrexia due to neutropenic sepsis after 10 days into the third cycle of chemotherapy, which was administered via peripheral cannula
- Cannulation for IV antibiotics and fluids was difficult; therefore, a single-lumen, 4 French, open-ended PICC was required
- The insertion site was covered with sterile gauze and secured with a ported IV3000 Dressing
- Dressings were changed after 24 hours, the insertion site was cleansed with chlorhexidine gluconate and allowed to dry; a new IV3000 Dressing was applied (without gauze) and IV antibiotics were continued for 5 days



Results with use of IV3000[®] Dressing

- Transparency allowed easy observation of the PICC site; there were no signs of exudate or phlebitis
- The waterproof barrier protected the PICC site during showers and maintained its integrity; the skin was dry at each dressing change
- The patient found the PICC and IV3000 Dressing comfortable
- There was no redness or irritation upon removal of the dressing at patient discharge



PICC immediately after insertion into the upper arm with IV3000 Dressing in situ



Patient arm after removal of PICC and IV3000 Dressing

Case 5: PICC in a community setting⁴



Patient profile

- 65-year-old male with colorectal cancer was referred to a community IV therapy service to have a PICC inserted for chemotherapy
- The ported IV3000 Dressing was changed weekly and the entry site was inspected for phlebitis (used for more than 2 months in total)



Skin integrity before application of IV3000 Dressing



Skin integrity upon removal of IV3000 Dressing after 2 weeks



Results with use of IV3000[®] Dressing

- IV3000 Dressing was comfortable for the patient when assessed after 7 days
- It was easy to apply and transparency facilitated inspection of the PICC site
 - It protected the PICC entry site, reducing the risk of contamination and accidental removal, and there was no build up of moisture under the dressing
- It did not restrict the patient's arm movement, was easy to remove and did not mark the skin or affect skin integrity
- The patient could easily shower using a waterproof protector over the dressing and PICC

Case 6: Midline in a surgical ward⁴



Patient profile

- 41-year-old female with a complex bowel history who was admitted to hospital with abdominal pain and vomiting due to a bowel stricture; the patient could not tolerate oral medication
- An IV midline was inserted for administration of fluids, pain relief and anti-emetics



Secure application of IV3000 Dressing



Removal of IV3000 Dressing did not impair skin integrity



Mobility did not affect conformability of IV3000 Dressing



Results with use of IV3000[◇] Dressing

- Skin was sweaty and clammy when the midline was inserted; bleeding at the entry site stopped after it was covered with gauze and a ported IV3000 Dressing for 24 hours
- IV3000 Dressing was then used without gauze for 14 days (replaced every 7 days); its transparency facilitated daily inspection of the insertion site for phlebitis
- The midline was kept secure and free from contamination; the ported top ensured the midline was secured well, reducing the risk of migration and contamination
- IV3000 Dressing remained intact over each 7-day period and was not affected by patient movement
- At dressing change, the skin was dry and skin integrity was similar to elsewhere on the arm
- The dressing was easy to remove, left no residue and there were no signs of skin irritation; the patient commented that IV3000 Dressing felt secure and comfortable compared with other IV dressings she had received and did not pull on her skin

Case 7:

Peripheral cannula in a community setting⁴



Patient profile

- 48-year-old female who required IV antibiotics for an infection at the mastectomy site after breast cancer surgery
- Community nurses administered the antibiotics at the patient's home, once daily, via a peripheral cannula secured with a ported IV3000 Dressing (4 days in total)



Application of IV3000 Dressing with an adhesive strip to secure the cannula



Skin integrity was not impaired upon removal of IV3000 Dressing



Results with use of IV3000[◇] Dressing

- IV3000 Dressing easily covered the cannula and adhered well to the patient's skin, reducing the risk of contamination
- Despite daily washing, the dressing remained intact and the skin was free of infection
- Transparency of the dressing permitted easy daily inspection for infection, allergic reaction or problems with the line (eg, misplacement or migration)
- Nurses found the dressing easy to apply and remove assisted by its clear markings
- The patient reported that IV3000 Dressing did not limit daily activities
- IV3000 Dressing was removed at the end of treatment using a stretch technique causing minimal distress to the patient and the skin

Case 8:

Peripheral cannula in an acute setting⁴



Patient profile

- 76-year-old female with an ovarian mass requiring chemotherapy administered via peripheral cannula; the patient had vulnerable skin integrity
- Insertion site was cleansed with chlorhexidine gluconate in alcohol and allowed to dry; cannulation was achieved at the second attempt and secured with a ported IV3000 Dressing and two sterile adhesive fixing strips



Skin integrity before application of IV3000 Dressing



Skin integrity after using IV3000 Dressing for 25 hours



Results with use of IV3000[®] Dressing

- Transparency allowed easy observation of the site without compromising the dressing integrity; visual infusion phlebitis score remained at zero
- IV3000 Dressing acted as a waterproof barrier during washing; the dressing maintained its integrity and protected the cannula
- The patient did not report discomfort upon application or removal of the dressing after 25 hours
 - There was no redness or irritation of the skin upon removal of the dressing and the patient's skin integrity was not compromised

Summary

Use of IV3000[◇] Dressing was shown to:⁴



Facilitate inspection
of the insertion site
(transparency)



Maintain its integrity
with movement
and showering



Be easy to apply
and remove



Not impair skin integrity,
irritate the skin
or leave a residue



Keep skin dry,
helping to reduce
the risk of infection



Remain intact
for the duration of use



Be comfortable
for patients

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