Achieving effective patient outcomes with PolyMem® Silicone Border

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Wound management continues to present complex challenges for clinicians, and numerous factors are involved in achieving appropriate and effective wound care (Gibson and Stephens, 2013). Several national frameworks have been introduced to improve patient outcomes, efficiencies and cost effectiveness, while addressing suboptimal wound care, including the National Wound Care Strategy Programme (NWCSP) (2020), Getting it Right First Time (NHS Improvement, 2017) and Commissioning for Quality and Innovation (NHS England, 2021).

Every year, new products are introduced into the dressings market. As far back as 2017/2018, the annual cost to the NHS for managing wounds was £8.3 billion, of which £2.7 billion and £5.6 billon were the costs associated with managing healed and unhealed wounds, respectively (Guest et al, 2020). Therefore, cost effectiveness and measurable clinical outcomes have become a strategic focus, although cost is not the only issue that should be considered when choosing a dressing; patient acceptability of the products is equally important. Wound treatment modalities should be selected based not only on their ability to facilitate healing but also on their impact on patient quality of life (QoL) (Kapp et al, 2018).

Guest et al (2020) identified that, between 2012/2013 and 2017/2018, the number of wounds increased by 71%. Consequently, there was a substantial increase in resource use over this period, and patient management costs increased by 48% in real terms. Therefore, clinical outcomes for both patients and the NHS need to focus on accurate assessments, preventing infection and improving healing rates. They also found that thorough assessments are not being performed by nurses/clinicians despite the fact that they recognise wound burden as a challenge (Guest et al, 2020). The optimum wound bed—a warm, moist, non-toxic environment—needs to be maintained to promote the natural wound-healing process (Wounds UK, 2013). Okur et al (2020) reported that, if these optimum conditions are maintained, the results are faster healing, less scar formation, fewer dressing changes, less pain and reduced infection rates.

A dressing product that can perform a number of functions across a different a range of wound types can help simplify dressing selection considerably (Denyer et al, 2015a). PolyMem® is an all-in-one multifunctional polymeric membrane dressing now available with a silicone border that provides an ideal solution for patients with fragile, sensitive skin, ensuring an optimum wound healing environment and less pain (Beitz et al, 2004; Denyer et al, 2015a).

Features of PolyMem dressings

PolyMem dressings are hydrophilic polyurethane matrix dressings with a mild, non-toxic wound cleansing agent (F-68 surfactant). Glycerine (also known as glycerol) is a moisturising agent which helps minimise or eliminate dressing adherence to the wound bed. Both the surfactant and glycerine are simultaneously activated by exudate, working synergistically to debride necrotic tissue and support autolytic debridement. Glycerine also soothes traumatised skin and acts as an energy source for mammalian cells. PolyMem dressing includes a superabsorbent (starch co-polymer) and

ABSTRACT

Clinicians are under increasing pressure to provide high-quality patient outcomes at a reduced cost. Increasingly, community staff must acquire knowledge on advanced wound care products to cope with the growing caseload demands. This article describes the use of PolyMem® dressings to reduce pain, inflammation, oedema and bruising and their ability to debride and absorb exudate while providing an optimum healing environment. The PolyMem range includes multifunctional dressings for various painful chronic wounds. This article also presents five case studies with particularly good patient outcomes where PolyMem dressings were the primary dressing. All five patients were holistically assessed to enable consistent evidence-based treatment decisions. In four cases, the new PolyMem Silicone Border dressing was used. The patients found the PolyMem Silicone Border dressing comfortable and gentle on removal even when the skin was extremely fragile. The right dressing used at the right time on the right patient can improve patient outcomes.

KEY WORDS

◆ Wound dressing ◆ Fragile skin ◆ Skin tear ◆ Pressure ulcer
◆ Holistic assessment ◆ Painful wounds

semi-permeable film membrane (not included in the cavity product). The semi-permeable film membrane allows excess exudate to evaporate, regulating moisture and temperature at the wound surface and thereby optimising wound healing conditions. Additionally, it provides a barrier to moisture and contamination (Cutting et al, 2015; Denyer et al, 2015a).

The key features of PolyMem are its ability to:

- Reduce inflammation and pain (Kahn, 2000; Beitz et al, 2004)
- Reduce oedema, bruising and spread of inflammation into surrounding undamaged tissue (Tamir, 2009; Agathangelou, 2012; Haik et al, 2012; Rahman and Shokri, 2013)
- Reduce infection rates (Tamir, 2009; Agathangelou, 2012; Haik et al, 2012; Rahman and Shokri, 2013)
- Absorb exudate and provide a moist healing environment (Benskin, 2016)
- Reduce trauma on dressing change and reduce the duration of dressing change (Denyer et al, 2015a)
- Reduce time to epithelialisation (Rahman and Shokri, 2013).

What types of wounds is PolyMem suitable for?

The versatility of the PolyMem range enables treatment of a wide variety of full- and partial-thickness wounds. It can be used to manage acute wounds, abrasions, bruising, first- and second-degree burns, skin tears, surgical wounds, trauma wounds, chronic wounds, diabetic foot ulcers, fungating wounds, leg ulcers and pressure ulcers categories 1–4. It can also be used for complex and painful wounds, such as radiotherapy-induced skin damage, donor and graft sites, exposed tendons and dermatological disorders (e.g. epidermolysis bullosa) (Denyer et al, 2015b) (*Figure 1*). Further, PolyMem Silver can be used for infected and malodourous wounds.

How PolyMem works

Wound cleansing

Wound exudate allows natural growth factors and nutrients to concentrate in the wound bed, thereby promoting healing (Beitz et al, 2004; Benskin, 2016). Nurses often use saline to clean the wound bed (Brown, 2018). In the authors' clinical practice, cleansing using Prontosan is part of the standardised care pathway prior to dressing of most wounds (as indicated in the case studies in this article) (National Institute for Health and Care Excellence (NICE), 2020). The non-ionic, tissue-friendly wound cleanser components of PolyMem (glycerol and a mild cleansing agent) are activated by moisture. The surfactant is continuously released into the wound, helping to loosen the bonds between wound debris and healthy tissue, supporting effective autolytic debridement and minimising the need for painful debridement or additional rinsing at dressing changes, and thereby eliminating the need for routine manual cleansing (Beitz et al, 2004).

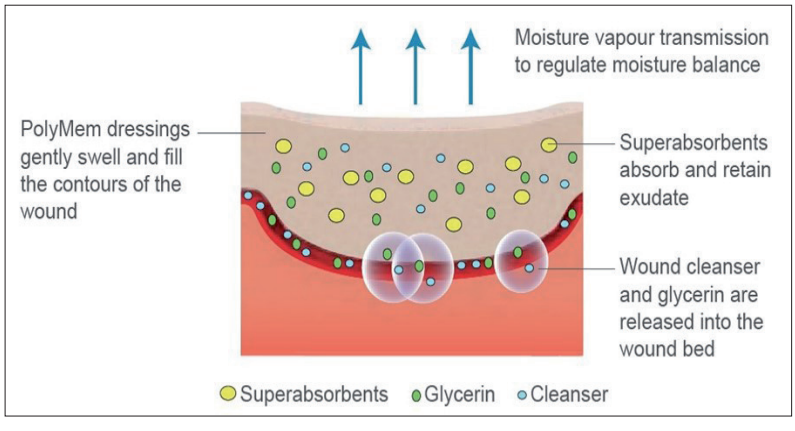


Figure 1. Mode of action of PolyMem range of dressings

Moistening

As mentioned above, the glycerol in PolyMem helps create a moist wound environment that supports healing and prevents the dressing from adhering to the wound bed (Denyer et al, 2015), thus reducing pain and trauma to the wound bed and periwound skin on dressing change. PolyMem concentrates healing substances at the site of the wounded tissues, stimulating healing in the wound bed (Kahn, 2000; Beitz et al, 2004).

Absorption and inflammation modulation

As the PolyMem dressing absorbs exudate, it expands to fill the wound space and conforms to the wound bed surface. The superabsorbent particles selectively wick the watery portion of the serum, concentrating growth factors and nutrients in the wound bed, while maintaining a moist environment. Non-viable tissue is drawn into the dressing (Benskin, 2016). The removal of excess fluid decreases the impact of oedema, reducing potential damage associated with sustained cell deformation and prolonged obstruction of the vascular and lymphatic systems. This action reduces pain and maceration (Dudfield and Upton, 2019). It also alters the actions of certain nerve endings (nociceptors) (Beitz et al, 2004) to decrease bruising, swelling and secondary injury.

Filling

The starch co-polymers in PolyMem absorb and bind excess exudate within the dressing, helping to balance moisture levels and reduce the risk of maceration (Denyer et al, 2015a). The dressing conforms to a wide range of wound types, including cavities, tunnelling, undermining or partial-thickness wounds. It also cushions the wound to minimise further trauma.

Pain

Acute pain is usually a nociceptive reaction caused by stimulation of peripheral nerve fibres, which send a 'pain message' to the brain when trauma occurs (Swezey, 2013). Acute pain acts as a warning of injury or harm and the need to limit tissue damage (Edwards, 2013). Even a superficial wound may be very painful because of the exposure of nerve endings. PolyMem achieves significant pain relief by inhibiting the actions of some of the pain-sensing nerve fibres (nociceptors), which carry pain messages after tissue-damaging injuries and inflammation. The dressing's cleansing and moisturising properties mean it is non-adherent and can

reduce the need for cleansing the wound bed during dressing changes, which is known to contribute to pain. PolyMem is proven to provide an analgesic effect (Kahn, 2000; Beitz et al, 2004).

Debridement

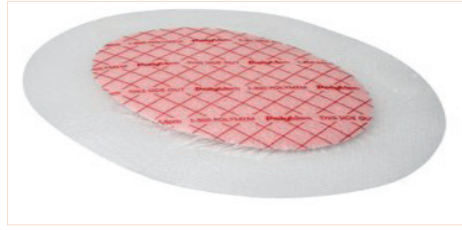
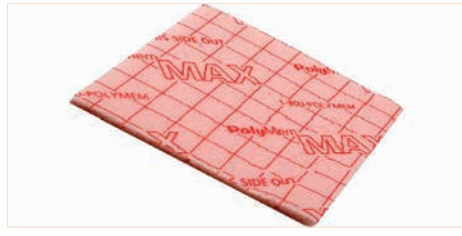
PolyMem supports effective autolytic debridement in a short time frame. The surfactant reduces tension in necrotic tissue, while the combination of the components modulates and controls the influx of critical inflammatory cells. PolyMem is activated by wound fluid. For dry wounds, it is essential to activate the dressing with saline to assist with debridement. *Table 1* describes the PolyMem range and its uses.

Holistic assessment

In light of the national campaign Stop the Pressure, SSKIN bundles were introduced at the authors' clinical practice and used primarily for pressure ulcer prevention. The authors have found in clinical practice that using the SSKIN (NHS, 2012) holistic assessment in wound care yields good patient outcomes. Each factor in the SSKIN framework—skin, surface, keep moving, incontinence and nutrition—is essential to promote healing of complex wounds. Holistic patient assessment identifies factors that may influence or interfere with healing, including comorbidities, medication, QoL and social factors, wound aetiology and history of previous wounds. This holistic assessment should be documented and a care pathway agreed with the patient to meet their needs and promote optimal care delivery to ensure wound healing (Guest et al, 2017). Where possible, consistent care delivered by the same team of nurses will promote effective wound healing (European Wound Management Association (EWMA), 2014).

The case studies provided below exemplify the use of the PolyMem range of dressings to promote wound healing and achieve outcomes that both the patients and clinicians found satisfactory. For all cases, holistic patient assessment was conducted on the basis of the T.I.M.E. framework (Halim et al, 2012) and SSKIN bundle.

Table 1. The PolyMem range

Product	Usage
New PolyMem Silicone Border 	• For dry to moderately exuding wounds • Suitable for fragile, sensitive skin conditions
PolyMem 	• For dry to moderately exuding partial- and full-thickness painful wounds • Safe to use over tendons, vasculature and bones
PolyMem Max 	• For high levels of exudate and longer wear time • This product is 60% thicker than the original PolyMem dressing
Other products within the range include roll, cavity, WIC, finger/toe, silver, adhesive and non-adhesive dressings	

Case studies

Case 1

A 73-year-old woman with a history of bacterial endocarditis, which a life-threatening inflammation of the inner lining of the heart's chambers and valves (endocardium), had undergone a lumpectomy for breast cancer in September 2019, followed by 4 weeks of radiotherapy. On 5 December 2019, she fell at home and sustained a deep traumatic wound to the right tibia, which extended down to the bone. This was initially treated with Algivon Plus and Eclypse dressings, which were changed every 4 days for 3 months. On 3 February 2020, she was commenced on PolyMem Max.

An assessment was conducted on 3 February 2020 (*Figure 2a*). The right lower leg was dry and pink and had good foot pulses for the dorsalis pedis, posterior tibia and peroneal, as determined by palpation. The foot was warm to the touch. There was good capillary refill in the toes (2 sec). There was no swelling of the lower leg. The patient's pain score on the McCaffrey scale was 6 out of 10, with 10 indicating extreme pain. The patient refused compression therapy.

T.I.M.E. assessment

- T=4 cm x 4 cm x 0.1 cm; 35% epithelial tissue and 65% granulation tissue
- I=no indication of wound infection
- M=low exudate
- E=the edges of the wound were reddened, indicating that the wound was healing.

SSKIN bundle

- Surface: No pressure-relieving equipment was needed
- Keep moving: The patient was fully mobile, but she was encouraged to elevate her legs ideally higher than her heart when sitting, to aid venous return
- Incontinence: Fully continent
- Nutrition: The patient's Malnutrition Universal Screening Tool (MUST) score was 0, indicating good nutritional status; however, to improve her ability to heal, a high-protein diet was recommended along with vitamin C supplementation (Acton, 2013).

Figure 2a. Case 1 at initial assessment. The patient has a right tibial trauma wound

PolyMem Max polymeric membrane dressing was chosen for this patient, to maintain the moisture balance and promote and protect the granulation and epithelial tissue. The wound was tender (pain score=6 on the McCaffery scale), and the dressing provided a cushioning effect. Although exudate levels were low, they were expected to increase, as a dramatic increase in wound fluid may be observed during the first few days of PolyMem dressing application due to modulation of the inflammatory signalling cascade. This is not uncommon and indicates that the dressing is working. Dressing changes were performed every 4 days.

The care pathway was as follows. A Prontosan soak was applied for 5 minutes as is the normal protocol at the authors' clinic for wound cleansing. Next, PolyMem Max was applied to the wound bed, and it was secured with a film dressing on the edges of the wound. Balneum cream was then applied to the lower leg, and a Comi compression liner was applied to give 10 mmHg compression, with a pop sock over the top, as this was the maximum compression the patient could tolerate.

At the interim assessment on 17 February 2020, the lower leg wound had reduced in size and made good progress (*Figure 2b*). As the wound bed was now dry, the PolyMem Max dressing required activation with saline.

T.I.M.E. assessment

- T=1.5 cm x 1.5 cm x 0.1 cm; 20% granulation tissue, 80% epithelial tissue
- I=no indication of wound infection
- M=the level of exudate was moderate on removal of the dressing
- E=the edges of the wound were reddened.

On the final assessment on 6 March 2020, the wound had healed, taking a little over 1 month (*Figure 2c*). Using PolyMem Max for 32 days supported healing.

The patient found the dressing regime very comfortable. It was a very positive experience, as she did not require a skin graft as was recommended by the plastic surgeon, and she was very happy with the cosmetic outcomes.

The holistic care pathway assisted healing in this case by providing an optimum wound healing environment. PolyMem Max addressed the moisture balance and assisted the healing of this complex wound.

Figure 2b. Case 1 at interim assessment. The wound size and tissue composition have improved

Figure 2c. Case 1 at final assessment. The wound has healed

Case 2

A 95-year-old woman sustained a traumatic skin tear to her lower left leg after she tripped and fell in the street on 5 December 2020. The Skin Tear Audit Research (STAR) classification of the wound was 2b (Van Tiggelen et al, 2020). She had a history of a pacemaker and was on anticoagulation medication (rivaroxaban, a blood thinner). The patient was fit, quite active and normally swam.

On 14 June 2021, an initial assessment was performed (*Figure 3a*). The skin on the left lower leg appeared healthy and well hydrated; it was pink in colour, indicating good blood perfusion. Foot pulses for the dorsalis pedis, posterior tibia and peroneal were good, as determined by palpation. The foot was warm to the touch. There was good capillary fill in the toes (2 sec). There was no swelling to the left lower leg. Her pain score on the McCaffrey scale was 9. The wound was initially treated with Advazorb border and steristrips, and the dressing was changed every 4 days. On 5 July 2021, she was commenced on PolyMem Max, as high levels of exudate were expected. Compression therapy was considered, but the patient had very fragile skin and so would not have been able to tolerate it.

T.I.M.E. assessment

- T=the skin tear was STAR classification 2b; it was 3 cm x 2 cm, with 50% dark purple, necrotic tissue and 50% granulation tissue
- I=no indication of wound infection
- M=low exudate

- E=the edges of the wound were poorly perfused, indicating poor circulation.

SSKIN bundle

- Surface: The patient was fully mobile, but she was encouraged to rest with her legs elevated to aid venous return and improve healing. It was essential for her to elevate her lower legs as high as possible, ideally higher than her heart when sitting
- Keep moving: The patient repositioned herself every 2 hours during the day for comfort and pressure relief. Her QoL was affected, as her joints had become stiff because she was not able to go swimming daily while she had a wound. However, she was still able to mobilise around her flat
- Incontinence: Fully continent
- Nutrition: The patient's MUST score was 0, indicating that her diet was good. She was advised on the importance of a good, high-protein diet with yoghurts for breakfast each morning, as well as vitamin C 500 mg twice daily to assist with wound healing.

Figure 3a. Case 2 at initial assessment. A skin tear with STAR classification 2b

PolyMem Max dressing was selected for this patient, to maintain the moisture balance and promote wound healing of the skin tear. The dressing was changed every 7 days.

The following care pathway was commenced on 5 July 2021. On dressing removal, a gauze swab soaked in Prontosan was applied to the wound for 5 minutes. The wound was then cleansed aseptically with Prontosan. PolyMem Max dressing was applied and secured with a film dressing.

At the interim assessment on 12 July 2021, the skin tear on the left lower leg had dramatically reduced in size, the bruising had reduced, and the non-viable skin had debrided (*Figure 3b*).

T.I.M.E. assessment

- T=1 cm x 0.5 cm; depth was minimal; 100% epithelial tissue
- I=no evidence of wound infection
- M=low exudate
- E=the wound edges were pink, indicating healing.

The care pathway was changed at the interim assessment, when the new PolyMem Silicone Border was applied. This decision was made because the wound had reduced in size and exudate level was minimal. At dressing change, a gauze swab soaked in Prontosan was applied for 5 minutes. The wound was then cleansed aseptically with Prontosan. PolyMem Silicone Border was easy to apply and was changed every 7 days.

Figure 3b. Case 2 at interim assessment. The wound and bruising have reduced, and the non-viable skin is debrided

Figure 3c. Case 3 at final assessment. The wound has healed with minimal scarring

At the final assessment on 26 July 2021, the left lower leg skin tear was found to have healed completely, and there was minimal scarring (*Figure 3c*).

The patient found the dressing regime very comfortable. It was a very positive experience, and the wound made good progress; her family was delighted with the results. The PolyMem Silicone Border stayed in place and was easy to remove without causing any damage to the patient's very fragile skin. Her wound pain resolved (pain score=0) after 1 week with PolyMem Max.

The holistic care pathway assisted in ensuring that this complex skin tear of STAR classification 2b healed as quickly as possible with minimal scarring. This lady enjoyed a daily swim and wanted to get back to this as soon as possible as her joints became stiff when she missed swimming.

Case 3

An 88-year-old woman developed pressure damage on the spine and left buttock in October 2020. She was discharged home with these pressure ulcers, and all but one on the thoracic spine healed. Her past medical history included dementia, acute pulmonary oedema, falls and small plural effusion.

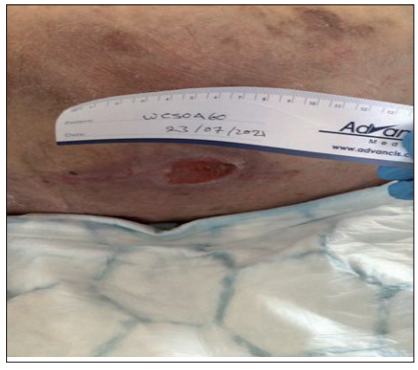


Figure 4a. Case 3 at initial assessment. EUPAP category 3 pressure ulcer on the spine

Figure 4b. Case 3 at interim assessment. The wound size has reduced

On initial assessment on 23 July 2021, the thoracic spine pressure ulcer was found to be EPUAP category 3 (European Pressure Ulcer Advisory Panel (EPUAP et al, 2019)); it was prone to bleeding (*Figure 4a*).

The pressure ulcer was initially treated with Algivon Plus and Eclypse dressings, which were changed every 4 days. The patient was commenced on the following care pathway on 23 July 2021. At dressing change, a gauze swab soaked in Prontosan was applied for 5 minutes. The wound was then cleansed aseptically with Prontosan. PolyMem Max dressing was applied, with the dressing changed every 7 days.

T.I.M.E. assessment

- T=2 cm x 1.5 cm x 0 cm; 10% granulation tissue, 90% epithelial tissue
- I=no indication of wound infection
- M=low exudate
- E=the edges of the wound were slightly better perfused.

SSKIN bundle

- Surface: The patient was on a Heritage II Digital Turn pressure-relieving mattress. Both feet were offloaded with pillows
- Keep moving: The patient was bedbound and required repositioning every 2 hours during the day for comfort and pressure relief for the sacrum and spine. The turning mattress was set at 10 minutes, with a 30-degree tilt, and was supported by pillows. All other pressure points were supported to prevent any further pressure injuries from occurring. In the following week, she was allowed to sit out in her recliner chair for 2 hours
- Incontinence: The patient had a urinary catheter and had faecal incontinence, for which she wore Tena Flex pads. The moisture lesion care pathway used at the authors' institute was followed to maintain skin integrity
- Nutrition: This patient's MUST score was 4, which indicated poor intake. She was only eating and drinking small amounts. She was on Fresubin 2 kcal 200 ml three times daily, as well as vitamin C 500 mg daily to help promote wound healing. Her husband was varying her diet slightly under advice from her GP.

By the interim assessment on 6 August 2021, the patient's pressure ulcer had dramatically reduced in size (*Figure 4b*).

T.I.M.E. assessment

- T=2 cm x 0.8 cm x 0 cm; 5% granulation tissue and 95% epithelial tissue
- I=no indication of wound infection
- M=low exudate
- E=the edges of the wound were better perfused.

The care pathway for the thoracic spine pressure ulcer was changed on 6 August 2021, when PolyMem Silicone Border was commenced, as the pressure ulcer had reduced in size and exudate level was minimal. At dressing change, a gauze swab soaked in Prontosan was applied for 5 minutes. The wound was then cleansed aseptically with Prontosan. The new dressing was easy to apply and was changed every 3 days.

At the final assessment on 8 September 2021, the pressure ulcer was nearly healed. There was minimal scarring and reduced redness (*Figure 4c*).

The patient found the dressing regime very comfortable. Her husband and carer were also delighted with the results. They commented on how easy PolyMem Silicone Border was to apply; it stayed in place and was easy to remove without causing any damage to the patient's skin. The patient's pain level was assessed based on her facial expressions because she had dementia, and she appeared to be in less pain.

The holistic care pathway used enabled healing of this complex pressure ulcer quickly with minimal scarring.

Figure 4c. Case 3 at final assessment. The pressure ulcer has healed

Case 4

A 67-year-old man was admitted to hospital on 3 August 2021 with cellulitis affecting the left lower leg. He had a past medical history of type 2 diabetes controlled by insulin and diet, hypertension, coronary bypass surgery, shingles and shoulder surgery. He was on co-amoxiclav 1.2 g three times daily.

On initial assessment on 11 August 2021 (*Figure 5a*), the patient was found to have resolving cellulitis on the left lower leg. There was no oedema present in the left lower leg, but the skin appeared to be dry. He had good anterior tibia, posterior tibia and peroneal pulses, as determined by palpation. The foot was warm to touch but pale. He had bilateral haemosiderin staining indicating venous disease. Compression was not considered because the patient only had cellulitis, and his pain score on the McCaffery scale was 10.

T.I.M.E. assessment of left outer calf

- T=2 cm x 1 cm; 100% eschar
- I=no indication of wound infection other than cellulitis
- M=no exudate
- E=the edges of the wound were pink.

T.I.M.E. assessment of back of left calf

- T=7 cm x 5 cm; 100% eschar
- I=no indication of wound infection other than cellulitis
- M=no exudate
- E=the edges of the wound were pink.

SSKIN bundle

- Surface: The patient was on a pressure-relieving mattress (in hospital) with a profiling bed frame to elevate his lower legs. When advised, he sat out with his lower legs elevated on a foot stool
- Keep moving: The patient was mobile but was reminded to reposition every 2–3 hours during the day for comfort and pressure relief. If he wished to have longer periods of rest overnight, he was advised to reposition every 4 hours
- Incontinence: Fully continent
- Nutrition: The patient's MUST score was 0, indicating good dietary habits and nutrition intake.

The following care pathway was commenced for both wounds on 11 August 2021. A gauze swab soaked in Prontosan was applied for 5 minutes. The wounds were then cleansed aseptically with Prontosan. The left outer calf wound was dressed with PolyMem Silicone Border, while the one on the back of the left calf was dressed with PolyMem Max dressing, as the wound was dry and required activation, as well as the potential for an increase in wound exudate. The dressings were changed every 5 days.

At the interim assessment on 16 August 2021, the cellulitis on the left outer calf had nearly healed. The wound on the back of the left calf had debrided well, and it was close to healing (*Figure 5b*).

T.I.M.E. assessment of left outer calf

- T=1.5 cm x 0.5 cm; 100% epithelial tissue
- I=no indication of wound infection
- M=no exudate
- E=the edges of the wound were pink.

T.I.M.E. assessment of back of left calf

- T=7.5 cm x 5 cm; 100% epithelial tissue
- I=no indication of wound infection
- M=no exudate
- E=the edges of the wound were pink.

At the final assessment on 24 August 2021, both wounds had healed completely, with minimal scarring (*Figure 5c*).

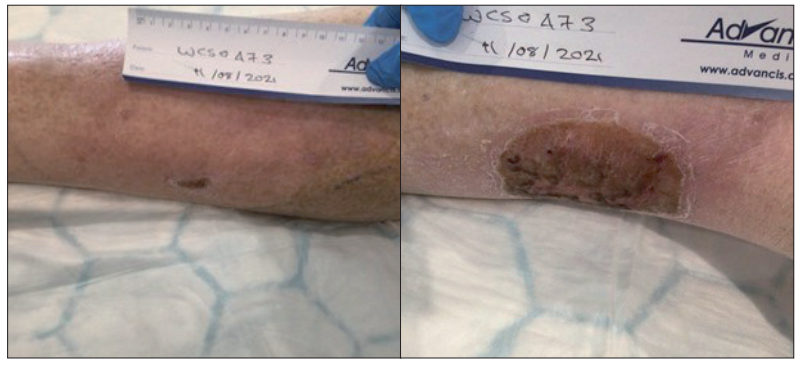


Figure 5a. Case 4 initial assessment. Left: cellulitis on the left outer calf. Right: cellulitis on the back of the left calf

Figure 5b. Case 4 interim assessment. Left: the cellulitis on the left outer calf is nearly healed. Right: the cellulitis on the back of the left calf has debrided well and is close to healing

Figure 5c. Case 4 final assessment. Both wounds have healed completely with minimal scarring

T.I.M.E. assessment of both wounds

- T=0 cm x 0 cm, 100% epithelial tissue
- I=no indication of wound infection
- M=no exudate
- E=the edges of the wound were pink.

The patient found the dressing regime very comfortable, and he was delighted with the results. The carer, who assisted with dressing application under instruction from the author, commented on how easy PolyMem Silicone Border was to remove and how it did not cause pain or damage the patient's skin. The patient was happy with the cosmetic result on the back of the left calf, and his pain had completely gone (score=0). He was also happy to be able to return to his exercise regime to keep fit.

PolyMem Max was selected for the cellulitis on the back of the patient's calf, because the wound needed extensive debriding due to the tough eschar, which this dressing is capable of providing.

Case 5

An 84-year-old man sustained a lower leg trauma wound in April 2021 when he injured his leg on a metal object, which caused a deep cavity wound. He had a medical history of hypertension, a high BMI of 30.3, congestive cardiac failure, ventricular failure, diverticulitis disease, high cholesterol levels and benign prostate disease.

On assessment on 1 July 2021, the right lower leg had oedema, there was a large amount of haemosiderin and the skin was very dry (*Figure 6a*). There was also some ankle flare. The anterior tibial, posterior tibial and peroneal pulses were good. The patient experienced pain during dressing changes (score=10 on the McCaffrey scale). He did not have a history of leg ulcers.

T.I.M.E. assessment

- T=a partial-thickness wound over the right tibia; 3.5 cm x 3.5 cm x 0.5 cm; 90% epithelial tissue and 10% sloughy yellow tissue
- I=no indication of wound infection
- M=moderate exudate
- E=the edges of the wound were pink and showing signs of healing.

The right tibial crest dressing was removed, and a Prontosan-soaked sterile gauze was applied for 5 minutes to the wound bed, which was then cleansed with Prontosan aseptically.

Figure 6a. Case 5 at initial assessment. Trauma wound on the right tibia

PolyMem Max was applied to the wound bed as the exudate level was moderate and could have increased on dressing application (Wounds UK, 2013). The dressing was changed twice a week, and Balneum cream was applied to the lower leg to rehydrate his skin, as it was extremely dry.

SSKIN bundle

- Surface: The patient was on a normal mattress with a profiling bed frame
- Keep moving: The patient was fully mobile and was encouraged to keep as mobile as possible. He was also encouraged to elevate his legs where possible
- Incontinence: Fully continent
- Nutrition: The patient's MUST score was 0, indicating good dietary intake. Nonetheless, the importance of good nutritional intake to aid wound healing and maintain skin integrity was discussed. He was taking vitamin C 1000 mg daily.

At the interim assessment on 10 August 2021, the right tibial wound had reduced significantly and had nearly healed (*Figure 6b*).

T.I.M.E. assessment

T=1 cm x 1 cm, 100% epithelial tissue
I=no indication of wound infection
M=low exudate
E=the edges of the wound were very dry and scaly, indicating that his skin needed rehydrating.

Figure 6b. Case 5 at interim assessment. The wound has reduced in size and is close to healing

The care pathway was modified to include PolyMem Silicone Border. The right tibial crest dressing was removed with no pain. Prontosan-soaked sterile gauze was applied for 5 minutes to the wound bed, which was then cleansed with Prontosan aseptically. The PolyMem Silicone Border was changed twice a week. His wound pain had reduced (pain score=5). Balneum cream was applied to the lower leg.

At the final assessment on 7 September 2021, the wound had healed, with minimal scarring and reduced redness.

T.I.M.E. assessment

- T=the wound had healed; 100% epithelial tissue
- I=no indication of wound infection
- M=no exudate
- E=the edges of the wound were pink.

Figure 6c. Case 5 at final assessment. The wound has healed, and scarring and redness are minimal

The patient found the dressing regime very comfortable and far less painful (pain score=0). He stated he did not experience any pain on dressing change once PolyMem was commenced. The nurse commented on how easy the PolyMem Silicone Border was to remove without causing any pain, and it stayed in place and did not damage the patient's skin.

Use of the PolyMem range in a holistic care pathway enabled this wound to heal as quickly as possible with minimal scarring. The patient refused to use hosiery to maintain skin integrity, but he agreed to apply Balneum cream twice daily on the lower legs.

Discussion

The case studies presented here show how PolyMem can be used to debride the wound bed and relieve wound pain. Further, the new PolyMem Silicone Border is extremely gentle on the skin, stays in place well and can be removed very easily. All patients had excellent outcomes, and their wounds appeared to heal faster with PolyMem, even though compression therapy was not applied. These five case studies were related to complex wounds, for which it is particularly difficult to achieve complete healing.

All patients were holistically assessed at each review, and the care pathway was adjusted accordingly to achieve effective patient outcomes. By monitoring the amount of exudate on the dressing, alongside all the elements of the T.I.M.E. wound assessment framework, it is possible to obtain the optimum wound environment. The patients did not experience any leakage from their dressings. They found the dressings comfortable, which allowed them to enjoy a good QoL while their wounds healed.

Conclusion

The use of PolyMem polymeric membrane dressings yielded particularly effective patient outcomes in the case studies presented. PolyMem is a versatile product to promote effective wound healing by regulating the wound environment and reducing inflammation and wound pain. The authors also observed in this case series that it delivers good cosmetic results by reducing scarring.

Given the huge array of products available on the market, it is essential that clinicians have good knowledge of available dressings, and they should be familiar with how and why these work, as well as how to use them correctly. Further, a holistic patient assessment needs to be completed each time, and all factors need to be considered. Where there are deficiencies, they need to be identified and corrected where possible. Use of the SSKIN bundle ensures that the care plan involves keeping pressure off the wound.

The clinician needs to work together with the patient to promote cost-effective wound healing. All patients in the case studies discussed were involved in their care pathways. Employing the right combination for wound healing in each individual patient is essential, and ensuring the right dressing is employed at the right time on the right patient can ultimately result in good wound healing and patient outcomes. **BJCN**

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KEY POINTS

- It is important for community nurses to be aware of advances in wound care products in order to cope with the growing demands of caseloads
- There are special considerations for wound care in complex cases, for example, those involving older adults with multimorbidity
- Holistic assessment of patients, including their nutritional status, mobility and social circumstances, is vital to ensure optimal wound care
- Consistent care, preferably delivered by the same group of health practitioners, tends to promote wound healing.

CPD REFLECTIVE QUESTIONS

- What sources of information do you use to learn about advances in wound care products?
- Why is holistic patient assessment important?
- Why is it important to involve patients in decisions surrounding treatment of their wounds?

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