

# CHOOSING THE MOST APPROPRIATE DRESSING: FOAMS

Foam dressings have been common in the management of wounds since the 1970s. This article examines their use in wound healing, as well as in exudate management through foam's ability to hold fluid and transmit moisture vapour away from the wound through evaporation.

*“As wound healing is physiological, patients need to be aware of the pivotal role they themselves play in the healing of their wound.”*

Wound healing is a physiological process and is, therefore, dependent on an individual's overall health and wellbeing. A holistic assessment is an essential part of the nursing process to determine the cause of the wound and the interventions needed to aid the wound to heal. Clinicians do not heal wounds, patients do.

However, to create an efficient wound healing environment, patient education is key, for instance, explaining the use of dressings and other interventions, such as compression bandaging for a venous leg ulcer, or providing equipment to help reduce pressure when the individual has a pressure ulcer.

Dressings are a fundamental part of caring for a wound and with the plethora of dressings on the market, it makes choosing the appropriate one challenging for the clinician. A formulary is a helpful guide for selecting an appropriate dressing, if it also considers the costs and research associated with them.

Most community and hospital environments now provide a local

formulary of dressings to aid choice. Wound care formularies will often contain advice about a dressing (what it is and what it is used for) in order for the clinician to make an informed decision.

Wound care company representatives often visit and inform clinicians about their products and why to use them but there should be clear clinical indications underlying the reason for use, alongside an expected outcome (i.e. absorbency).

According to the Wounds International Consensus Document entitled 'International Consensus: Optimising Wellbeing in People Living with a Wound' (Wounds International, 2012): 'The clinician is pivotal in optimising the wellbeing of people living with a wound, acting as the conduit between the patient, healthcare organisation and industry. Family members and carers should also be involved in this process.'

As wound healing is physiological, patients need to be aware of the pivotal role they themselves play in the healing of their wound. This

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includes exercising, eating well, and maintaining good hygiene and skin care. Patients need to understand that dressings do not heal wounds, but that their body does. Changing the dressing type too frequently can lead the patient to believe that the nurse has not found the dressing that will heal the wound. Once educated, the patient will be better placed to understand the importance of selecting the appropriate dressing.

If a dressing has been chosen to address a particular problem within the wound, it should be used for a long enough period of time to achieve its objective, if there are no adverse effects.

There are many categories of dressings, such as:

- ▶ Alginates
- ▶ Antimicrobials
- ▶ Foams
- ▶ Honey
- ▶ Hydrocolloids
- ▶ Hydrofibers® (ConvaTec)
- ▶ Hydrogels.

### Foams

Natural sea sponges were widely used in wound care as far back as the Middle Ages. They were used as absorbents, haemostats to control bleeding and for simple cleansing. Their popularity then declined in the 19th century as the organic material could not be sterilised and they adhered to the wound bed (Thomas, 2010).

The first foam product to be used in general wound management was silastic foam. It was introduced in the 1970s and used for cavity wounds. It was formed *in situ* from two liquid components, which were mixed at the bedside before being poured into the patient's wound where it formed in the shape of the cavity (Thomas, 2010).

What we understand to be 'modern foam dressings' also became widely

available from the mid 1970s when they were introduced to manage light to heavily exuding wounds (Sussman, 2010). Foams are generally made from polyurethane that has been heat-treated to provide a smooth contact surface. They provide thermal insulation, do not shed fibres or particles, and are gas permeable (Thomas, 2010).

Foams are generally soft, pliable for conformability and have a low adherence. Their most important function is absorbency of exudate and the maintenance of a moist warm environment. They are made in various sizes and shapes, with or without an adhesive border (Figure 1).

Dressings without borders need to be secured by the use of a holding bandage applied appropriately or an adhesive tape. Dressings with borders adhere to skin and the patient's skin must be of a sufficient integrity to allow adherence without causing skin damage. The shaped dressings are generally bordered and designed to manage awkward sites on the body, such as the heel, elbow and sacral area. Most foam dressings come in sheets and there are some cavity dressings available. Foam dressings can be used as primary and secondary dressings.

Common examples of foams are:

- ▶ Biatain® (Coloplast)
- ▶ Allevyn® (Smith & Nephew)
- ▶ Lyofoam® (Mölnlycke Health Care)
- ▶ Mepilex® (Mölnlycke Health Care)
- ▶ Polymem (Medline)
- ▶ Trufoam® (Aspen Medical)
- ▶ Urgocell (Urgo)
- ▶ Aquacel® Foam (ConvaTec)

Many of the wound care product companies are now introducing foams with silicone across the dressing inclusive of border. This helps to prevent skin stripping by adhesives in people with fragile



**Figure 1.** (a) Examples of adhesive foam dressings. (b) Examples of non-adhesive foam dressings.

and sensitive skin. Foam dressings are also now available with silver, Hydrofiber and lipocolloids, and also with cleansing agents added.

### Mode of action

The mode of action varies between different products and they are designed to take up exudate and keep it within the dressing, providing high absorbency and increased wear time. Foam dressings have different sized open cells that have the ability to draw exudate from the wound bed (Avent, 2010). The foam surface is generally smooth and hydrophilic, which means it attracts moisture (Pudner, 2001).

Foams soak up by vertical wicking by absorbing the exudate upwards and taking the shape of the wound to avoid macerating the surrounding skin. Some foams absorb laterally, which suggests exudate is absorbed into the whole of the dressing, rather than in areas in direct contact with the wound (Benbow, 2008). In this instance, there is a risk of skin maceration if the skin becomes protected.

Foams have the ability to retain fluid and transmit vapour away from the wound bed through the back of the dressing by evaporation (Adderley, 2008). Strikethrough of exudate can be observed through the top layer and when the exudate is visible and becomes within 2 cm of the edge of the dressing, this is an indication that it needs to be changed.

### **Clinical indications**

The clinical indication for the use of a foam dressing is the presence and control of wound exudate. The absorbency is dependent on the dressing's presentation. The manufacturers will indicate on the label whether a dressing is suitable for light or heavily exuding wounds. The clinician must then choose a foam dressing that is suitable for the extent of exudate relating to the specific wound, as well as preventing maceration of the surrounding tissues. Foams are not suitable for dry necrotic wounds or dry epithelialising wounds (Beldon, 2012).

Foams can be left *in situ* for a maximum of 7 days and will need to be changed dependent on the level of exudate present.

### **Types of wounds**

Foams are suitable for shallow wounds and there are some foam products suitable for cavity wounds. Foams are also suitable to cover wounds that have been lightly packed with a ribbon preparation.

Foams can be used on the following:

- ▶▶ Leg ulcers and under compression therapy
- ▶▶ Pressure ulcers
- ▶▶ Traumatic wounds
- ▶▶ Gastrostomy and tracheostomy wounds
- ▶▶ Minor burns
- ▶▶ Skin grafts
- ▶▶ Donor sites
- ▶▶ Diabetic ulcers
- ▶▶ All wounds where exudate presents.

### **Contraindications and considerations**

Before using a foam dressing, address the following contraindications and considerations:

- ▶▶ Ensure the patient is assessed thoroughly to exclude any other reasons for increased exudate
- ▶▶ Foam dressings are not suitable for necrotic and dry wounds
- ▶▶ Be aware of the risk of macerated surrounding skin if foam is left on the wound too long or the incorrect product chosen to cope with the amount of exudate
- ▶▶ Consider using skin protection on the surrounding skin, such as Cavilon™ No Sting Barrier Film (3M) skin preparation to prevent maceration
- ▶▶ Check if the wound is infected or highly colonised as this will increase exudate from the wound. If the patient has systemic symptoms with a raised temperature antibiotics will be needed
- ▶▶ Use a foam with added antimicrobial to reduce bacterial content in an infected or highly colonised wound
- ▶▶ Contemplate a foam dressing with silicone added for patients with vulnerable skin
- ▶▶ Excessive exudate from a wound may have an underlying cause, such as oedema. Assess and treat the cause as this will influence exudate levels
- ▶▶ There is a risk of allergy in some patients. Be aware of demarcation lines on the skin where the dressing has been placed. Not all redness under foam dressings is due to an allergy; there may be other causes
- ▶▶ Foam dressings are not licensed as pressure relieving. Foams can be used to protect vulnerable skin, but if the skin is covered by a foam dressing it can hide any deterioration unless removed frequently for observation, especially in the case of pressure damage

- ▶▶ Hydrogels can be used under foam dressings, but as hydrogels comprise of a high percentage of water, they can cause maceration under the foam. Also the foam will absorb the hydrogel as it turns to water with the warmth of the body. A more viscous hydrogel or sheet hydrogel may be more suitable under a foam dressing.

### **Application**

An effective process of application would be as follows:

- ▶▶ Before application, assess the periwound skin as a skin protector may be needed to protect vulnerable tissue
- ▶▶ Ensure the correct size is selected for application. The absorbent pad of the dressing should overlap the wound by approximately 2 cm
- ▶▶ Choose a dressing by the absorbency indicated by manufacturers and according to the amount of exudate from the wound
- ▶▶ Foam dressings can be cut to adapt to awkward areas of the body, but will need to be secured. Ensure the dressing is cut with a margin greater than the wound size
- ▶▶ Choose a foam with an appropriate adhesive border. If using an adhesive border, ensure the dressing can be left on for a long enough time period for the adhesive wear and stickiness to reduce with time so as to avoid skin stripping on removal. Removing adhesives daily will cause skin stripping
- ▶▶ Consider using a border with silicone for vulnerable fragile skin
- ▶▶ Removal of a foam dressing should be atraumatic, if the dressing is adhering to the wound there is not enough moisture and the wound needs to be reassessed
- ▶▶ The dressing can be left in place until the exudate strikethrough shows through the dressing and is 1–2 cm away from the edge of the absorbent part of the dressing

- ▶ Foam dressings are suitable to be left *in situ* for a minimum of 3 days and a maximum of 7 days. If they need to be changed daily, a more super absorbent dressing should be considered
- ▶ When removing bordered dressings, the clinician must be careful not to peel back the dressing, but instead stretch it on a horizontal plane away from the patient to break the seal of adhesive, or alternatively warm water should be used to remove
- ▶ The application of a foam dressing on overgranulation tissue can help to flatten this tissue, due to the pressure exerted by the foam's smooth surface onto the tissue (Harris and Rolstead, 1994).

### Conclusion

Foam dressings are a popular and highly used dressing in the management of exuding wounds. They are generally well accepted by patients as they are comfortable to wear. However, it takes a skilled

practitioner with a good knowledge of wound care products to assess a patient with a wound and provide the most appropriate dressing selection. Success is dependent on patients and their healing, as well as effective nursing assessment to identify cause and effect.

Choosing the appropriate dressing is always challenging for the clinician and understanding the actions and use of a range of dressings will help in achieving the best possible outcomes for patients. WE

### References

- Adderley U (2008) Wound Exudate: what it is and how to manage it. *Wound Essentials* 3: 8–13
- Avent Y (2010) Spotlight on prevention: Pressure Ulcers. *Nursing Made Incredibly Easy*. 8(5): 21–9
- Beldon P (2012) Top Tips on the use of Foams. *Wound Essentials* 2: 37–9
- Benbow M (2008) *Exuding Wounds*.

Available at: <http://bit.ly/1v3eWwu> (accessed 24.11.2014)

Harris A, Rolstead B (1994) Hypergranulation tissue: a non-traumatic method of management *Ostomy Wound Manage* 40(5): 20–30

Pudner R (2001) *Foam, Hydrocellular and Hydropolymer Dressings in Wound Management*. Available at: <http://bit.ly/1pfb1gH> (accessed 24.11.2014)

Sussman G (2010) *Technology Update: Understanding Foam Dressings*. Available at: <http://bit.ly/1u6hF4v> (accessed 18.11.20)

Thomas, S (2010) *Surgical Dressings and Wound Management*. Medetec Publications, Cardiff

Wounds International (2012) *International Consensus: Optimising Wellbeing in People Living with a Wound*. Available at: <http://bit.ly/1jYhebc> (accessed 17.11.2014)

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