# 10. Foam dressings

## INTRODUCTION

Foam in various forms has a long history in wound management. Current materials, mainly made from polyurethane, appear to satisfy most of the requirements of the 'ideal dressing' and as a result have become the treatment of choice for many types of wounds. Unlike hydrocolloid sheets (Chapter 12), foam dressings tend not to facilitate autolytic debridement of very dry wounds, and are therefore most commonly indicated for exuding lesions.

A variety of products are available, designed for treating both superficial and deep cavity wounds. Some versions have an adhesive wound contact layer to facilitate placement, others are available in the form of self-adhesive island dressings.

Most foam dressings designed for the treatment of surface wounds incorporate a semipermeable outer surface to act as a bacterial barrier and provide an element of environmental control. This surface is frequently, but not invariably, made from a polyurethane film or membrane or a closed-cell polyurethane foam sheet.

A considerable amount of clinical data has been published describing the use of foams in a diverse range of wound types. Most of this literature suggests that the dressings are easy to apply, relatively painless to remove and therefore well liked by patients and healthcare professionals alike. They are also generally considered to be cost effective in use.

By their very nature, foam dressings offer opportunities to act as carriers for medicaments, most commonly antimicrobial agents, and a number of foam dressings are available that contain silver salts or other bactericidal compounds.

## HISTORY OF FOAM DRESSINGS

The first cellular or foam-like materials to be utilized in medicine were naturally occurring marine sponges, small pieces of which were impregnated with extracts of opium, nightshade, hemlock, mandragora, ivy and lettuce seed and inserted into the nostrils of patients as anaesthetic devices to induce sleep prior to surgery. These 'soporific sponges' were widely employed in European and Arabic culture during the Middle Ages.[1]

Sponges were also used during surgical procedures as absorbents, haemostats and simple cleansing aids, a practice which continued until the end of the 19th Century when experience showed that despite attempts to disinfect or sterilise them, being natural organic materials they remained a potent source of infection. They also had a marked tendency to adhere badly to the surface of wounds and so their popularity gradually declined.[2] A fascinating account of the collection, preparation, sterilization and use of sponges was published by Maylard in 1891.[3]

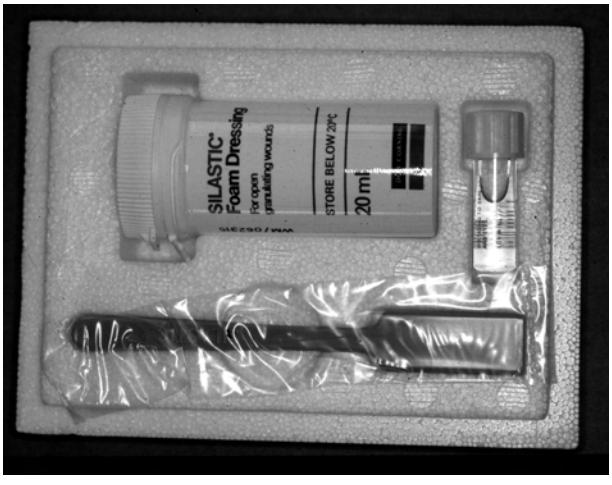
Alternative surgical absorbents were therefore sought, and one such product was described in 1884 by Joseph Gamgee. This consisted of an 'artificial antiseptic

absorbent sponge' composed of gauze, cotton and coconut fibre, in the centre of which was placed a capsule of glass or gelatin which was broken to release the antiseptic content immediately prior to use.[4]

Despite some interest in the development of artificial sponges in the 1950s, primarily for use in surgery, dressings made from foam were not introduced into wound management until the 1970s. Epigard, a reticulated polyurethane foam sheet laminated to a microporous film was developed in 1973 as a temporary skin substitute prior to grafting. Originally the backing layer was made from microporous polypropylene, but in a later publication it was said to consist of Teflon.[5] Information provided by the manufacturer now indicates that the film is made from polyurethane. Any effects that these structural changes may have had on the clinical performance of the dressing are unknown.

The first foam product to be used in general wound management was Silastic Foam, principally used for the management of cavity wounds, which was formed *in situ* from two liquid components mixed at the patient's bedside.

**Figure 39: Silastic Foam kit**




This was followed by the development of preformed 'foam membranes', thin sheets of foam produced with and without an adhesive coating.

Although some of these early dressings achieved a degree of commercial success, their use was limited by relatively poor absorbency. It was not until products made from hydrophilic polyurethane were developed that foam dressings began to gain widespread acceptance.

As previously indicated, in many of these dressings the absorbent foam is bonded to a semipermeable polyurethane film, or a second thin sheet of closed cell foam. This backing layer frequently extends past the margins of the absorbent pad to form an island or bordered dressing.

After a relatively slow start, the popularity of foams grew rapidly as different presentations were developed. Some were shaped to fit particular anatomical sites; others incorporated gel forming agents within their structure to enhance fluid retention

## CLASSIFICATION OF FOAM DRESSINGS

### *Cavity dressings*

Silastic Foam, developed by Dow Corning in the 1950s, consisted of two components, a viscous medical-grade poly(dimethylsiloxane) base and a stannous octoate catalyst which were mixed together immediately prior to use. The resultant chemical reaction released hydrogen which caused the viscous mixture to expand to approximately four times its original volume before setting to form soft, resilient, open-cell foam.

Silastic Foam was first used medically in 1962 as a diagnostic aid in the detection of sigmoid cancer.[6] For this application the liquid catalysed base was inserted into the colon as an enema where it expanded and set, taking up the shape and surface characteristics of the gut wall. This somewhat unusual procedure was superseded when improved radiological techniques and more sophisticated instruments were developed.

When used as a dressing, the two components were mixed as before, and then introduced directly into the lesion to form a 'stent' that precisely adopted the contours of the wound. The stent usually remained in position in a deep wound without the need for bandages or secondary dressings, but as healing progressed and the wound became shallower, the use of surgical tape or some other form of retention was sometimes required.

A stent could often be used for a week or more if a simple routine of wound toilet was adopted. To this end, it was recommended that the dressing be removed from the wound twice a day and soaked in a solution of a suitable antiseptic agent, such as chlorhexidine gluconate 0.5%, for a minimum of 10-15 minutes.[7] Other antiseptics were subsequently evaluated for this purpose, including cetrimide and povidone iodine, but these performed less well than chlorhexidine for this application.[8]

During the time the dressing was soaking, the patient could wash the wound or take a bath as appropriate. Once the dressing had been adequately disinfected, it was rinsed very thoroughly under a running tap, with repeated gentle squeezing, to remove all traces of antiseptic. After a final squeeze to express any remaining water, the dressing was replaced in the wound. Removal of antiseptic agents was important, as residual traces of some antiseptics were capable of causing irritation to the wound and surrounding skin.

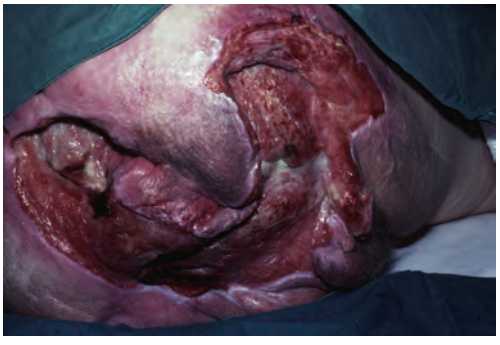
Although there were few reports of infections resulting from the use of Silastic Foam, one paper recorded that a rare pigment-producing strain of *Serratia rubideae* was isolated from one dressing on several occasions.

In 1987 a report in the scientific press questioned the biological safety of some chemicals used in the manufacture of certain plastics.[9] Although these chemicals were not found in Silastic Foam, one of them was related to a theoretical breakdown product produced during the catalytic reaction during which the foam is formed. The US Environmental Protection Agency requested further pre-clinical testing of these

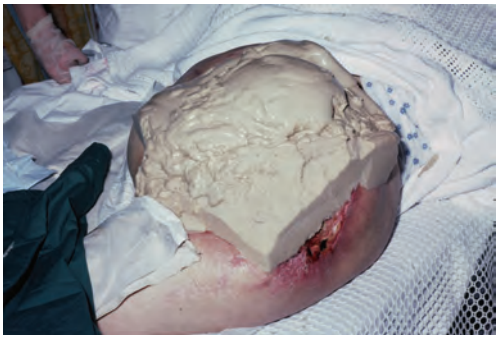
chemicals and the manufacturers of Silastic Foam in the USA therefore decided, for industrial and commercial reasons, that they would suspend production of the dressing until this information became available. Further toxicological studies and an in-depth review of all available scientific data revealed no evidence of any adverse effects resulting from the use of Silastic Foam and as a result, manufacture of the foam was recommenced.

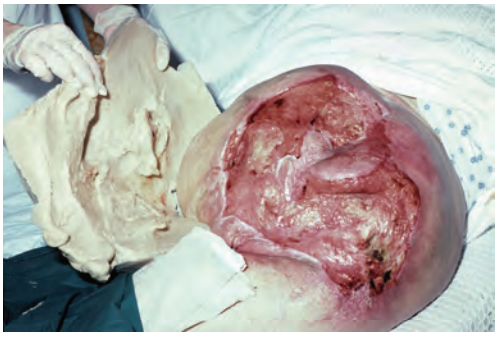
A major advantage of Silastic Foam was its versatility; it could be used to form a covering over very large or awkward wounds which were difficult to dress with conventional materials as illustrated below.

**Figure 40: The use of Silastic Foam dressing**



*A hemiplegic elderly lady who had undergone a hindquarter amputation presented with a massive area of pressure damage involving both buttocks. After trying a number of different treatments, a Silastic Foam dressing was made to provide protection, absorb exudate, assist with pressure distribution and facilitate dressing changes.*

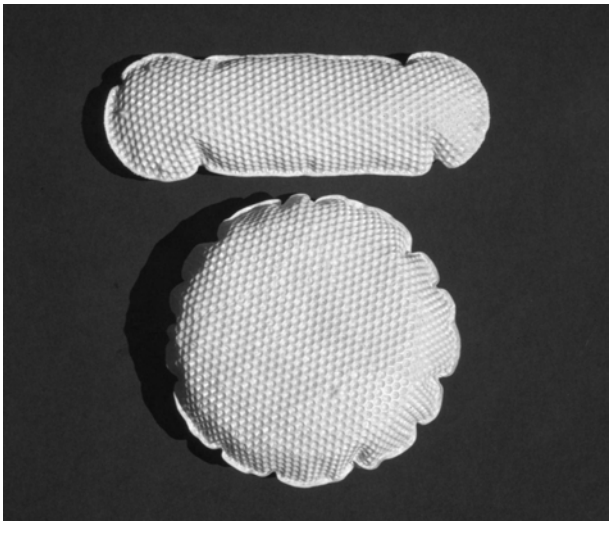




In the mid 1990s Silastic Foam was reformulated, at which ownership transferred to Smith and Nephew and its name changed to Cavi-Care. Like Silastic Foam, Cavi-Care consists of two components presented in dual aluminium sachets. One ten gram sachet contains polydimethylsiloxane polymer together with a platinum catalyst, inhibitor and ethanol. The second contains polymers, cross-linkers (copolysiloxanes), inhibitor and ethanol. In use the contents of the two sachets are mixed vigorously for 5-15 seconds then, within 30 seconds, they are poured into the wound. The mixture becomes opaque and increases in volume by about four times as it sets to form a soft foam which must be left to cure for 3 - 5 minutes. The resultant stent is managed in the same way as Silastic Foam and the indications and precautions relating to the two products are broadly similar.

The disinfection procedure for the new dressing was reviewed by Cooper and Harding who, in a trial involving 20 patients,[10] investigated the possibility of extending the interval between cleansing from the 12 hours previously recommended to 48 hours. Changes in wound microbiology were examined and it was found that in both treatment groups the number and range of organisms increased over time as the wounds became colonised with a variety of different bacterial species. Extending the interval to 48 hours appeared to lead to increased numbers of bacteria but this was not associated with an increase in clinical infection rates. The authors therefore concluded that the possibility existed to reduce the frequency of dressing changes, but that further investigations were required. Cavity wound dressings have also been developed from pre-formed forms which are supplied as simple foam sheets which may be rolled up prior to insertion in the wound. One specialist product, Allevyn Cavity Wound Dressing, consists of a bag made from a soft, perforated, polymeric film, containing small chips of hydrophilic polyurethane foam. Available in a range of sizes, these dressings can be easily inserted (and removed) from a cavity wound.

**Figure 41: Allevyn Cavity Wound Dressings**



## *Foam membranes*

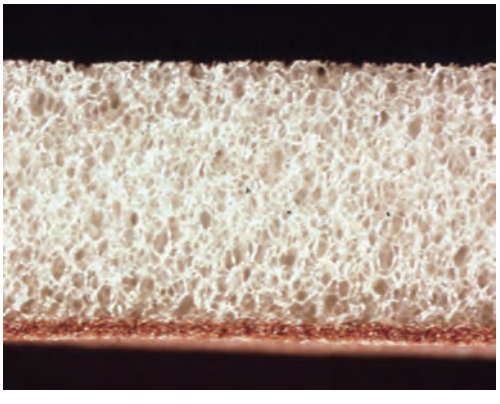
The first commercially successful ‘preformed’ foam dressing for the treatment of surface wounds was Lyofoam. Made from a sheet of soft, hydrophobic, open-cell polyurethane foam approximately eight millimetres thick, Lyofoam was originally marketed by Ultra Laboratories which was later acquired by Seton Healthcare, subsequently SSL International. It is now marketed by Mölnlycke in Europe, and Convatec in the USA.

Lyofoam evolved from an unsuccessful product called ‘Sterafoam’ manufactured by Bowater Scott. Sterafoam had a large open-cell structure into which granulation tissue

rapidly became incorporated, causing the dressing to adhere strongly to the wound.[11] To overcome this problem, the wound-contact surface of Lyofoam is modified by the application of heat to collapse the outermost foam cells to produce an absorbent layer about one millimetre thick which takes up liquid by capillary action whilst preventing the ingress of tissue.

The external layer of the dressing remains highly hydrophobic and so does not permit the uptake of exudate but the aqueous component of wound fluid evaporates though this outer layer as moisture vapour. This causes absorbed fluid to become increasingly more concentrated within the collapsed foam cells of the interface layer and eventually solutes precipitate out within these cells, effectively preventing any further uptake of fluid and reducing the permeability of the system. This in turn can lead to the accumulation of unabsorbed exudate beneath the dressing, increasing the risk of maceration or infection. For this reason standard Lyofoam is indicated only for the treatment of lightly exuding wounds.

**Figure 42: Section through Lyofoam dressing**



*A section through a Lyofoam dressing that has been placed in contact with blood in a laboratory test. Cellular debris is clearly visible trapped in wound contact layer of dressing and had not been transported into backing layer.*

Lyofoam T (T for tracheotomy) is a simple variation of the basic dressing which contains a cross-cut in the centre, forming an aperture designed to enable the dressing to fit closely around the tubes, cannulae or pins used in invasive medical procedures.

Synthaderm, now discontinued, was similar to Lyofoam in that it consisted of a thin sheet of polyurethane foam with two surfaces that were structurally different. The wound contact surface was formed from a layer of open cells, whilst the upper or outer surface was composed of closed cells. When Synthaderm was placed on an exuding wound, tissue fluid and exudate taken up by the inner hydrophilic layer was prevented from passing right through the dressing by the closed cells of the upper surface. The solid components of the exudate were retained within the foam but the aqueous component was lost by evaporation as with Lyofoam. In the early stages of use, an increase in exudate production was sometimes noted; possibly associated with a slight increase in wound size, as necrotic material present was removed by autolysis. This was not a cause for concern provided the dressing was changed frequently (daily or on

alternate days). As the wound became cleaner, the frequency of dressing changes was reduced, so that in the final stages of healing, weekly changes were sufficient.

Synthaderm had several practical disadvantages in use, including poor conformability and loss of tensile strength when wet. In addition, it had a marked tendency to curl up and wrinkle when it came into contact with moisture, and so had to be bandaged firmly in position to prevent this occurring. This was caused by the fact that the dressing increased in surface area by almost 20% when hydrated. When the lower hydrophilic surface took up moisture, its ability to expand was inhibited by the more hydrophobic outer surface, and this constraint was responsible for the dressing rolling up. The expansion of the foam was accompanied by a seven-fold increase in its moisture vapour permeability; thus, to some extent, the permeability of the dressing was related to the moisture content of the wound, Synthaderm therefore could perhaps be described as an early 'intelligent' wound dressing. Nevertheless, it failed to make a significant impact in the market place and so was discontinued. Some of the practical problems with Synthaderm were claimed to have been addressed in the second generation product, Coraderm, also discontinued, and marketed as Epi-lock in the USA.

Activheal Flexipore, now marketed by Medlogic Global, a subsidiary of the manufacturers, Advanced Medical Solutions (previously Innovative Technologies), is the same product as Spyroflex, previously marketed by Britcair, which is now produced in the USA by Innovative Technologies (US).

Acivheal Flexipore was originally sold as Flexipore 6000 by Beam Tech Ltd, and like Synthaderm and Coraderm it consists of a polyurethane membrane about one millimetre thick. It is produced in a similar way by casting the polymer solution onto a belt but instead of allowing the solvent to evaporate, as in film production, the belt is plunged into a series of water baths which cause the polyurethane to precipitate immediately as the solvent is washed away. Gas bubbles released during this procedure form bubbles in the polymer giving it a 'cellular' structure. These bubbles vary in size from quite large, where the polymer first makes contact with the water, to extremely small where the polymer is in contact with the belt. At the interface between the foam and the belt a 'skin' is produced which is permeable to air and water vapour, but provides a reasonable barrier to water and bacteria. A discontinuous layer of adhesive is subsequently applied to the wound contact surface in a cross-hatched fashion. The dressing is intended for light to moderately exuding wounds such as superficial pressure sores and leg ulcers, IV sites, abrasions, lacerations and donor sites. It is not recommended for application to full thickness or heavily exuding wounds.

Flexzan is similar to the above, consisting of thin, highly conformable, open cell foam with a closed cell outer surface.

Another early foam dressing which was not made from polyurethane, was Release produced by Johnson and Johnson. Now discontinued, it consisted of a carboxylated styrene-butadiene rubber latex foam, bonded to a non woven fabric coated with a ruptured polyethylene film which formed a low-adherent wound contact layer. A surface active agent was included within the foam to facilitate fluid uptake. The dressing had limited absorbent capacity but could be used as a wound contact layer beneath a secondary absorbent. The properties of some of the early foam dressings were described previously.[12-13]

Also available are foam-like dressings made from collagen used alone or in combination with other agents. Examples include Collatek, a bovine collagen matrix bonded to a polyurethane foam sheet, CollaWound sponge, a primary dressing consisting of 97% porcine collagen and Suprasorb C, a primary dressing made from non cross-linked bovine collagen.

### *Multilayer foam dressings*

In contrast to the hydrophobic polyurethane foam used in the Lyofoam range, hydrophilic polyurethane prepolymers facilitate the production of more absorbent dressings with much greater affinity for aqueous solutions. Some of these dressings have been given pseudoscientific names such as 'hydrocellular' (Allevyn) and 'hydropolymer' (Tielle), terms which convey little to most clinicians.

The foam used in the construction of some of these new dressings is able to retain in excess of ten times its own weight of exudate. Consequently they therefore offer considerable advantages over the earlier products in terms of fluid handling but potentially suffer from two major disadvantages.

Firstly, absorbed fluid is rapidly distributed throughout the foam with the result that a moist pathway quickly forms between the wound and the external environment along which bacteria may pass in either direction. Secondly as healing progresses and exudate production diminishes, the highly permeable foam will dry out, potentially leading to problems of desiccation and adherence.

These problems may be overcome by laminating the foam to a semipermeable polyurethane film which reduces evaporative loss and provides an effective bacterial barrier. Sometimes a thin sheet of closed cell polyurethane foam is used in place of the film which fulfils a similar function.

Among the most commercially successful foam dressings are the Allevyn range marketed by Smith and Nephew. A non-adhesive form of Allevyn was launched in 1987 followed in 1995 by the adhesive version. In 2006 the dressings were improved by the introduction of a more permeable outer film which increased their fluid handling capacity.

A family of dressings, the Cutinova range, developed by Beiersdorf AG, but later marketed by Smith and Nephew, consist of a polyurethane matrix containing particles of a sodium polyacrylate superabsorbent. Following the change in ownership, Cutinova Foam was rebranded as Allevyn Compression, Cutinova Thin as Allevyn Thin, and Cutinova Cavity as Allevyn Plus Cavity. Cutinova Hydro and Cutinova Hydro Border remain unchanged.

In Allevyn Compression, Thin, and Plus Cavity Dressing, the polyurethane matrix is foamed, but this is not the case in Cutinova Hydro. As a result this dressing more resembles the hydrocolloid sheets although it differs from them in chemical composition.

With the exception of Allevyn Cavity Plus, all the dressings in this range are designed for application to relatively superficial exuding wounds and ulcers and incorporate a polyurethane film backing layer to act as a bacterial barrier. Exudate taken up by the superabsorbent particles forms a gel within the cross-linked

polyurethane matrix and leaves no residue upon the wound surface after removal of the dressing.

Foam dressings have been developed in a variety of forms. Some are coated with acrylic or hydrocolloid-based adhesives, but more recently adhesives based upon silicone technology have been devised which are claimed to facilitate removal without causing pain or trauma. Sometimes the adhesive bond formed between the dressing and the skin is very weak, intended only to retain the dressing in place temporarily, whilst a secondary retention layer is being applied.

An early example of an adhesive film-foam combination, now discontinued, was Spyrosorb originally marketed by Britcair (later CV Laboratories). According to Williams,[14] the foam sheet was coated with acrylic adhesive and bonded to a 'moisture responsive' polyurethane membrane.

Many dressings share this simple bi-component structure but others have additional features which make them unique. The foam used in the Polymem range, for example, contains a non-ionic surfactant thought to be a block copolymer of ethylene oxide and propylene oxide which is activated by moisture and claimed to facilitate wound cleansing. These non-ionic surfactants were tested by Rodeheaver[15] and shown to have no adverse effects upon wound healing in an experimental model. The dressing also contains a humectant (glycerol) which prevents the dressing from drying out and adhering to the wound bed, and a starch copolymer to enhance its fluid handling properties.

One feature of Polymem foam which has attracted some interest is the finding that application of the dressing appears to reduce the sensitivity of the subject or patient to painful stimuli.

This so-called antinociceptive effect was demonstrated in an animal study using a hind limb penetrating stab wound model.[16] Two small wounds were made in the calf muscles of previously shaved adult rats whilst under anaesthesia. These wounds were then dressed with Polymem Plus or gauze dressings held in place with elastic tape. Each animal's response to mechanical and thermal stimuli applied to the hind paw remote to the injury was recorded. Application of Polymem Plus, but not gauze dressing, significantly reduced the development of both mechanical and thermal hyperalgesia induced by the penetrating stab wounds.

To eliminate the possibility that inhibition of limb movement caused by the application of the dressing was influencing the test results both legs were shaved and wrapped with dressings as appropriate but only the left limb received the surgical incision. Animals with stab wounds also showed a significant decrease in cage activity, but this decrease was reversed by the application of Polymem Plus dressing.

The authors concluded that these observations clearly indicated that the application of Polymem Plus, but not gauze, markedly reversed the increased pain behavioural responses exhibited by the animals who had received surgical stab wounds. Interestingly the application of Polymem Plus, but not gauze, appeared to reduce the sensitivity of limbs that had not received stab wounds, suggesting that the dressing produces a local anaesthetic effect when applied to the skin.

In the second part of the study the authors quantified the number of Fos-positive neurones in the lumbar spinal cord after incisional stab wounds and dressing

application. The C-Fos protein is the product of c-fos mRNA, a member of a family of immediate early gene (IEG) transcription factors. The basal expression of c-fos and other IEGs is typically low but increases relatively quickly and often dramatically in response to changes in cellular activity typically caused by external stimuli, such as metabolic stress or neuronal activation. For this reason Fos protein is routinely used as a marker of neuronal activation.

The results indicated that Polymem, but not gauze dressing, significantly decreased stab wound-induced Fos expression within the spinal cord. Surprisingly, application of the foam, but not the gauze dressing, to the limbs of untreated animals elicited a significant increase in spinal Fos neurons suggesting that the dressing itself causes spinal cord activation, a finding that was consistent with the earlier observation that the dressing appeared to reduce the sensitivity of untreated limbs to external stimuli.

In the third part of the study, histological sections were made through the stab wounds to examine the number and distribution of neutrophils and macrophages present. Compared with untreated controls, both dressings reduced the number of inflammatory cells but Polymem Plus greatly reduced the spread of these cells into surrounding tissue. In untreated wounds, or those dressed with gauze, the inflammation spread into the periosteum of the tibia or fibula but periosteal involvement did not occur in animals whose wounds were wrapped with Polymem Plus. Other studies, not reported here, suggest that the application of the dressing can also effectively prevent or reduce bruising follow traumatic injuries if applied at an early stage.

The mechanism(s) by which the foam produces this antinociceptive effect is unclear. It is possible that the a local effect is responsible for limiting the extent of the inflammatory process within the wound but the observed effect of the dressing on animal who had not be subjected to surgery indicates that an alterative mechanism must also be involved which is mediated both peripherally and centrally.

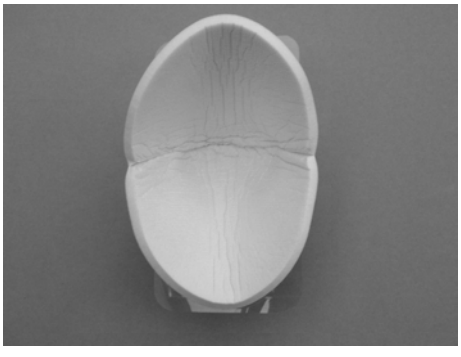
One possible explanation advanced by the authors was that the dressing might absorb sodium ions from the skin and subcutaneous tissue which would result in reduced nerve conductance and a local anaesthetic effect which in turn reduces the development of secondary hyperalgesia. What is not known, however, is the identity of agent or agents within the foam responsible for this activity, and whether this effect is unique to Polymem foam or if it is shared by other foam products. Further research is clearly required in this area.

Other multi-component foam dressings include Mepilex and Mepilex Border, the structure of which has been described previously.

Tielle, like Mepilex Border, also contains a ‘spreader layer’ between the foam and the backing layer: Tielle Plus is similar but also contains a superabsorbent powder dispersed in the spreader layer. An overview of the Tielle range was produced by Carter in 2003.[17]

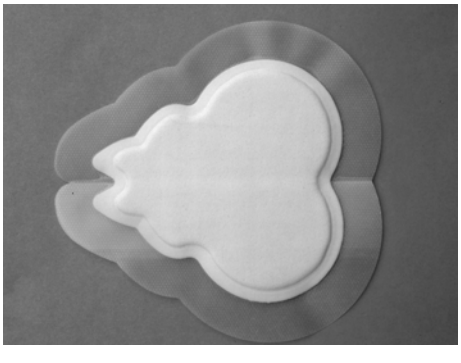
Foam dressings are produced in a variety of shapes and sizes, some of which are specifically designed to fit hard-to-dress anatomical sites including the elbow, heel or sacrum, whilst others have preformed apertures to enable them to be used around tracheostomy or pin sites.

**Figure 43: Examples of shaped foam dressings**

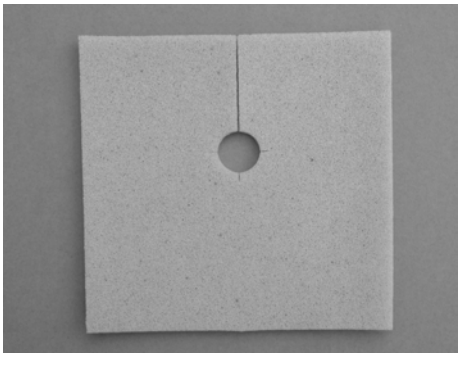


*Allevyn heel dressing*

*Mepilex heel dressing*



*Allevyn sacral dressing*



*Polytube dressing*

Some dressings incorporate a low-adherent wound contact layer such as an apertured plastic film, but the Restore range from Hollister bears a fine polyester mesh impregnated with petrolatum containing hydrocolloid particles, the same material used in Urgotulle described in the chapter on low-adherent dressings.

Lyofoam Extra, the most absorbent product in the Lyofoam range is unique, in that it is constructed from three different types of foam. The wound contact layer, which is identical to that used in standard Lyofoam, is bonded to a hydrophilic foam layer which in turn is attached to a high density polyurethane foam backing layer. Lyofoam Extra dressing works in a very similar way to the standard dressing. The collapsed cells of the hydrophobic inner layer take up fluid from the wound surface which is then transferred into the more absorbent secondary layer. The outer layer prevents this absorbed fluid from seeping out of the back of the dressing.

Lyofoam C consists of a piece of Lyofoam that is heat-bonded around the perimeter to a sheet of plain polyurethane foam. A layer of a non-woven fabric impregnated with activated carbon granules is sandwiched between the two polyurethane sheets.

Lyofoam C is claimed to provide the wound-management benefits of the standard dressing whilst absorbing the noxious odours associated with certain types of wounds. The substances that are responsible for the formation of odour appear to be partly retained within the foam itself, but the principal odour-absorbing ability of the dressing are due to the presence of the activated carbon.

The properties of foam are such that potentially it makes a useful carrier for topical antimicrobial agents and other agents which are to be delivered into a wound. AMD Antimicrobial Foam Dressing from Covidien contains 0.5% polyhexanide, polyhexamethylene biguanide (PHMB) - an antimicrobial agent with a broad spectrum of activity.

Given the current enthusiasm for the use of silver in wound management, it is not surprising that several manufacturers have developed foam dressings containing a variety of silver salts: these are discussed in more detail in the chapter on silver dressings.

Despite the fact that foam dressings are widely used for the management of a variety of exuding wounds, clinical experience suggests that, for some indications at least, their fluid handling capacity is less than optimal, necessitating more frequent dressing changes than might otherwise be considered desirable. Although it is theoretically possible to improve their performance by increasing the thickness of the foam or the content of gel-forming agents to improve fluid retention, such modifications would also increase the weight of the exudate-soaked dressing causing it to sag or separate away from the wound surface, greatly reducing its efficiency and patient acceptability. An alternative, more acceptable strategy is to increase the permeability of the backing layer to facilitate evaporation and thereby enhance its fluid handling capacity.

The key properties of the foam dressings in current use are summarised in a series of tables in which they are grouped together by structure. Table 11 describes the foam-based cavity wound dressings, Table 12 to Table 14 contains details of simple absorbent foam sheets, and Table 15 and Table 16 the self-adhesive island dressings.

**Table 11: Foam Cavity Dressings**

| Dressing | Manufacturer |
|---|---|
| Allevyn Cavity Wound Dressing | SN |
| Allevyn Plus Cavity | SN |
| Askina Foam Cavity | BB |
| Cutimed Cavity | BSN |
| Medifoam B | BIO |

**Table 12: Foam Dressings Sheets**

| Dressing | Manufacturer | Codes |
|---|---|---|
| **Non-adhesive film-backed** | | |
| Activheal Foam Heel | ACT | H, WCL |
| Activheal Non-adhesive foam | ACT | H, WCL |
| Allevyn Ag Non-adhesive | SN | H, WCL, Ag |
| Allevyn Heel | SN | H, WCL |
| Allevyn Non-adhesive | SN | H, WCL, FEN |
| AMD Antimicrobial Dressing | COV | H |
| Askina Foam | BB | H, Heel |
| Biatain IBU | COL | H |
| Comfifoam | SYN | H |
| Copa Plus | COV | H |
| Medifoam | BIO | H, FEN |
| Optifoam Ag Non-adhesive | MED | H, Ag |
| Optifoam Non-adhesive | MED | H, FEN |
| Polymem | FE | L, SA |
| Polymem Max | FE | H, SA |
| Polymem Silver | FE | L, SA, Ag |
| Polymem tube | FE | L, SA |
| Sof-Foam | JJ | H |
| Suprasorb P | LR | H |
| Tegaderm Foam | 3M | H |

*'H' Heavily exuding wounds, 'L' Lightly exuding wounds, 'FEN' Fenestrated dressing, 'Ag' Silver,' SA' Superabsorbent, 'WCL' Low-adherent or silicone wound contact layer*

**Table 13: Foam Dressings Sheets (cont)**

| Dressing | Manufacturer | Codes |
|---|---|---|
| **Non-adhesive foam-backed** | | |
| Lyofoam Extra | MOL | H, FEN |
| Restore Foam Dressing | HOL | H, SA |
| Restore Foam Dressing with silver | HOL | H, SA |
| Tielle Extra | JJ | H, SA |
| Trufoam NA | UNO | H |
| **Non-adhesive unbacked** | | |
| Allevyn Lite Non-adhesive | SN | L, WCL |
| AMD Antimicrobial Dressing | COV | H |
| Copa | COV | H, FEN |
| Lyofoam | MOL | L, FEN |
| Permafoam | P H. | H |
| Polymem Rhinopak | FE | L, SA |
| Polymem WIC | FE | H, SA |
| Polymem WIC Silver | FE | H, SA, AG |
| Suprasorb M | LR | L |
| **Low-tack adhesive unbacked** | | |
| Mepilex Transfer | MOL | H |

*'H' Heavily exuding wounds, 'L' Lightly exuding wounds, 'FEN' Fenestrated dressing, 'Ag' Silver,' SA' Superabsorbent, 'WCL' Low-adherent or silicone wound contact layer*