EQUIPMENT REVIEW

The Flexipore* 6000 membrane as a wound dressing for use in the accident and emergency department

S. S. SOMERS, C. LYONS, A. F. T. BROWN,
J. KLEIN & H. M. SHERRIFF

Accident Service, Addenbrooke's Hospital, Hills Road, Cambridge

The Flexipore 6000 membrane has been designed to mimic the properties of skin and, when held firmly in place over a wound, provides a suitable environment for healing to occur. In addition, the high degree of conformability enables use on areas such as the hands and extensor surfaces and may allow near normal function of the affected part at an early stage of the healing process.

Flexipore is a 1 mm thick polymer membrane with properties distinct from those of other commercially available membrane dressings. The adhesive surface has an open porous structure which absorbs wound exudate, whilst the external surface has an ultraporous structure of sufficient size to exclude micro-organisms, yet giving a very high water vapour transport rate. The adhesive does not bind to the wound, but to the normal surrounding skin (2 cm overlap recommended) and biodegrades over a 7–10-day period. Thus a moist flexible exudate is enclosed over the wound to promote healing whilst maintaining maximum mobility (Fig. 1). The Flexipore dressing is left in place over a cleaned wound until healed.

We treated 46 patients with Flexipore during a 4-month period. Twenty-three patients had abrasions including some superficial lacerations (wound sizes ranged from 4–300 cm²). Good wound healing was achieved in each case. Dressings over extensor aspects of the knee and elbow remained in place during the 7-day period of follow-up and allowed the patients to perform normal activities. Twenty-three patients had burn or scald injuries ranging from 2–1200 cm² in size. Children with scalds were ideally suited to this dressing since the low bulk and pain relieving effect allowed unrestricted activity. Adult burns and scalds healed well even when the wound size required several large Flexipore sheets to be overlapped (Figs 2 &

Correspondence: Dr S. Somers, Department of Surgery, Weston General Hospital, Grange Road, Weston-Super-Mare, Avon BS23 4TQ.

* Flexipore is a British product, developed and manufactured by: BEAM TECH Ltd, Tarvin Sands Industries, Tarvin, Cheshire, CH3 8JF. Tel. 0829 41515.

Fig. 1. Diagram of Flexipore polymer membrane structure.

Fig. 2. Partial thickness flame burn to back.

3). Problems with leakage of serous exudate from some wounds did not affect healing but occasionally required application of a further Flexipore patch.

In our experience the techniques of handling and application of Flexipore are easily learnt and much less time consuming than 'conventional' dressing. Furthermore, there is no need for redressing of wounds before full healing has taken place at 7–10 days. Calculation of cost effectiveness highlights the remarkable economy of a single Flexipore patch as a dressing (see Table 1) compared to repeated applications of non-adherent gauze, bandage and antibacterial cream.

Fig. 3. Flexipore dressings applied after wound cleaning. Wound fully epithelialized when Flexipore is removed after 8 days. No intermediate dressing change is necessary.

Table 1. Materials cost comparison for Flexipore versus simple dressing.

Dressing Size	Flexipore Cost	Simple dressing cost (+1 re-dressing)	Flamazine
10 × 10 cm	£1.66	£1.20 + £1.20	£3.90
10 × 30 cm	£4.45	£3.60 + £3.60	£3.90
20 × 15 cm	£4.45	£3.60 + £3.60	£3.90
20 × 30 cm	£8.91	£7.20 + £7.20	£7.80

Patient acceptability was excellent. The considerable pain relieving effect of Flexipore when applied to abrasions and thermal injuries was consistently reported by patients. This encouraged normal activity and was the most positive feature of the dressing reported by patients. Indeed some patients returned to their daily activities immediately, despite injuries that would normally have rendered the part non-functional. The water-resistant property of Flexipore enabled patients to wash with the dressing in place.

Overall assessment of Flexipore as a wound dressing indicates the suitability and cost-effectiveness of this membrane dressing for use in the A&E department.