Clinical efficacy of C-View transparent film wound dressing

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Abstract
This article discusses the use of transparent film dressings in wound management. It focuses on one particular product, C-View (Maersk Medical), determining its efficacy through multiple case study review. C-View was found to be easy to use and cost-effective, both as a primary and secondary wound dressing.

The introduction of transparent film dressings has made a valuable contribution to modern day wound management. Many healthcare professionals found the concept of being able to monitor the progress of a wound without disturbing the dressing covering appealing, particularly as frequent removal potentially traumatized the healing process (Seymour, 1996).

The advent of film dressings paved the way for the development of new families of wound dressings and, as a result, there has been a modification in the indications for using these products (Thomas et al, 1997).

HISTORY OF FILM DRESSINGS

The use of film dressings dates back to the 18th century, when swim bladders from certain fish were prepared to form a translucent plaster called isinglass (Thomas, 1996). This was followed by collodion: a solvent-based solution made from nitrated cellulose dissolved in ether and rectified spirit. On application to the skin, the solution evaporated to leave a transparent plastic film (Thomas, 1996).

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PROPERTIES

A number of comparative studies have been undertaken to demonstrate the properties of film dressings. Briggs (1996) uses a prospective randomized control trial to ascertain if a transparent film dressing can help reduce incisional pain intensity. The dressing, Opsite Flexigrid (Smith & Nephew), was compared against the standardized treatment for abdominal hysterectomies of island dressings (Primapore, Smith & Nephew), for the first 48 hours, followed by wound exposure. The study also explored the incidence of wound infection between the two groups.

No significant differences were found, although by the third day the film dressing group no longer required non-steroidal anti-inflammatory medication. However, the island dressing group continued to require a median of 50 mg of non-steroidal medication. The study is quite limited, particularly as it has a low population sample of 30 people, but it does reflect the findings of similar studies by Moshakis et al (1984).

Thomas et al (1997) discuss the advantages of film dressings being used as a secondary wound contact layer, an attribute not considered in the original indications for use. They used a prospective randomized control design to analyse the differences between a hydrocolloid film, Duoderm (Convatec), and a standard transparent film dressing, Tegaderm (3M), both used in conjunction with alginate and hydrogel dressings.

They examined various factors, including ease of use, wear time, wrinkling and periwound maceration. Although the study was limited, it did demonstrate that both products excelled in the manufacturer's product use.
C-View is indicated for use on wounds where there is either little or no exudate. Like many other film dressings, it is suitable for minor burns, donor sites, clean closed postoperative wounds, cuts and abrasions, and superficial pressure ulcers and leg ulcers. It may be used as a secondary dressing over alginates and hydrogels...

Previously mentioned qualities, including being semi-permeable, comfortable, extensible, tissue compatible and easy to use. It is made up of a thin polyurethane membrane backed with a skin-friendly acrylic adhesive. It is transparent and thus allows inspection of the wound throughout the healing process, and can be retained in place for up to 7 days.

C-View is semipermeable in that it enables oxygen transmission and transfers excess moisture from the wound surface to the external environment, thus preventing periwound maceration and bacterial proliferation. This feature is referred to as moisture vapour transmission rate, and is most important as excess sweat and secretions on intact skin can precipitate adhesive breakdown and the development of wrinkles in the dressing. This, in turn, provides a pathway for bacterial entry.

The adhesive quality of C-View ensures security. It has the added advantage of being extensible and conforms to even the most difficult of areas for dressing retention, such as elbows and knees. The dressing is bacteria-proof. It is also waterproof, thus enabling patients to shower while the dressing is in place.

C-View is indicated for use on wounds where there is either little or no exudate. Like many other film dressings, it is suitable for minor burns, donor sites, clean closed postoperative wounds, cuts and abrasions, and superficial pressure ulcers and leg ulcers. It may be used as a secondary dressing over alginates and hydrogels, preventing the primary dressing from drying out, thus maximizing the optimal wound environment and subsequently extending wear-time (Thomas, 1998). It may be applied as a prophylactic measure to reduce shear and friction forces on vulnerable areas. C-View is available in a range of sizes, including a small presentation to cover peripheral cannula sites (Figure 1).

The manufacturer advises that C-View, like other film dressings, should not be used as a primary contact layer on deep wounds or to treat infected sites. The dressing should be changed if it becomes punctured or does not fully adhere to the skin, as this compromises the bacterial barrier property of C-View. No tests have been carried out using C-View in conjunction with topical medicinal preparations.

PRODUCT FOCUS
CLINICAL EFFICACY OF C-VIEW TRANSPARENT FILM WOUND DRESSING

C-View should always be applied using an aseptic or no-touch technique. Before application, it is important to ensure that the periwound area is clean, dry and free from grease, detergent and moisturizers in order to ensure adhesion and prevent sensitivity reactions.

When selecting an appropriate sized dressing an overlap of at least 2 cm onto the surrounding skin should be ensured, which will help provide good adhesion. The large, central backing strip from the adhesive side of the dressing is removed first and the dressing is placed directly onto the centre of the wound bed. The outer backing strips are then peeled away and the edges of the dressing smoothed down to ensure good contact. Once the dressing is secure, the outer upper protective strips are removed in the direction of the arrows (Figure 2). C-View may be cut in order to aid adhesion when being applied to a contoured area.

C-View should be removed carefully in order to prevent any discomfort, damage to the wound and surrounding tissues or dislodging a cannula if used as fixation over such a device. The corner of the dressing is first peeled and lifted. While supporting the skin, the dressing is stretched horizontally in the direction of the hair growth. Residual exudate should be removed if present on the surrounding skin before reapplication.

USE OF C-VIEW

For the purposes of this article, the properties of C-View were analysed using individual case review (Table 1). The dressing was examined in relation to wear-time, comfort, wrinkling, periwound maceration, sensitivity reactions and performance as a secondary wound contact layer.

Retrospective economic evaluation, including cost-minimization, cost-effectiveness, cost-utility, cost-benefit and scientific evidence were also considered. C-View was also assessed for its ability to protect the skin from shear and friction forces, and thus maintain skin integrity. The author acknowledges the limitations of these studies, and further work is planned to compare C-View with other film dressings.

When determining appropriate dressing regimes it is fundamental that the credentials of the chosen product include a sound evidence base, and that it is clinically and cost-effective (Department of Health (DoH), 1999). In order to evaluate whether C-View has these attributes the author considered the following criteria:

- **Cost-minimization**: the dressing was retained better than other similar products and expenditure was subsequently reduced as frequent reapplications were not necessary
- **Cost-effectiveness**: no significant differences in healing times were noted between C-View and other similar products
- **Cost-utility**: staff found C-View easy to apply and easy to remove. They also noted that it was more extensible than the other film dressings used in the trust

### Table 1. C-View property analysis

<table>
<thead>
<tr>
<th>Type of wound</th>
<th>Location</th>
<th>Age of patient</th>
<th>Wound classification</th>
<th>Wear time</th>
<th>Comfort</th>
<th>Wrinkling</th>
<th>Periwound maceration</th>
<th>Sensitivity reactions</th>
<th>Performance as a secondary dressing</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pressure ulcer</td>
<td>Sacrum and buttocks</td>
<td>93</td>
<td>Necrotic</td>
<td>3 days</td>
<td>Unable to report</td>
<td>None</td>
<td>None</td>
<td>None</td>
<td>Good — used with hydrogel</td>
</tr>
<tr>
<td>Foot ulcer</td>
<td>Dorsal foot</td>
<td>39</td>
<td>Sloughy</td>
<td>3 days</td>
<td>Satisfactory</td>
<td>None</td>
<td>None</td>
<td>None</td>
<td>Good — used with alginate</td>
</tr>
<tr>
<td>Abrasion</td>
<td>Lateral malleoli</td>
<td>36</td>
<td>Granulation</td>
<td>5 days</td>
<td>Very comfortable</td>
<td>None</td>
<td>None</td>
<td>None</td>
<td>N/A</td>
</tr>
<tr>
<td>Cannula site</td>
<td>Supraspinous fossa</td>
<td>39</td>
<td>N/A</td>
<td>3 days</td>
<td>Satisfactory</td>
<td>None</td>
<td>None</td>
<td>None</td>
<td>N/A</td>
</tr>
<tr>
<td>Blanching hyperaemia</td>
<td>Sacrum hyperaemia</td>
<td>45</td>
<td>N/A</td>
<td>3 days</td>
<td>Unable to assess</td>
<td>None</td>
<td>None</td>
<td>None</td>
<td>N/A</td>
</tr>
</tbody>
</table>
motor loss from the waist down, and was subsequently at very high risk of sustaining pressure damage. A skin inspection identified a hyperaemic area over his coccyx, measuring 3 x 1 cm, which blanched under light finger pressure (Figure 3).

As the surgery had enabled stabilization of the neurological deficit, his support surface was changed from the Paragon 9000 to a pressure-relieving mattress that was suitable for his level of risk (Pegasus Cairwave Therapy System).

C-View was applied to the hyperaemic area to enable regular assessment and prevent shear and friction forces precipitating any skin breakdown. The potential for shear and friction may arise from regular repositioning. C-View was found to be easy to apply and remove, and was retained for longer periods of time in comparison to the previous regime using hydrocolloid film dressing (Figure 4).

Although Mr Jones continues to present with this blanching hyperaemic area, no deterioration has occurred in the condition of his skin.

CONCLUSION

Advances in wound care have seen the development of a plethora of dressing products. Regardless of this technological amelioration, there continues to be a place for transparent film dressings, both as a primary and secondary dressing. For many wounds, these products meet the requirements for achieving optimal wound healing. C-View has been found to be effective in meeting these needs in a variety of situations.

Winter G (1962) Formation of the scab and the rate of epithelization of superficial wounds in the skin of the young domestic pig. Nature 193: 293–4

### Table 2. C-View cost and size availability

<table>
<thead>
<tr>
<th>Size</th>
<th>Cost</th>
</tr>
</thead>
<tbody>
<tr>
<td>6 x 7 cm</td>
<td>£0.36</td>
</tr>
<tr>
<td>10 x 10 cm</td>
<td>£1.00</td>
</tr>
<tr>
<td>15 x 20 cm</td>
<td>£2.29</td>
</tr>
</tbody>
</table>

**CASE STUDY**

Mr Jones (the patient’s name has been changed to ensure anonymity), a 45-year-old man, had recently undergone surgery to remove a spinal lesion. He had developed both sensory and