Effectiveness in retention bandaging

A healing wound is a positive outcome that can be objectively demonstrated with pictures and measurements. But retention bandages are not designed to promote healing, so the effectiveness of these bandages is based on subjective results such as comfort and ease of use. The author’s GP surgery is very careful to obtain dressings and bandages that have been clinically evaluated, and this poses a problem for the suppliers of products such as retention bandages.

When the author wished to begin using a new retention bandage, Acti-Wrap cohesive (Figure 1), the team decided that a 30-patient evaluation of its cost-effectiveness and use was required before committing to purchase. The results of this simple evaluation of Acti-Wrap are presented in this article with a case study.

Retention bandages in practice
Retention bandages are designed to keep dressings, devices and creams in place without causing discomfort to the patient; they should be lightweight, soft and comfortable and should not cause unwanted compression (Fraser, 2002). Because the human body is unsymmetrical, the application of bandages to the legs, arms and head, in particular, is difficult for they are irregularly shaped—large at one end, small at the other, with joints that constantly flex and extend. This allows bandages on the larger area to slip down to the smaller area. The ideal bandage should conform to the shape of the area because, without this conformability, a bandage will fall away, exposing the dressing.

A useful addition to an effective retention bandage (a lightweight, soft, comfortable bandage that does not cause unwanted compression) would be a cohesive bandage that remains in place without slippage. Moreover, if a bandage remains in place longer than other bandages without securing tapes, it may be more cost-effective; if it needs to be replaced less often, fewer bandages will be required and less nursing time will be needed to change them.

Method of evaluation
Thirty patients requiring retention bandages, aged between 15–93 years, were selected and observations made over a 2-month period. Each of these patients required a retention bandage and each had been using an alternative bandage (not Acti-Wrap).

The recommended bandaging method is joint to joint (Baxter and Ballard, 2001), and this was used as the method of application for Acti-Wrap in this evaluation. Acti-wrap was compared to the previous retention bandage for:

- Ease of application
- Ability of retention
- Ease of securing without tapes (cost-effectiveness)
- Ease of removal
- Patient comfort and preference
- Nurse preference
- Conformability
- Skin condition on removal.

For comparison, previous products (including Kling, Easifix and crepe) were used on various parts of the body, e.g. lower legs, ankles, feet, toes, forearms and wrists. The types of wounds for which they were used included:

- Skin flaps
- Leg ulcers
- Foot ulcers
- Diabetic wounds
- Burns
- Lacerations
- Toe amputations.

Results
Twenty-four subjects (80%) reported that Acti-Wrap remained in place better than the previous product. Only one subject (3%) said it was worse. However, five subjects (17%) reported that it slipped slightly. The reasons for slippage were thought to be:

- An application area that was awkward to bandage
- Footwear which caused slippage
- A very active patient
- Application of a wrong-sized bandage
- Poor application technique (this improved on subsequent applications)
- An irritating wound (patient rubbed the area).

![Figure 1. Acti-Wrap in situ.](image)

Linda Campbell is Nursing Sister in Guernsey, Channel Islands
Table 1. Cost comparison of Acti-Wrap with other retention bandages

<table>
<thead>
<tr>
<th>Bandage type</th>
<th>Size (cm)</th>
<th>Cost (£)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Acti-Wrap</td>
<td>10 x 400</td>
<td>1.02</td>
</tr>
<tr>
<td>Acti-Wrap</td>
<td>6 x 400</td>
<td>0.58</td>
</tr>
<tr>
<td>Kling</td>
<td>15 x 400</td>
<td>1.95</td>
</tr>
<tr>
<td>Kling</td>
<td>7.5 x 400</td>
<td>1.21</td>
</tr>
<tr>
<td>Crepe</td>
<td>10 x 400</td>
<td>0.90</td>
</tr>
<tr>
<td>Crepe</td>
<td>7.5 x 400</td>
<td>0.74</td>
</tr>
</tbody>
</table>

The nurses reported a preference for Acti-Wrap as they found it stayed in situ for up to 7 days in most cases, was easy to apply, easily removed and both nurse and subject preferred the ‘feel’ of it. (The patient whose bandage slipped had worn open-toed sandals and was very active despite nursing advice to take care with the dressing.) Each nurse said they would use the bandage again and the patients said they preferred it because it stayed in place and felt comfortable. No skin sensitivities were reported over the evaluation period.

Acti-Wrap was shown to be cost-effective because on several occasions only part of the bandage was used. The remaining length of the bandage was used for that patient at the next dressing change. Moreover, Acti-Wrap was quicker and easier to use because it did not require adhesive tapes.

Cost-effectiveness

The author found that Acti-Wrap used less bandage to cover the same area than other products, and could also be less expensive than some other bandages (Table 1). Furthermore, it did not require re-application because of slippage.

The need of no tapes to secure the bandage is a benefit because using adhesive tape to reduce bandage slippage has a cost implication. More frequent dressing changes also add to the overall treatment costs which include the cost of the primary dressings and the cost of visits to the surgery. In Guernsey the average £14 surgery visit fee and the treatment cost is incurred directly to the patient or the medical scheme.

Case study: Mr M

Mr M is an 83-year-old with a very active life style. He has been an insulin-dependent diabetic for 18 years, even though his diabetes is well controlled. He underwent an amputation of his left toe 13 years ago and his second left toe was amputated 9 years ago. He has been attending the surgery for dressings on his left foot over a 6-year period.

His previous dressing regimen was Lyofoam and crepe. Mr M found this did not always stay in place and, when it loosened, he had to keep re-taping. During the previous 3 months, he attended the surgery three times a week for a dressing change.

Mr M was asked for permission to use Acti-Wrap in place of his crepe bandage. He was informed that the dressing would remain the same and that only the bandage would be different. He agreed.

During the following 2 months Acti-Wrap was applied at each dressing change. Acti-Wrap remained in situ on all but one occasion during the 2 months. As Mr M did not need to re-tape on numerous occasions, he preferred the Acti-Wrap to the crepe and felt that it gave him greater comfort.

Mr M wears walking boots to protect his feet and to provide support when mobilizing during the day. His wounds continued to heal well and his dressing remained in place without taping. Once the wounds healed he was able to reduce surgery visits to once-weekly for monitoring, and the dressings were used for support and pressure relief (Table 2).

Discussion

The majority of patients in this evaluation preferred Acti-Wrap cohesive retention bandage to the other types of bandages, but these results are subjective and cannot be objectively demonstrated. Nevertheless, the majority of patients on this subjective study reported that Acti-Wrap remained in place better than the previously used retention bandage. This may increase confidence that this bandage will be better used by nurses and that patients will comply easily with treatment. Acti-Wrap’s benefits were cost effectiveness, ease of application and removal, and patient preference.

Conclusion

The Acti-Wrap cohesive retention bandage is a conforming bandage that is cost-effective, comfortable and a simple method of retaining dressings in situ. The practice purchased Acti-Wrap and has used it successfully for 18 months.

References

