A study into the cost effectiveness of cohesive retention bandages
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Record Status
This is a critical abstract of an economic evaluation that meets the criteria for inclusion on NHS EED. Each abstract contains a brief summary of the methods, the results and conclusions followed by a detailed critical assessment on the reliability of the study and the conclusions drawn.

Health technology
A new cohesive bandage (Acti-wrap) was compared with six different retention bandages. More specifically, Slinky, Kling, Peha-Crepp E, Tubifast, Crepe and K-band.

Type of intervention
Treatment.

Economic study type
Cost-effectiveness analysis.

Study population
The study population comprised volunteer nurses.

Setting
The study setting was primary and secondary care. The economic study was carried out in the UK.

Dates to which data relate
The dates to which the effectiveness data related were not reported. The price year was not reported.

Source of effectiveness data
The effectiveness data were derived from a single study.

Link between effectiveness and cost data
The costing was undertaken prospectively on the same sample as that used in the effectiveness study.

Study sample
The study sample comprised 10 nurses. Each nurse was provided with one cohesive bandage and one other bandage selected at random by the investigator. The investigator bandaged each arm of the nurse from wrist to just below the elbow and photographed the result.

Study design
The study was based on a case series in 10 nurses. It would appear that the nurses had to wear the bandages for a complete working day (i.e. one shift). The nurses were not told they were being investigated, only that they would be asked questions at the end of the shift.
Analysis of effectiveness
All of the nurses included in the study were accounted for in the analysis. At the end of the shift the nurses were asked the following questions:

How comfortable did they find each of the bandages?
Did either bandage stay in place?
Which bandage did they prefer?
Which bandage did they feel had the best appearance?
Did they feel either bandage was more or less restrictive, and which one?
Did they feel any discomfort?

As the arm on which the bandage was worn might affect slippage and other outcomes (e.g. the right arm potentially may undergo more activity than the left), Acti-wrap was placed on the right arm in 7 of the 10 cases. One person performed all the bandaging to ensure consistency of application.

Effectiveness results
Six of the 10 nurses reported that they found Acti-wrap comfortable, although four stated that they found it “itchy”. Eight nurses found the other bandages more comfortable.

Ten nurses (100%) found the other bandages to slip during the days wear, whereas only two found Acti-wrap to slip during the day.

Nine of the 10 nurses found that Acti-wrap had the best appearance. Only one thought the other bandages had the best appearance.

All 10 nurses preferred Acti-wrap to other bandages.

Clinical conclusions
Due to the fact that Acti-wrap slipped less than other bandages, and had a better appearance, all nurses preferred the use of Acti-wrap over other bandages.

Measure of benefits used in the economic analysis
The authors did not derive a summary measure of health benefit. The analysis was, in effect, a cost-consequences analysis.

Direct costs
The resource quantities were not reported separately from the costs. Only the costs of the bandages were included in the analysis. The price of each bandage would appear to have been obtained from the authors’ setting. Discounting was not relevant as all the costs were incurred during a short time. The study reported the total costs. The price year was not reported.

Statistical analysis of costs
The costs were treated as point estimates (i.e. the data were deterministic).

Indirect Costs
The indirect costs were not included.

**Currency**

UK pounds sterling (£).

**Sensitivity analysis**

No sensitivity analysis was carried out.

**Estimated benefits used in the economic analysis**

See the 'Effectiveness Results' section.

**Cost results**

The total costs were 5.38 for Acti-wrap versus 8.67 for other bandages.

**Synthesis of costs and benefits**

The costs and benefits were not combined.

**Authors' conclusions**

This small, simple study demonstrated that Acti-wrap was a cost-effective method of retaining dressings, and was also effective and aesthetically pleasing.

**CRD COMMENTARY - Selection of comparators**

The choice of the other six retention bandages as the comparator was justified on the grounds that they were available. You should decide if these six bandages are widely used in your own setting.

**Validity of estimate of measure of effectiveness**

The analysis was based on a case series of 10 volunteer nurses, each of whom was bandaged with the intervention bandage on one arm and with one of the comparator bandages on the other arm. This study design was not appropriate for the study question since case series are based on a limited number of patients. A randomised controlled trial (RCT) on actual patients would have been a more appropriate study design, as well-conducted RCTs are considered to be the 'gold' standard study design. The authors tried to minimise bias. For example, they placed the majority of intervention bandages on the right arm (arm more likely to be active, hence higher chance of bandage slippage). Also, one person carried out all the bandaging to ensure consistency of application. However, the study was too small to detect statistically significant differences in outcomes and the study design was open to bias and confounding.

**Validity of estimate of measure of benefit**

The authors did not derive a measure of health benefit. The analysis was therefore categorised as a cost-consequences analysis.

**Validity of estimate of costs**

Only the bandaging costs were included in the analysis, making it a very simple costing exercise. However, despite this, the authors did not report the unit costs of the bandages, thus limiting the generalisability of their results. The authors also failed to test if the differences in costs were statistically significant. The price year was not reported, which will hamper any future inflation exercises.
Other issues
The authors did not make appropriate comparisons of their findings with those from other studies. The issue of generalisability to other settings was not addressed. The authors do not appear to have presented their results selectively. However, their conclusions did not reflect the scope of the analysis. As the study was based on volunteers rather than patients, and in a very small sample with no statistical analysis undertaken, this study was unlikely to demonstrate conclusively that Acti-wrap is cost-effective.

Implications of the study
The conclusions from this study should be considered with caution as this study was based on a case series with a non-patient sample.

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