

**A Report by Ian Denison, ATP PT****Introduction**

This document is a summary of a little comparison test I performed to help clinicians working at our facility choose appropriate adhesive bandages to help protect themselves and their clients from exposure to blood borne pathogens. It represents my personal opinion of the relative merits of each dressing.

**The Problem**

One of our staff physiotherapists lifted a client's leg the other day while assisting them to transfer, when she removed her hand she had blood on her fingers that came from a wound the client had not mentioned. Of course intact skin is a pretty decent barrier to blood borne pathogens (BBP) and simply washing her hands should have been the end of the story. Unfortunately the PT had some open areas around her nails and since the client profile suggested there was a significant risk he might harbour BBP's the staff member was sent to emergency to commence prophylactic treatment to combat HIV.

This event prompted a discussion in PT regarding dealing with small open areas and little owies. Many of the staff balked at the idea of using gloves all the time and pointed out the wound may not be on the hand. Conventional band-aids or whatever the appropriate generic term is, are hopeless, since frequent hand washing is part and parcel of our job and the band-aids generally fall off during the first wash. The perforations also allow the pad to become wet through and they do a poor job of sealing the wound particularly on the sides.

**Research**

I contacted a number of authorities to see if they have recommendations on alternative wound coverings, but apparently they have bigger fish to fry. As a parent of two young boys I have some experience with alternative owie covers and decided to do a quick and dirty comparison to see which wound covering would prevent the small lesion from being a portal of entry or exit and protect both the clinician and client from exposure to BBP's.



I purchased 5 different wound coverings from the local pharmacy.

## Testing

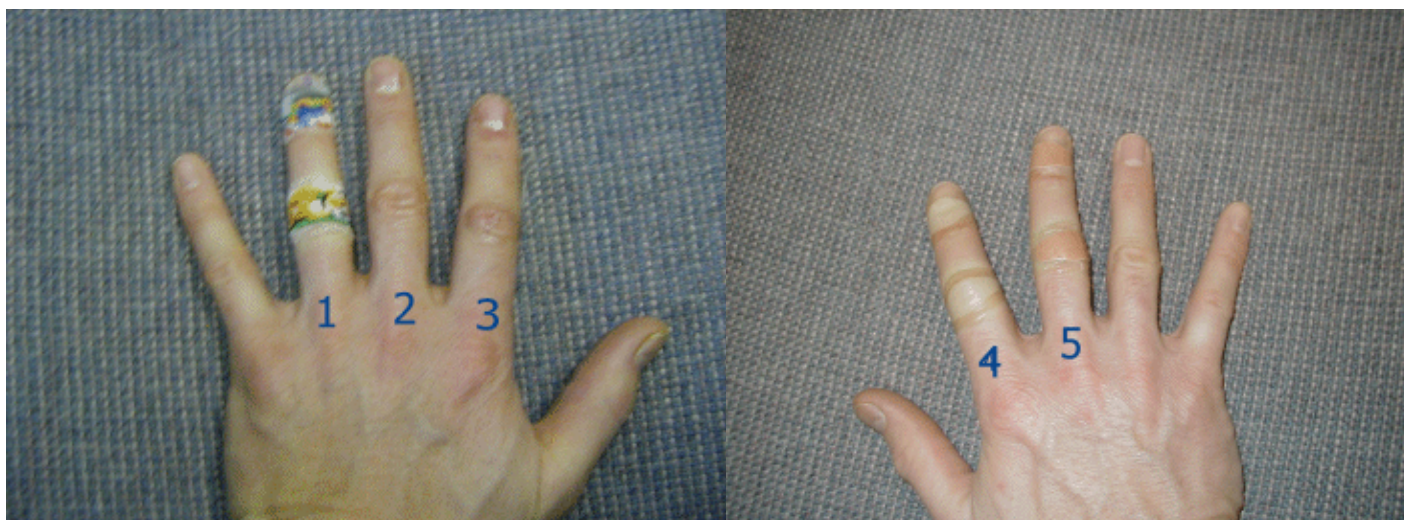
I placed one of each type to cover the skin around a fingernail and one of each type over a proximal interphalangeal joint.

*(These sites were chosen since the nails and fingertips take quite a beating and the knuckle requires the band aid allow significant movement.)*

The study lasted 24 hours and consisted of activities including but not limited to:-

transferring clients, typing, wheelchair maintenance, eating, washing the dishes, over 20 hand washings with soap and water and also alcohol based cleaners, application of moisturizer 4x, and a shower.

After both 8 and 24 hours I put food colouring on each dressing to see if the dressing allowed it to permeate to the skin.



## Results

1	<b>Nexcare</b>  <b>Gentle Paper Bandages</b>	<b>10¢ each</b>	<b>Micropore based bandage with small absorbent pad</b>
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The band aid adapted to the contours of my knuckle and finger tip quite well.

Became saturated after one wash.

Fell off knuckle after four hours.

Fell off nail after eight hours.

Stained both areas at eight hours

Allowed reasonably free movement at the knuckles.

Moderate maceration of skin noticed when band aid fell off.

<b>2</b>	<b>Band Aid Liquid Bandage</b>	<b>\$1.50 each</b>	<b>Paint on clear coat</b>
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As long as the liquid was applied with the knuckle flexed contouring was perfect. It took about a minute to dry. Both nail and knuckle were resistant to staining at twenty-four hours even though the coating was no longer visible.

No maceration occurred.

The liquid has very little odour and none after a couple of hand washes. The dressing dries with a satin finish and disappears within twenty-four hours.

<b>3</b>	<b>Med Tech New Skin</b>	<b>? \$7.50 for 28.5g</b>	<b>Spray on clear coat</b>
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As long as the spray was applied with the knuckle flexed contouring was perfect. It took about a minute to dry. Knuckle was resistant to staining at eight hours The nail allowed a little stain to penetrate at eight hours. At twenty-four hours both areas stained.

No maceration.

Liquid smells very strong in fact it made me feel a little ill. I also tried the 'paint on version' and this is just as bad.

The dressing dries with a glossy finish.

<b>4</b>	<b>Band Aid Advanced Healing</b>	<b>50¢ each</b>	<b>Hydro colloid type gel strip</b>
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Adapted to contours of both nail and knuckle exceptionally well.

Remained waterproof for entire test.

At twenty-four hours, started to peel at back of knuckle but still protected wound.

No staining of either site.

Very slight maceration of skin at twenty-four hours.

No restriction of knuckle range.

The dressing is a little thicker than the others and provides some padding to the area.

<b>5</b>	<b>Nexcare Waterproof Bandages</b>	<b>15¢ each</b>	<b>Clear plastic with small absorbent pad</b>
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The bandage adapted to the contours of my knuckle and fingertip quite well.

Remained waterproof for twenty hours on nail and for the entire test on the knuckle.

No staining of knuckle or nail at eight hours.

Nail stained at twenty-four hours.

Significant maceration of skin noticed at twelve hours becoming progressively more pronounced with time.

Material had a little tackiness to it causing it to drag on some surfaces.

Allowed good movement at the knuckle.

## Summary

	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>
	<b>Nexcare Gentle Paper Bandages</b>	<b>Band Aid Liquid Bandage</b>	<b>Med Tech New Skin</b>	<b>Band Aid Advanced Healing</b>	<b>Nexcare Waterproof Bandages</b>
<b>Contouring</b>	K	J	J	J	K
<b>Waterproof</b>	L	J	K	J	K
<b>Maceration</b>	K	J	J	J	L
<b>Flexibility</b>	K	J	K	J	K
<b>Odour</b>	J	J	L	J	J
<b>Durability</b>	L	J	K	J	K
<b>Invisibility</b>	L	J	K	K	K

Cost

J

L

L

K

J

## Recommendations

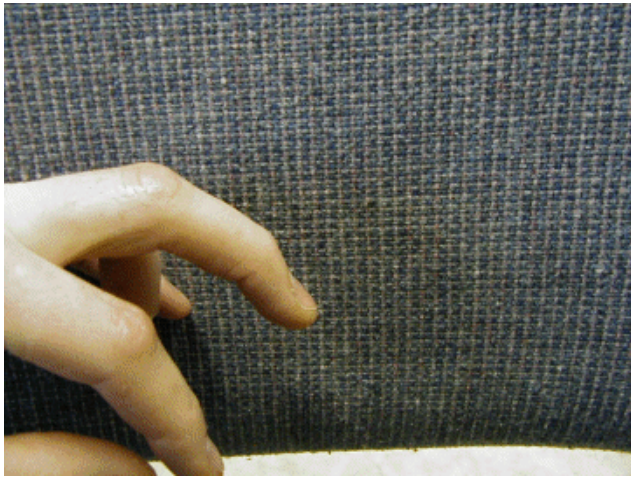


The Nexcare Waterproof Bandages performed adequately and would probably be a good solution for scrapes and small lesions on flat surfaces like the back or palm of your hand. The tackiness causes it to grip a little which may compromise its effectiveness on finger tips. It costs quite a bit less than the OpSite or Tegaderm you may have kicking around in your clinic.



The Band Aid Advanced Healing gel strips are a very good choice for fingertips and knuckles; they contour well, last a long time, and allow full movement of the knuckles without coming unstuck. The padding inherent in the dressing helps to reduce discomfort caused by sensitive lesions.

They are also suitable for fresh owies that are weeping a bit since the hydrocolloid action of the gel absorbs the exudates. It is best to warm the bandage in your hand a little prior to application to get the best adhesion.



Band Aid Liquid is a very good choice for non-weeping lesions. Ten disposable Q-tip like foam applicators called Actuators are provided with the kit and it is recommended that you apply four drops of solution to the absorbent tip and apply to the wound. A chemical reaction occurs which causes the liquid to form a resilient skin. It doesn't sting, is almost invisible, doesn't smell and is surprisingly durable (claimed 5 to 10 days). Some people however may prefer a visible barrier.

### **Not Recommended**

The Nexcare Gentle Paper Bandages were unsuitable for this application. The paper base was not resilient to washing and it did not contour as well as the others.

The Med Tech New Skin's persistent odour made it unpleasant to use. It left a visible glossy coating, which began to crack after about twelve hours, and it provides less reliable protection than the Band Aid Liquid.

### **Last Word**

I hope this little study helps clinicians and clients and I encourage you to try a variety of off the shelf solutions to find ones that best meet your needs.

My thanks to Doug Gayton for his diligent, albeit occasionally ignored editing suggestions.