

## Moist Wound Healing Treatments: a Review (November 1999, revised May 2001)

Product	Use/comment	Evidence
<b>Expressed breast milk</b>	Expressed breast milk has no risk of allergy, contains antibodies and 'epidermal growth factor' which potentially may promote the growth and repair of skin cells.(1) Using expressed breastmilk encourages hand expressing – may have benefits not considered in studies of nipple healing. Is used in many cultures on skin irritations (2).	USP-modified lanolin, warm compresses, and expressed breast milk with air drying were compared to a control group (177 women with sore nipples) (3). <b>Results</b> No differences in pain or duration of breastfeeding. Exclusive breastfeeding rather than partial was a better predictor of breastfeeding beyond 6 weeks. <b>Conclusion</b> Clinicians should discontinue recommending creams and ointments, since these have not been proved to be effective... and may only present an unnecessary nuisance and expense for the mother.
<b>White soft paraffin</b> (Vaseline) Use in tube form where possible. <b>Widely available.</b>	Might try next after breast milk.  Good at preventing scab formation which may be pulled off during a feed causing further damage.	Compared white soft paraffin to antibiotic creams in general wound healing (884 women) (4). <b>Results</b> No skin reaction to Vaseline was found when confirmed by patch tests. Only 0.9% reacted in the antibiotic group.
<b>Yellow soft paraffin</b> This is the unbleached form of Vaseline. <b>Available</b> in hospitals and pharmacies.	This is used in special care baby units as a moisturiser on babies' lips.  See above re scab formation	Not tested on nipple wounds although in common usage. Compared reactions to yellow and white soft paraffin on 3 people with known sensitivity to yellow soft paraffin (5). <b>Results</b> Within each brand purification meant less sensitivity, may mean white soft paraffin is preferable to yellow.
<b>Jelonet</b> Gauze square soaked in yellow soft paraffin. Comes in foil pack or tin <b>Available</b> on prescription, or from pharmacies.	Useful on open, established cracks; should help stop the wound sticking to a breast pad. Use folded in double layer to stop drying out, if it still sticks try something else. Change at each feed. See illustration in (6)	Has been used as a wound dressing for many years. One book claims it does not maintain a moist wound environment, not as popular in general wound care because it can stick to the surface of larger wounds (7, p 85).
<b>Lansinoh</b> Claims to be a highly purified form of lanolin, although allergies may still be possible. Substitutes are widely available in high street chemists and supermarkets and unlikely to be effective.	Claims to be absorbed more effectively than Vaseline and that Vaseline needs to be washed off – no evidence of this. <b>See text</b>  Advertised in baby magazines.  Look out for various substitutes purporting to be pure lanolin- some are diluted by other compounds i.e. liquid paraffin	Several studies published but have design shortcomings. No study found which compared Lansinoh to the soft paraffin group. One unpublished thesis compared Lansinoh to expressed breast milk (8) and (9). <b>Results</b> Cracked nipples took on average 1-2 days quicker to heal with Lansinoh. Delay in publication has been prolonged which must cast doubts on its methodology.

Product	Use/comment	Evidence
<b>Creams</b> such as Kamillosoan, Calendula and other similar brands. <b>Widely available</b>	No scientific evidence exists for their use. Look for ingredients that should not be ingested by babies – vitamins, peanut oil. Many stores have own brand versions. Kamillosoan no longer contains peanut oil.	Referred to in (1) (11) (12) and (13).
<b>Hydrogel</b> A dressing of gel granules which can be applied to the cracked nipple. Large water content. May feel cold to touch. Expensive. <b>Available</b> from pharmacies e.g. as NuGel, market is still developing	Various papers warn of the risk of the baby choking if the mother is sleepy enough to forget to take it off. Seems remote given that it would be held in place by a bra and breast pad which would have to be removed. Will absorb some wound fluid/ milk. Good at moistening a dry wound. Used for open and established wounds (granulating wounds). New dressings designed and marketed specifically for breastfeeding are being marketed in some countries. Some advantages are claimed for dressings containing glycerine, as these residues are considered safer.	Compared hydrogel dressings with standard hospital care of lansinoh plus breast shells. (10) <b>Results</b> Stopped early because of increased infections in the hydrogel dressing group. Two groups each with 21 mothers. Worth checking whether there is an explanation for this, eg how often the pads were changed.
<b>Sprays</b> Rotorsept and other sprays	Sprays have an alcohol base which is drying to the skin, may be more likely to cause cracking. May alter the normal skin bacteria	(1) (11) (12) (13)
<b>Antibiotic creams</b>  Fucidin tulle  Only available from GP's.	Not in general use in the UK but is more common in America and through information found on internet sites.  Expensive, can cause skin reactions, increase the risk of bacterial resistance.  Wipe off excess cream before the next feed but don't wash off or it may further damage skin.  Tulle gauze used like jelonet – doubled over and kept under breast pad.	<b>Study A randomised trial with 922 patients divided into 440 having white petrolatum (wsp) and 444 bactricin - an antibiotic cream(ac)</b>  <b>Results</b> The rate of infection was similar in both groups (2%wsp v 0.9%ac, not sig). Antibiotic creams were associated with infections that were more serious and expensive to treat. No patient in the wsp group developed an allergic reaction but 4 did in the antibiotic group. (4). In a study of treatments for infected sore nipples (confirmed by lab culture) better healing was achieved in the group taking antibiotic tablets rather than creams (14). Letter states study was too small to be conclusive(15)
<b>Antibiotic dressings</b>  <b>Yellow soft paraffin squares impregnated with fucidin</b>	May be used instead of a Jelonet type dressing if the wound is superficially infected. (11)	

**If using any of the above creams apply after feeds. They do not need to be washed off before the next feed, though if using creams/ gauze containing antibiotics its worth wiping off any excess before a feed (see above).**