

Silk and antimicrobial garments

In England and Wales £1.3 million is spent annually on silk garments (ePACT August to October 2016). Medicines optimisation projects in this area review the place in therapy of silk garments in atopic dermatitis and are aimed at ensuring these products are not routinely prescribed. This bulletin should be used in conjunction with PrescQIPP B148 on support bandages and stockinette: <https://www.prescqipp.info/resources/category/322-wound-care-support-bandages-and-stockinette>

Further bulletins on wound care products including silver dressings, other antimicrobial dressings, sterile dressing packs, protease-matrix modulating dressings, foam dressings, soft polymer dressings and negative pressure wound therapy are also available in the woundcare webkit <https://www.prescqipp.info/wound-care/projects/wound-care-webkit>

Recommendations

- The evidence relating to the use of silk garments for eczema and atopic dermatitis is weak and of low quality.¹
- Silk garments should not be routinely prescribed.¹
- Clinical Commissioning Groups (CCGs) may wish to consider processes (such as individual funding requests, prior approval, formulary restrictions) to enable prescribing in exceptional circumstances through assessment by a dermatologist.
- Prescribe the minimum quantity of garments necessary to meet people's needs, to help minimise wastage and stockpiling.
- Involve appropriate stakeholders, such as tissue viability nurses (TVN) and community nurses for their clinical expertise and to support whole system compliance.
- Prescribe these garments as acute issues and not on repeat medication records.

Background

Silk garments are used as an adjunctive treatment (to emollients and topical corticosteroids) for various forms of dermatitis, eczema and allergic skin conditions.²

Four brands of knitted silk garments are currently listed as an appliance in part IX A in the Drug Tariff and are relatively expensive.³ These are DermaSilk®, DreamSkin®, Skinnies™ silk and Skintoskin®.⁴⁻⁷ All four brands have a wide range of products from eye masks, socks and gloves to vests, pyjamas and body suits. Sizes of garments range from those suitable for babies and children to full size adult clothing. Three brands of garments contain knitted medical grade silk that has been treated to remove the natural gum (sericin) which can be allergenic.⁸ The fibre is then coated with an antibacterial (DermaSilk®, Skinnies™ silk) or a polymer (DreamSkin®).⁴⁻⁶ The manufacturers claim that silk clothing is less irritant than standard cotton clothing, protects the skin from moisture loss while remaining 'breathable' and may reduce excessive sweating.⁴⁻⁶

Skintoskin® products are made of cotton and seaweed extracts with silver salts. As well as dermatitis and atopic eczema, the manufacturer also indicates them for problems caused by fungi such as thrush or athlete's foot, bad odours, sub-mammary candidiasis and diabetic foot. The manufacturer claims that

cotton is extremely well tolerated by the skin, silver gives a strong antibacterial and anti-fungal effect and seaweed extracts (algae) have a calming, irritation relieving effect on the skin.⁷

When used in combination with medical creams and ointments, care should be taken to ensure that the medication is fully absorbed into the skin before the silk clothing is worn.²

Clinical effectiveness and national guidance

Published trials have been small and limited to infants and children. The largest of these trials (Ricci et al) recruited 46 children with atopic dermatitis (AD) aged from two months to 10 years. 31 of these were allocated to the use of silk clothing (DermaSilk®) continuously for seven days, the other participants wore cotton clothing. Topical emollients were the only treatments allowed. Severity of symptoms was scored using a clinically validated scoring system ('SCORAD' index) by an investigator blinded to clothing type in each patient. At the end of the seven days, there was a 30% reduction in score for those using silk garments ($p = 0.003$), compared to a 2% reduction ($p=0.886$) in the control group. They also found a statistically significant reduction in severity score for a localised area covered by silk clothing (42% reduction, $p=0.01$) compared to another area left uncovered during the trial (16% reduction, $p=0.112$).⁹

A systematic review in 2012 of 13 studies of functional textiles (silk, silver coated cotton, borage oil, ethylene vinyl alcohol fibre) concluded that the evidence for the use of functional textiles in AD treatment is weak. More studies with better methodology and longer follow-up are needed.¹⁰

A long term trial of silk therapeutic clothing for the management of eczema in children in the UK which includes an estimate of cost-effectiveness is due for publication in December 2016.¹¹

The National Institute for Health and Care Excellence (NICE) guidance on treatment of atopic eczema in children included the Ricci et al study in their review. NICE stated that no conclusions could be drawn from this study and made no recommendation.¹² In their "do not do" recommendations, they state that whole-body (limbs and trunk) occlusive dressings (including wet wrap therapy) and whole-body dry bandages (including tubular bandages and garments) should not be used as first-line treatment for atopic eczema in children and should only be initiated by a healthcare professional trained in their use.¹²

The British National Formulary (BNF) states that silk garments are not suitable for use in direct contact with emollients used in 'wet wrapping techniques'.²

SIGN guidelines make no recommendation on the use of silk garments.¹³

The British Association of Dermatologists leaflet on atopic dermatitis states that special silk garments can be helpful for some people.¹⁴ The benefit of special silk gloves or socks to help inflamed skin in palmopustular pustulosis is debated, but such garments may be tried. Cotton gloves and socks can also be used at night over ointments to help reduce mess.¹⁵

Conclusions

Based on the quality of the evidence and guidance currently available, silk garments should not be routinely prescribed. In exceptional cases, if prescribing is considered appropriate, use should be restricted to assessment by a dermatologist in order to identify those patients most likely to benefit. Funding of these garments may then be considered through the commissioning organisation's local pathway/process.

Table 1 illustrates the cost of these preparations. Costs are from the Drug Tariff and include a cost range for different types of garments. Dreamsilk® and Skinnies™ silk are the cheapest of the products (with the exception of SkintoSkin® bodysuit) across all the range.³ The manufacturers' website states that the garments can be washed as often as necessary. With some forms of weeping eczema, it may be necessary to wash it more than once a day to remove any discharge. No specific recommendations are given on how long the garment will last, however this is dependent upon the type of garment worn, the nature of the wearer and whether the garment is worn alone or under other clothing.

Savings

In England and Wales, £1.3million is spent annually on silk garments (ePACT August to October 2016). It seems likely that savings could be achieved by ensuring that these garments are not routinely prescribed. When used in exceptional circumstances, they should be prescribed appropriately through assessment by a dermatologist. Garments should be washed and reused correctly.

Savings may also be achieved by selecting DreamSilk® or Skinnies™ Silk. Local wound formularies can support this.

A potential 30% reduction in prescribing through using appropriate prescribing could result in a national saving of £385,047 (ePACT August to October 2016). This equates to £630 per 100,000 patients.

Table 1: Cost of garment (£)³

Product	Eye mask to headmask	Body suit	Tops (T-shirts, Shirt Polo/ round neck)	Underwear	Tubular sleeves		Leggings	Gloves/ mittens/ fingerless gloves	Pyjamas	Socks	Baby grow/ newborn kit
		Up to 4 years	2 years to adult XXL	3 years to Adult XXL	33cm to 50cm long	Graduated 70cm	Newborn to Adult XXL	Child to Adult XL	3 yrs to 12 yrs	All Sizes	Premature to 24 months
DermaSilk®	£10.06 - £20.91	£38.13 - £42.59	£47.09 - £77.40	£21.70 - £41.63	£27.28 - £33.67	£41.57	£27.22 - £78.31	£14.76 - £20.68	£71.01 - £81.95	£18.30 - £34.50	£16.95 (Infant hat)
Dreamskin®	£10.16 - £20.38	£35.48 - £40.57	£45.89 - £75.43	£21.39 - £33.65	£26.38 - £32.81		£25.19 - £76.32	£14.28 - £20.03	£67.65 - £78.06	£17.95 - £23.61	
Skinnies™ Silk			£44.46 - £73.72	£42.29 - £72.99	£24.90 - £29.90		£25.28 - £73.72	£13.22 - £18.96		£16.75 - £22.39	£35.81 - 37.87
SkintoSkin®		£32.00	£33.00 - £44.00	£23.00 - £27.00			£28.00 - £48.00			£18.00 - £22.00	£34.00 - 39.00

Summary

There is currently only poor evidence from published trials to support prescribing of silk garments in children or adults with atopic dermatitis/eczema. Based on the quality of the evidence currently available, they should not be routinely prescribed. If considered appropriate, usage should be assessed by a specialist dermatologist.

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Additional PrescQIPP resources



Briefing



Data pack

Available here: <https://www.prescqipp.info/resources/category/355-silk-and-antimicrobial-garments>

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Contact help@prescqipp.info with any queries or comments related to the content of this document.

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