

Can wool soothe the skin?



There is pre-existing research which shows that wool, as a fibre, has a great story to tell. In addition, there is also active research under way promoting the health and wellbeing benefits of wool, strengthening the fibre's credentials.

Science is showing that – as well as being a natural, renewable and biodegradable fibre – Merino wool assists those suffering from chronic skin conditions, and challenges misconceptions that wool is 'prickly' and 'itchy'.

A dedicated research team at the Queensland Institute of Dermatology (QID) has been exploring the role that superfine Merino knitwear has in the treatment of chronic dermatitis conditions.

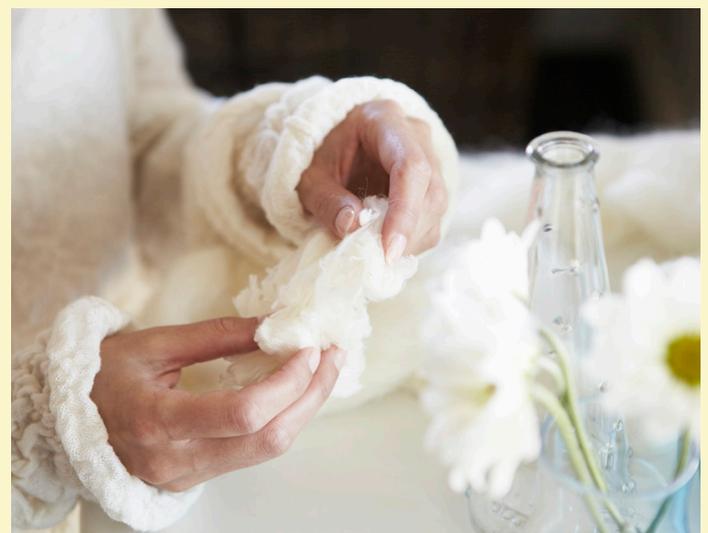
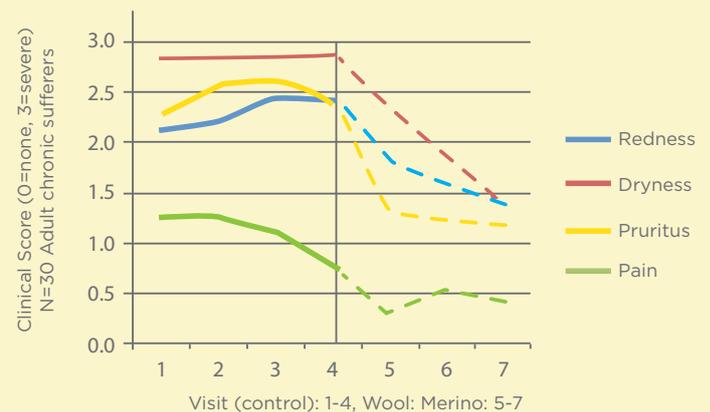
A Pilot study undertaken in 2012 by the QID team has shown that wearing suitably specified fine Merino wool products will not irritate the skin's surface, but in fact benefit those suffering from skin conditions, such as atopic dermatitis.

Is wool an allergen?

The short answer is NO.

Studies into dermatological reactions to textile fibres¹, finishes² and dyes³ have shown a number of skin reactions can occur across a range of textile fibres. Of these reactions, 'true' allergic responses are fortunately rare¹.

As shown in the graph below, symptoms reduced after visit 4, when the participants started wearing Merino wool underwear, socks and/or gloves. Merino wool has moisture and temperature management properties, and naturally assists regulation of body temperature. The inherent breathability and active moisture management properties of the fibre also help prevent the skin from becoming clammy, which can provide a more comfortable environment.



¹Hatch, K.L., and Maibach, H.I. (1985), "Textile Fibre Dermatitis", Contact Dermatitis, 12, 1-11.

²Hatch, K.L. (1984), "Chemicals and Textiles. Part II: Dermatological problems related to finishes", Textile

³Hatch, K.L., and Maibach, H.I. (2000), "Textile dye allergic contact dermatitis prevalence", Contact Dermatitis, 42, 187-195.

Soft on skin



The sensations of “prickle” and “itch” are not fibre specific^{5,6,7} and can be induced equally by, for instance, acrylic fibres.

Responses will vary from person to person⁸. Generally, females are more sensitive to prickle than males, and overall sensitivity declines with age⁷. Sensitivity also increases with skin moisture content, influenced by sweating which then changes the air temperature and relative humidity of the wearer.



As a natural protein fibre, individual wool fibres typically range in diameter from 10–50 micrometres⁹ – thus covering a micron range finer than typical cashmere to that of human hair. This range in fibre dimensions is one of the reasons wool is utilised for a range of textile applications – from the finest suiting and knitwear, through to interior textiles such as carpets and a reason the fibre is praised for its versatility.

The Woolmark Company works together with brands and manufacturers to make sure that wool used in apparel and interior textiles result in beautiful products with a high level of next-to-skin comfort.

For more information please visit:

www.merino.com/baby

www.woolmark.com/working-with-wool/health-benefits



⁵ Garnsworthy, R.K., Gully, R.L., Kandiah, R.P., Kenins, P., Mayfield, R.J., and Westerman, R.A. (1988), 'Understanding the causes of prickle and itch from skin contact with fabrics', *Australasian Textiles*, 8(4),26-29, 1988, also CSIRO Division of Wool Technology Report No. 64.

⁶ Naylor, G.R.S. and Phillips, D.G. (1995), "Skin Comfort of Wool fabrics", *Proceedings of the 9th International Wool Textile Research Conference*, Biella, 2, 203-209.

⁷ Naylor, G.R.S. and Phillips, D.G. (1997), "Fabric-evoked prickle in worsted spin single jersey fabric – Part 2: The role of fiber length, yarn count, and fabric cover factor", *Tex. Res. Journal*, 67, 354-358.

⁸ Veitch, C.J., Kenins, P., and Naylor, G.R.S. (1990), "Comparison between laboratory protocol and simulated wear conditions for the evaluation of prickle", *Proceedings of the 8th International Wool Textile Research Conference*, Christchurch, NZ, 5: 286-296.

⁹ Onions, W.J. (1962), "Wool – an introduction to its properties, varieties, uses and production", Ernest Benn Limited, London., p1.