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Wool & Skin

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Unique Moisture Management

Skin is the human body's largest organ. When worn next to the skin, superfine Merino wool works as a dynamic buffer, helping wearers maintain a healthy temperature and skin moisture levels.

Wool fibres, composed of the protein keratin (similar to that of human hair), are the most hygroscopic of the common apparel fibres, meaning that they readily absorb and release moisture vapour as the humidity changes in the microclimate between fabric and skin.

With this wholly natural system of moisture management, superfine Merino wool acts as a second skin.

Wool can absorb and release 50% more moisture vapour than cotton, and 30 times as much as polyester.

Superfine Merino wool clothing reduced the severity of paediatric mild-to-moderate atopic dermatitis

Therapeutic Benefits of Superfine Merino

Dermatological trials have shown that eczema sufferers who wear superfine Merino wool garments – of 17.5 micron or less – next to the skin have significantly reduced symptoms.

In a study of approximately 40 babies and young children under 3 years old at the Murdoch Childrens Research Institute (MCRI) in Melbourne, Australia, superfine Merino wool clothing reduced the severity of paediatric mild-to-moderate atopic dermatitis compared with cotton, showing significant advantages of wearing superfine Merino wool base-layers.

Published in the British Journal of Dermatology in July 2017, the study concluded that traditional management guidelines classing all wool-based clothing as irritants should be modified to include superfine Merino wool as a recommended clothing choice in childhood atopic dermatitis.

Hear from one of the patients in the study in this video: youtu.be/IPeE2NZpU6E

Prickle Versus Allergy

Irritation, itchiness or prickliness is not the same as allergy. Prickle and itch are more accurately called irritation, not allergy. Fabric is composed of fibres. The fibres will be of similar fineness but some will be coarser/finer than others. The prickle sensation generated when fabrics touch skin occurs when the ends of the fibres of a fabric trigger nerves in the skin. These sensations are not specific for wool fibres, but occur across many fibre types.

Coarser fibre ends can press hard enough against the skin to trigger nerve endings known as nociceptors. The triggered nerve will send an electrical signal to the brain. If the brain receives several of these signals from the same local area of the skin, it interprets these as a prickly sensation. Studies show that perception of irritation corresponds to the fineness of a fabric. Eczema sufferers have particularly sensitive skin, often believing they are allergic to wool. However, Australian studies are showing that superfine Merino garments are well tolerated by eczema sufferers and are indeed beneficial, with a reduction in eczema symptoms being seen after 3-4 weeks of changing to superfine Merino base layer garments. Commercially available superfine Merino is 15-18.5 microns. Ultrafine Merino garments are 11.5-15 microns.

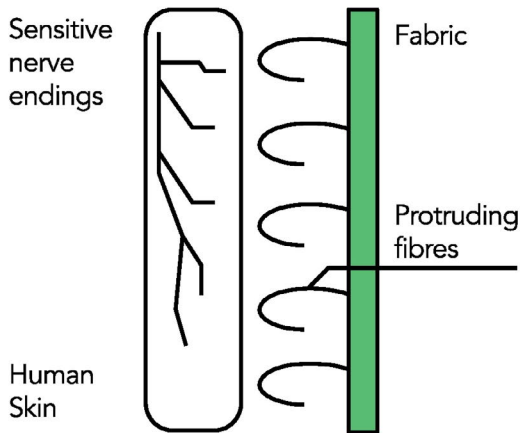


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Why Some Fabric Feels Prickly

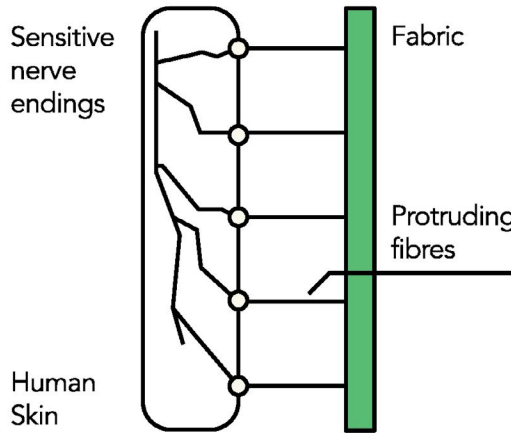
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Superfine/ultrafine Merino wool fibres



Superfine/ultrafine Merino wool fibres bend easily, causing minimal or no skin irritation.

Coarse fibres (ie. acrylic, nylon, coarser wool)



Coarse fibres have less tendency to bend, causing skin irritation.

About IWTO

With a world-wide membership encompassing the wool pipeline from sheep to shop, the International Wool Textile Organisation represents the interests of the global wool trade. By facilitating research and development and maintaining textile industry standards, IWTO ensures a sustainable future for wool. To learn more about IWTO and its activities, visit www.iwto.org.



Determining Effects of Superfine Sheep wool in Infantile Eczema (DESSINE): a randomized paediatric cross over study, J.C. Su et al. British Journal of Dermatology, 2017. <https://onlinelibrary.wiley.com/doi/full/10.1111/bjd.15376>

See also <https://www.wool.com/about-awi/media-releases/medical-studies-reveal-superfine-merino-wool-is-therapeutic-for-the-skin-offering-natural-relief-for-eczema-sufferers/?category=0&year=0&month=0&page=1>

Michaela Zallmann et al. Debunking the Myth of Wool Allergy: Reviewing the Evidence for Immune and Non-immune Cutaneous Reactions, Acta Dermato Verereologica, 2017 www.medicaljournals.se/acta/content_files/download.php?doi=10.2340/00015555-2655

L. Spelman et al. Queensland Institute of Dermatology/Australian Wool Innovation, An assessment of superfine merino wool as therapeutic in the treatment of Atopic Dermatitis for children and young adults, 2016 (unpublished). <http://www.isrctn.com/ISRCTN53706986>