



## British Wool fact sheets

# Wool & Sleep





Sleep is a vital aspect in our health and well-being. Numerous studies have linked a lack of sleep to the risk of obesity, depression and heart disease. Too little sleep has also been shown to affect the emotional development of children.

A simple way to get a better night's sleep is to change to sleeping on and under wool. Scientific studies show that wool bedding and mattresses helps you gain 20% more uninterrupted sleep<sup>1</sup> by regulating your body temperature far better than any other fibre, wool helps keep the sleeper in their 'thermal comfort zone'.

## Sleep better with wool

Research shows that periods of REM sleep was increased when participants slept on a wool mattress topper. Participants reported feeling better in the morning and having improved sleep quality<sup>2</sup>.

Sleeping on wool has been shown to<sup>3</sup>...

-  provide comfort and support on pressure points
-  give better insulation to the sleeper than other fibres
-  absorb perspiration better than alternatives
-  feeling of a cleaner sleep environment

## The sleep microclimate

Scientists believe that the benefits of sleeping on wool are related to wool's superior moisture management – the ability to keep us dry and comfortable<sup>4</sup>.

Wool fibres are approximately twice as effective as cotton at moving moisture vapour through fabric and 10 times better than polyester.

During sleep, wool helps moisture flow outwards from the body, keeping the

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sleeper drier and more comfortable than fabrics made of other fibres. Scientists call this buffering.

As the rate of moisture evaporated from the skin increases, the relative humidity of the microclimate adjacent to the skin increases. Wool fibres respond by increasing their moisture vapour content, which slows (or buffers) the rate of rise in humidity next to the skin.

As the moisture levels decrease, the fibres give up some of their stored moisture, again slowing the rate of humidity change<sup>5</sup>.



increase in REM sleep which plays a key role in memory consolidation, emotional processing and brain development.



67% more vapour transmission than feather duvets for a more comfortable night sleep.



43% more uninterrupted sleep.

## Wool and the menopause

There are over 30 psychological, cognitive, and physical menopause symptoms, many of which can be debilitating for some.

Research conducted by British Wool's 'In Bed with the Menopause' campaign, found wool could aid menopause related side effects which included hot flushes, night sweats, difficulty sleeping and experiencing a low mood or anxiety. Almost a third (32%) said a lack of sleep was caused by the menopause<sup>7</sup>.

Wool bedding helps regulate your body temperature. The wool fibres breathe naturally, absorbing moisture from the atmosphere and then releasing it when it's drier, resulting in better, uninterrupted sleep. A study conducted by Woolroom and The University of Leeds highlighted that wool bedding allowed 43% more moisture transmission than polyester and a massive 67% more than feather/down duvets, meaning wool can diffuse a larger amount of moisture across an 8-hour period. Allowing you to sleep longer and deeper through the night by limiting disruption from changes in temperature.

## References

<sup>1</sup> P.R. Dickson, Effect of a fleecy woollen underlay on sleep. The Medical Journal of Australia 140 (1984) pp. 87-89.

<sup>2</sup> N.A. G. Johnson and I.M. Russell (eds). Advances in Wool Technology. The Textile Institute, CRC Press, Woodhead Publishing Limited (Cambridge, England, 2009) p. 273, p. 284

<sup>3</sup> P.R. Dickson, Effect of a fleecy woollen underlay on sleep. The Medical Journal of Australia 140 (1984) pp. 87-89.

<sup>4</sup> The effects of fabric for sleepwear and bedding on sleep at ambient temperatures of 17°C and 22°C. Shin, M., Halaki, M., Swan, P., Ireland, A., and Chow, C. Nature and Science of Sleep, Volume 2016:8 Pages 121–131, 22 April 2016. <https://www.dovepress.com/the-effects-of-fabric-for-sleepwear-and-bedding-on-sleep-at-ambient-te-peer-reviewed-article-NSS>

<sup>5</sup> N.A. G. Johnson and I.M. Russell (eds). Advances in Wool Technology. The Textile Institute, CRC Press, Woodhead Publishing Limited (Cambridge, England, 2009) p. 273 (buffering), p. 284 (30% absorption)