

Can hard water cause eczema?



Fact checker

- Hard water has often been considered to be an affecting factor to eczema
- New research by scientists at the University of Sheffield proved that hard water can damage the skin's barrier
- It raises the risk of infection and potentially contributes to the development of eczema
- Minerals in hard water (the same that cause limescale) were shown to make skin more sensitive to irritation
- When researchers used the twin tank water softeners in their study they found softened water could reduce these negative effects

How did they study people?

It was conducted in a controlled environment in the Royal Hallamshire Hospital in Sheffield on a total of 80 participants. These 80 people were split into four groups:



20 people with healthy skin



20 people with the FLG protein and no eczema issues



20 people with eczema or FLG protein



20 people with eczema and the FLG protein

It was a wide variety of people in gender and age ranging from 18-56 year olds.

They took hard water from Essex homes and then softened water from the same homes with a Harvey Water Softener installed. The participants were then washed on 8 sections of their body with 2 parts left alone to act as a reference point. No one knew the type of water they were being washed with at any point.

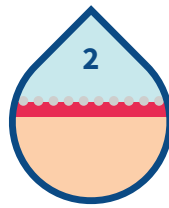
The washing was done with 5 seconds water, 30 seconds washing, then another 5 second rinse, across all of the patients making it completely fair and scientific.

What did they find?

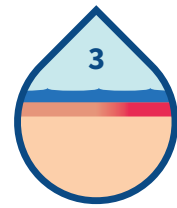
They found that washing with different kinds of water affected the skin in different ways.



Patients with the FLG protein were more prone to developing eczema



Hard water creates an irritable skin barrier that could cause eczema in healthy skin



Hard water ultimately made eczema worse

This was not all that was discovered though, hard water was worse for an infant's skin than previously thought. This is bad news for anyone in a hard water area that suffers from skin conditions, especially those who have developed eczema whilst washing in hard water.

The final results

- 1** Maintaining a pH balance in washing products was found to be a good way of avoiding eczema.
- 2** Washing with hard water made skin irritation worse for people already suffering from eczema.
- 3** Washing with hard water increased exposure and deposits of irritant SLS which can cause red and irritated eczema on the skin.
- 4** In infants, washing with hard water could contribute to the early development of eczema at a very young age.

Water softeners can reduce the risk of developing eczema.*

Water softeners can reduce the risk of developing eczema by reducing the irritant magnesium and calcium bits left from washing.*

“By damaging the skin barrier, washing with hard water may contribute to the development of eczema - a chronic skin condition characterised by an intensely itchy red rash. Patients with eczema are much more sensitive to the effects of hard water than people with healthy skin.”

Dr Simon Danby, Research Fellow, The University of Sheffield

What does this mean for me?

A water softener could be a solution to eczema problems, as well as saving you money. Eczema is a complicated condition with signs and symptoms that are different for everyone, and in some cases it unfortunately may not be the answer.