

# New therapy calms inflammation in 'butterfly' skin

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Children with the rare genetic disease epidermolysis bullosa face a lifetime of pain due to constant blistering of their skin and other body surfaces.

The University of South Australia's Zlatko Kopecki has developed a product to help these kids, and which could potentially treat all people with inflammatory [skin](#) conditions.

"We have identified a harmful protein that impairs skin healing in these so-called 'butterfly children', and created a new product to address this," explained Dr Kopecki.

"More broadly, the therapy we have developed may improve recovery from all kinds of wounds."

[Epidermolysis bullosa](#) occurs due to failure in scaffold-like structures that link skin cells to each other. With the normal protective barrier to the outside world now leaky, the child's immune system is forced onto on a never-ending circuit of high alert and repair.

"If the children manage to survive the numerous infections they endure in early childhood, they die from skin cancers induced by this constant cycle," said Dr Kopecki.

The new [epidermolysis bullosa](#) therapy dampens harmful inflammation in the skin by blocking the activity of a protein known as Flightless.

"When extracellular Flightless protein is mopped up by specific neutralising antibodies we have developed, it results in improved healing of blistered skin and improved cellar migration," Dr Kopecki said.

The effectiveness of the antibody in reducing skin inflammation in mice is described in a recent paper published by Dr Kopecki with colleagues at the Women's and Childrens' Health Research Institute, University of South Australia and University of Adelaide.

The researchers are now focused on transitioning this finding to create a therapy that works in humans.

"We hope to run our first clinical trials in 2016 and aim to develop a marketable product within 5 years," said Dr Kopecki.

The therapy would be a welcome relief for the 500,000 people worldwide who suffer from epidermolysis bullosa.

It may also open up new opportunities to treat impaired skin healing due to diabetes, aging, burns and skin blistering, which together cost the Australian federal government in excess of AU\$2.6 billion per year.

**More information:** Zlatko Kopecki et al. Topically Applied Flightless I Neutralizing Antibodies Improve Healing of Blistered Skin in a Murine Model of Epidermolysis Bullosa Acquisita, *Journal of Investigative Dermatology* (2012). [DOI: 10.1038/jid.2012.457](https://doi.org/10.1038/jid.2012.457)

Provided by The Lead

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