

# PEANUT ALLERGY BREAKTHROUGH

The Malaghan Institute comments on defining research into peanut allergy that has led to new advice overseas as to whether young children should eat peanuts or avoid them.

One in 50 New Zealand infants is affected by peanut allergies – an unusual response by our body’s immune system to harmless peanut proteins.

Over the past 10 years, peanut allergy’s occurrence has increased significantly in the USA, UK, New Zealand and other countries that had recommended avoiding peanuts during pregnancy, lactation and infancy.

However, new research is leading to changes in that advice. Based on results from the study Learning Early About Peanuts (LEAP) published in 2015, the US National Institute of Allergy and Infectious Diseases recently issued new guidelines urging parents and doctors to proactively introduce peanut-based foods early and often to babies.

This effectively reverses guidelines that for the past 15 years have advised parents to avoid introducing peanut products to infants, and in many cases delaying or avoiding introduction of this protein source completely. Instead, the LEAP study provides evidence that the early introduction of peanuts offers protection from the development of peanut allergies.

Professor Graham Le Gros, director of the Malaghan Institute of Medical Research here in New Zealand, believes that a study of this size, involving 600 children over a five-year period, is a defining moment in research into peanut allergy. It demonstrated

*The LEAP study provides evidence that the early introduction of peanuts offers protection from the development of peanut allergies.*

unequivocally that at age five the children who had been given peanut-containing foods as infants were much less likely to have developed a peanut allergy than those who had been avoiding peanuts.

The change in advice by the American Academy of Pediatrics Committee on Nutrition is based on evidence-based research. If adopted into New Zealand’s public health advice, it is hoped it will significantly slow the rate of hyper-allergic children we are seeing – the so-called ‘allergy generation’. Meanwhile, research is continuing so we can understand the underlying mechanisms that lead to the development of allergies in the hope of preventing them entirely. <sup>A</sup>



Professor Graham Le Gros was appointed Research Director of the Malaghan Institute of Medical Research in 1994. He also leads an active biomedical research programme in allergic and parasitic diseases.

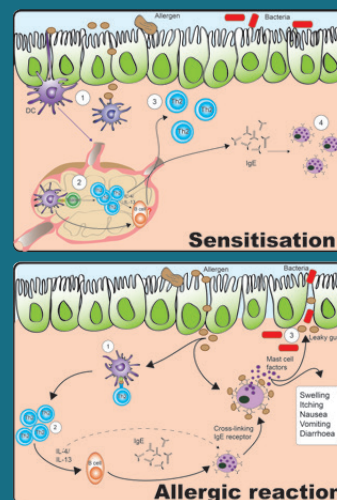
## How does a peanut allergy develop?

So, what happens in our immune system during the development of peanut allergy?

Our immune system is one of nature’s most magnificent and complex inventions. It is constantly on alert, utilising an intricate network of organs, cells and proteins to protect us from the billions of bacteria and viruses that we are exposed to every day.

The true power of our immune system comes from the fact that it has the ability to ‘remember’ invading germs it has fought in the past and is able to strike more quickly if they attack again. When this happens, we say that the body has immunity.

In allergic individuals, however, the immune system seems to get this wrong. When someone is allergic to peanut, their immune system reacts over-actively to proteins in it, and their immune system thinks the proteins are harmful intruders. The effect is an allergic reaction that releases chemicals like histamines.



The key cells and molecules involved in the allergic immune response. The numbers indicate steps within the allergic pathway that Malaghan Institute scientists are currently investigating. Image courtesy of Dr Lisa Shaw and Dr Elizabeth Forbes-Blom.