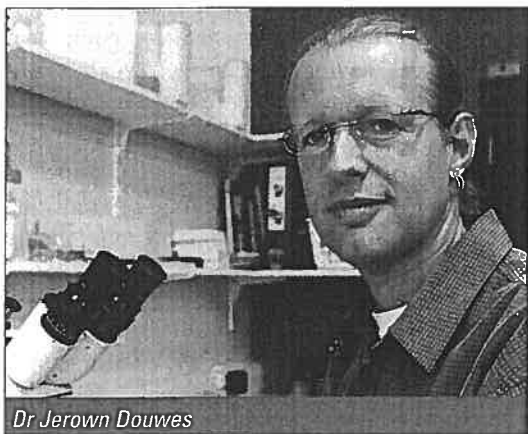


# New Sir Charles Hercus Health Research Fellow.....



Dr Jeroen Douwes

## Aiming to overcome allergies and asthma

A \$500,000 fellowship for asthma researcher Jeroen Douwes could lead to relief for half of New Zealand's asthma sufferers.

Dr Douwes, associate director of Massey University's Centre for Public Health Research, is embarking on a four-year study to test the hypothesis that exposure to endotoxins, a particular microbial agent, can help adult allergy sufferers develop immunity against asthma and other allergic diseases.

The collaborative research project with the Malaghan Institute of Medical Research has been made possible by an HRC Sir Charles Hercus Health Research Fellowship, worth half a million dollars.

Dr Douwes says the grant will be used to test whether exposure to endotoxins may reverse allergic immune responses in adults. Previous studies have shown that bacterial endotoxin exposure in childhood is associated with a reduced risk for allergy and asthma, but this has not been studied in adults. Also, this will be the first attempt to study whether these exposures can reverse pre-existing allergies. If the hypothesis is true, new methods could be developed not only to protect but also potentially treat allergic disease such as allergic asthma, hay fever, and eczema, both in children and adults.

Dr Douwes will study adults working in the wool processing and animal feeds industries who have shown a tendency towards allergic responses, to see how they are affected by natural exposure to endotoxins.

"These are industries where workers have high exposures to organic dust and most likely, these particular microbial agents. We'll identify new entrants to the industries who have shown to respond to allergic stimulants but who haven't been exposed to high levels of these endotoxins in the past. We'll monitor their exposure for two years and monitor their allergies over that time."

Rather than doing a clinical trial exposing people for a limited time to endotoxin, which would have considerable practical and ethical implications, he will instead make use of an existing situation with real life exposures mimicking a long-term experimental exposure study. Although conducted in a highly exposed working population, the new knowledge will be of direct relevance to the general population including children.

Much work has been done looking at the 'hygiene effect' of exposure to microbes on children but little research has been undertaken on adults.

"A lot of people think that protection against asthma can only be conferred early in life. However, there is some evidence that this may also occur later in life and that the allergic process can be reversed."

Some 30 to 40 percent of New Zealand children show early signs of allergic disease; 25 percent of those have symptoms of asthma. Research indicates about half of asthmatics have allergic asthma. "We're focusing on allergic asthmatics. Our findings may not reverse the asthma developing process for non-allergic asthmatics but we might be able to help half of New Zealand's asthma sufferers.

"If our theory is right, that exposure later in life can protect and even reverse against allergies and asthma then we would need to identify at what levels this occurs. As soon as we know more about the immunological mechanism underlying these protective effects and we learn more on how to reverse the allergic immune process, then we are in a much better position to develop novel methods to intervene."

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