

Breakthrough in understanding severe asthma has potential for new treatment

June 16 2009

Scientists from King's College London and Imperial College London believe they have discovered a key element in the development of chronic asthma. Their research has been published in a new paper in the journal *Proceedings of the National Academy of Sciences* to explain why the structure and function of asthmatic airways are changed or "remodelled" and how this contributes to chronic asthma.

Remodelling occurs when the small airways in the lungs of people change gradually with time as their lungs respond to the presence of particles such as dust, pollen and mould in the air they breathe. These changes can also be compounded by viruses and bacteria.

Airway remodelling is apparent even in the lungs of young children with asthma, and can make the condition almost impossible to control. An important aspect of airway remodelling is changes to the [muscle cells](#) which line our airways. In people with asthma, these cells tend to multiply and become larger, increasing their ability to squeeze the airways and cause breathing difficulties. There is no known way of reversing airway remodelling once it has occurred.

Dr Elaine Vickers, Research Relations Manager at Asthma UK says: 'This research into the causes of asthma provides us with vital clues as to how such symptoms could be stopped and it has uncovered important information, which we hope will lead to the creation of effective new treatments for the millions of people in the UK affected by [asthma symptoms](#).'

Professor Tak Lee, Head of the Division of Asthma and Allergy Research at King's, who led the research, comments: 'It is widely believed that this remodelling in [Asthma](#) is in large part responsible for the chronicity of the disease. There are many features responsible for remodelling but a key component of this process involves an increased amount of smooth muscle in the airways.'

Source: King's College London ([news](#) : [web](#))

Citation: Breakthrough in understanding severe asthma has potential for new treatment (2009, June 16) retrieved 3 May 2024 from <https://medicalxpress.com/news/2009-06-breakthrough-severe-asthma-potential-treatment.html>

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