

# A randomised placebo-controlled trial investigating efficacy and mechanisms of low-dose intradermal allergen immunotherapy in treatment of seasonal allergic rhinitis

Anna Slovic,<sup>1,2</sup> Abdel Douiri,<sup>3</sup> Rachel Muir,<sup>4</sup>  
Andrea Guerra,<sup>1</sup> Konstantinos Tsioulos,<sup>1</sup> Evie Haye,<sup>1</sup>  
Emily PS Lam,<sup>1</sup> Joanna Kelly,<sup>5</sup> Janet L Peacock,<sup>3</sup>  
Sun Ying,<sup>1</sup> Mohamed H Shamji,<sup>6</sup> David J Cousins,<sup>1,2,7</sup>  
Stephen R Durham<sup>6</sup> and Stephen J Till<sup>1,2\*</sup>

<sup>1</sup>Division of Asthma, Allergy and Lung Biology, King's College London, School of Medicine, Guy's Hospital, London, UK

<sup>2</sup>Medical Research Council (MRC)–Asthma UK Centre for Allergic Mechanisms of Asthma, London, UK

<sup>3</sup>Division of Health and Social Care Research, King's College London, London, UK

<sup>4</sup>Clinical Research Facility, NIHR Biomedical Research Centre, Guy's Hospital, London, UK

<sup>5</sup>King's Clinical Trials Unit, King's College London, Institute of Psychiatry, London, UK

<sup>6</sup>Allergy and Clinical Immunology, National Heart and Lung Institute, Faculty of Medicine, Imperial College, London, UK

<sup>7</sup>Department of Infection, Immunity and Inflammation, National Institute for Health Research (NIHR) Leicester Respiratory Biomedical Research Unit, Leicester Institute for Lung Health, University of Leicester, Leicester, UK

\*Corresponding author

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## Plain English summary

### **Trial of immunotherapy for treatment of seasonal allergies**

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## Plain English summary

Several million people in the UK have hay fever, which significantly affects their quality of life. In such people, an allergy vaccine (called 'immunotherapy') may reduce the allergic response to grass pollen. Although current vaccines are effective, they are expensive and involve frequent visits to specialist clinics for injections or daily self-dosing with tablets or drops for several years.

Based on encouraging results from a pilot study, we undertook a clinical trial of a potentially new and very different form of grass pollen immunotherapy. The new approach involved giving very small grass pollen doses (thousands of times less than existing methods) by injections directly into the topmost skin layer (called the dermis). We recruited 93 participants, who were randomly selected to receive seven such injections every 2 weeks before the 2013 summer grass pollen season, or seven dummy injections. The severity of hay fever symptoms and usage of allergy medications was then recorded. We also performed experiments to see the effect of the new vaccine on the immune system.

The results of the study conclusively showed that the new approach had no benefit in reducing hay fever symptoms or need for medications. Unexpectedly, symptoms in the nose were actually modestly worse in those who had the grass pollen injections. Our experiments also indicated a small stimulation effect on the immune system.

These results have implications for other future research in this area, and also make an important scientific contribution to our understanding of the mechanisms that can drive allergies.



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Editorial contact: [nihredit@southampton.ac.uk](mailto:nihredit@southampton.ac.uk)

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