

Eating peanut in early years helps reduce risk of allergy even with later abstinence

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The early introduction of peanut to the diets of infants at high-risk of developing peanut allergy significantly reduces the risk of peanut allergy until 6 years of age, even if they stop eating peanut around the age of five, according to a new study led by King's College London.

Published today in the *New England Journal of Medicine*, the LEAP-On study followed on from the LEAP (Learning Early About Peanut Allergy) study, both led by Professor Gideon Lack at King's, which found that the majority of infants at high-risk of developing [peanut allergy](#) are protected from peanut allergy at age 5 years if they eat peanut frequently, starting within the first 11 months of life.

LEAP-On asked whether those infants who had consumed peanut in the LEAP study would remain protected against peanut allergy if they then stopped eating peanut for 12 months. The study findings conclude that the early introduction of peanut protects against the development of peanut allergy, and such protection is sustained even when peanut is no longer consumed for 12 months.

The LEAP-On study was undertaken at Evelina London Children's Hospital, and enrolled 556 participants from LEAP (out of a total of 628), of whom 550 had a complete primary outcome. All participants were instructed to avoid peanut for 12 months after they had completed the LEAP study, regardless of whether they had been randomized to avoid or eat peanut in the LEAP study. At the completion of LEAP-On, a rigorous clinical assessment of peanut allergy was made by oral peanut

challenge. Additional peanut allergy assessments were made by questionnaire, skin prick test (SPT), and peanut-specific immune markers IgE and IgG4 were also measured in participants' blood.

Of the 550 LEAP-On participants, 280 had been randomized to peanut avoidance and 270 to [peanut consumption](#) on the LEAP Study; adherence to these interventions was high at 92%. All participants were asked to avoid peanut during LEAP-On and adherence during this study was also high: 90.4% for previous LEAP avoiders and 69.3% for previous LEAP consumers.

The study found that at 6 years of age, there was no statistically significant increase in allergy after 12 months of avoidance, in those who had consumed peanut during the LEAP trial (3.6% (10/274) at 60 months versus 4.8% (13/270) at 72 months). The study also found that peanut allergy was significantly more prevalent in those who had avoided eating peanuts in LEAP, than those who consumed (18.6% vs 4.8%). There were only 3 subjects from the consumer group who developed new peanut allergy during the 12 months of peanut avoidance, but there were also 3 subjects from the avoidance group who developed new peanut allergy.

The authors therefore concluded that in infants at high-risk for allergy in whom peanut was introduced in the first year of life, and continued until age 5, a 12-month period of peanut avoidance was not associated with a significant increase in peanut allergy. Overall, the study saw a 74% relative reduction in the prevalence of peanut allergy in those who consumed peanut compared to those who avoided.

The authors caution that the LEAP study design did not allow a determination of the minimum frequency or amount of peanut consumption required in early childhood to prevent an allergic response to peanut. Further studies are planned to establish whether the effects of

early-life peanut consumption followed by ad-lib consumption of peanut over many years maintains this protection against allergy.

Professor Gideon Lack, Head of Department of Paediatric Allergy, King's College London and Head of the Children's Allergy Service at Guy's and St Thomas' NHS Foundation Trust, who led the study, presented the findings at the American Academy of Allergy, Asthma and Immunology meeting (AAAAI). "The aim of our study was to find out whether infants who had consumed peanut in the LEAP study would remain protected against peanut allergy after they stopped eating peanut for 12 months. LEAP-On clearly demonstrates that the majority of infants did in fact remain protected and that the protection was long-lasting," he said.

Professor Lack further noted that: "The longer term effects of stopping eating peanut following introduction early in life are not known, and further studies are needed. Parents of infants and young children with eczema and/or egg allergy, and so considered high-risk to peanut allergy, should consult with an Allergist, Paediatrician, or their General Practitioner prior to feeding them peanut products."

Dr George Du Toit, consultant in Paediatric Allergy at Guy's and St Thomas' NHS Foundation Trust and Honorary Reader in Paediatric Allergy, King's College London, co-investigator of the study, said: "We need more research to better understand the mechanisms behind the development and prevention of allergic responses to peanut, and how this might translate to other food allergies. However, it is reassuring that the highly protective intervention demonstrated in LEAP was not only safe, nutritionally favorable and acceptable to participant families but also sustained even with cessation of peanut consumption for 12 months."

The incidence of food allergy has risen in recent decades, and peanut

allergy now affects up to 1 in 50 school age children in the UK; the occurrence of peanut allergy has more than doubled in the last 10 years in the UK and North America. It affects between 1-3% of children in Western Europe, the USA, and Australia and in recent years has become an important cause of food allergies in African and Asian countries. Peanut allergy develops early in life, is rarely out-grown and there is currently no cure. It imposes a considerable burden, impacting negatively on quality of life for patients and their families.

Provided by King's College London

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