Relevance of low specific IgE levels to egg, milk and peanut in infancy
Sara Fagerstedt Nilsson1*, Gunnar Lilja1,2, Hans Järnbert-Petterson1, Johan Alm1,2
1Department of Clinical Science and Education, Karolinska Institutet, Stockholm South General Hospital - Södersjukhuset, Sweden
2Sachs’ Children and Youth Hospital, Stockholm South General Hospital - Södersjukhuset, Sweden

Introduction
Sensitization is associated with allergic symptoms. A quantitative relationship between IgE and allergic symptoms exist. The consequence of having low IgE concentrations, below 0.35 kU/L, in early life is not well evaluated.

We aimed to follow the development of specific IgE (s-IgE) to egg, milk and peanut from 6 months to 5 years of age in children with low levels at 6 months.

Methods
s-IgE concentrations were measured in blood samples at 6 months, 1, 2 and 5 years from children in the prospective ALADDIN cohort. IgE concentrations were divided into three categories; non-sensitized (≤0.09 kU/L), low levels (0.1-0.34 kU/L) and sensitized (≥0.35 kU/L). Children in respective categories at 6 months were followed until 5 years of age. The differences in median IgE concentrations between 6 months and 5 years were evaluated.

Results
372 children were included in this study. Low levels of s-IgE to egg was present in 5% of the children at 6 months, 14% to milk and 4% to peanut. The proportion of children with low levels decreased during the follow up period for all three allergens, however, IgE levels increased for other allergens, mainly inhalant allergens. The decrease in IgE concentrations from 6 months to 5 years was significant (p=0.011) in children with low levels to egg.

Conclusion
Low IgE concentrations (0.1-0.34 kU/L) to food allergens seem to decrease over time, but might increase the probability of sensitization to other allergens. Low levels to egg seem to be more transient than low levels to milk. Thus, evaluating IgE levels during infancy, although below 0.35 kU/L, can provide additional prognostic information.