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Short Communication

Current issues in diagnostic allergy testing in children for a group of laboratorians

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Allergic diseases in particular, atopic dermatitis, asthma, allergic rhinitis/conjunctivitis as well as food allergy in childhood have reached a high prevalence in the last decades which accordingly increased the need for allergy testing [1]. In 2013, the Section on Pediatrics of the European Academy of Allergy and Clinical Immunology (EAACI) in collaboration with EAACI-Clemens von Pirquet Foundation revised and up-dated the evidence-based recommendations on allergy testing in children [2]. A thorough history and physical examination make up the main elements of allergy diagnosis. The type of laboratory investigations to confirm the diagnosis should always depend on clues in history and findings on physical examination. Diagnostic tests can be *in vivo* or *in vitro*. In this lecture, *in vitro* tests will be discussed for the laboratorian. *In vitro* tests can be planned according to the type of allergic reaction as immediate or non-immediate hypersensitivity reactions. Serum total IgE, allergen specific Ig E, serum tryptase, allergen induced mediator release and flow cytometric basophil activation tests are

generally used for immediated type I hypersensitivity reactions where- as lymphocytic transformation and flow cytometric T cell activation tests are recommended for non-immediate type hypersensitivity reactions. All *in vitro* and *in vivo* tests to confirm allergy diagnosis have limitations and should always be interpreted with clinical relevance.

References

- [1] Asher MI, Montefort S, Bjorksten B, et al. Worldwide time trends in the prevalence of symptoms of asthma, allergic rhinoconjunctivitis, and eczema in childhood: ISAAC phases one and three repeat multicountry cross-sectional surveys. *Lancet* 2006;368:733–43.
- [2] Eigenmann PA, Atanaskovic-Markovic M, et al. Testing children for allergies: why, how, who and when: an updated statement of the European Academy of Allergy and Clinical Immunology (EAACI) Section on Pediatrics and the EAACI-Clemens von Pirquet Foundation. *Pediatr Allergy Immunol* 2013;24(2):195–209.

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