

Publication

## Allergen-specific immunotherapy

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Allergen-specific immunotherapy remains the only causal treatment of allergic disease to date. Its efficacy in symptom reduction was demonstrated in double blind, placebo-controlled studies of allergic rhinoconjunctivitis, allergic asthma, and Hymenoptera venom hypersensitivity, including long-term effects after discontinuation of treatment. In addition, immunotherapy decreases the risk of developing new sensitisations to aeroallergens in monosensitised patients and allergic asthma in patients with mere allergic rhinitis. The mechanism of immunotherapy entails redirection of the T lymphocyte response from a T helper cell Type 2 phenotype in favour of induction of regulatory T cells and/or immune deviation toward a T helper cell Type 1 phenotype, with resulting inhibition of downstream effector pathways and induction of immunoglobulin G-associated blocking antibodies. Two main application forms are used in clinical practice: subcutaneous immunotherapy and sublingual immunotherapy. The advantage of subcutaneous immunotherapy is its proven efficacy over a broad range of indications. Disadvantages are systemic allergic reactions and inconvenience for the patient due to frequent doctor visits. Sublingual immunotherapy has been shown to result in less systemic allergic reactions and may be more convenient due to home application; however, efficacy has only been proven for allergic rhinitis. For clinicians, the adherence to practice guidelines and thorough knowledge of allergen products, application routes, indications, immunomodulatory mechanisms, efficacy, safety, and cost-effectiveness is important for successful treatment and will be addressed in this review article.

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