Duration of Immunotherapy

The purpose of this AAOA clinical care statement is to guide physicians in determining the appropriate duration of specific immunotherapy (SIT). To date, there are no specific tests to help physicians predict which patients will relapse after discontinuation of SIT.

Evidence:
In two studies examining mite SIT for duration of 1 year or less, efficacy was lost after 1 year.[1, 2]

Des Roches et al. conducted a controlled, prospective study to assess the duration of efficacy of specific immunotherapy after discontinuation. The rate of relapse after discontinuation of SIT was significantly higher in the group who received SIT for under 35 months. A longer duration of SIT was associated with increased efficacy.[3]

Durham et al. conducted a randomized double-blind, placebo-controlled cessation study of grass pollen immunotherapy. They showed that, after three to four years of grass pollen SIT, efficacy remained comparable in patients who discontinued SIT and in those who continued injections. Clinical benefit was observed for at least three years after discontinuation.[4]

The duration of immunotherapy efficacy has also been studied in Hymenoptera hypersensitivity with no clear consensus. Some studies showed that a 3–year duration of SIT was protective, whereas others showed better outcomes in those treated with at least a 4–year duration. Relapse rate and severe reactions are greater in those patients whose duration of SIT was less than 5 years. Multiple studies suggest that a 5–year duration of immunotherapy for Hymenoptera hypersensitivity is sufficient in most patients.[5]

Recommendation:
In summary, the rate of relapse decreases in relationship to the duration of treatment, but data is lacking to accurately determine the ideal duration of SIT.

The decision to discontinue specific immunotherapy is made between the physician and patient and must be individualized. The best available evidence supports a 3–5 year duration of SIT.

1 Price JF, Warner JO, et al. *A controlled trial of hyposensitization with adsorbed tyrosine Dermatophagoides pteronyssinus antigen in childhood asthma: in vivo aspects.* Clin Allergy 1984; 14:209-219.

2 Smith A. *Hyposensitization with Dermatophagoides pteronyssinus antigen: trial in asthma induced by house dust.* BMJ 1971; 4:204-6.

3 Des Roches A, Paradis L, et al. *Immunotherapy with a standardized Dermatophagoides pteronyssinus extract. V. Duration of the efficacy of immunotherapy after its cessation.* Allergy. 1996 Jun; 51(6): 430-3.

4 Durham SR, Walker SM, et al. *Long-term clinical efficacy of grass-pollen immunotherapy.* N Engl J Med. 1999 Aug 12; 341(7): 468-75.

5 Cox L, Nelson H, et al. *Allergen immunotherapy: a practice parameter third update.* J Allergy Clin Immunol. 2011 Mar; 127(3): 840.