

# Immunotherapy can Provide Lasting Relief

By Linda Cox, MD, FAAAAI



Immunotherapy treatment (allergy shots) is based on a century-old concept that the immune system can be desensitized to specific allergens that trigger allergy symptoms. These symptoms may be caused by allergic respiratory conditions such as allergic rhinitis (hay fever) and asthma.

While common allergy medications often control symptoms; if you stop taking the medication(s), your allergy symptoms return shortly afterward.

Allergy shots can potentially lead to lasting remission of allergy symptoms, and it may play a preventive role in terms of development of asthma and new allergies.

## The Process

Treatment involves injecting the allergen(s), causing the allergy symptoms. These allergens are identified by a combination of a medical evaluation performed by a trained allergist/immunologist and allergy skin or allergy blood tests.

The treatment begins with a build-up phase.

Injections containing increasing amounts of the allergens are given 1 to 2 times a week until the target dose is reached. This target dose varies from person to person. The target dose may be reached in 3 to 6 months with a conventional schedule (one dose increase per visit) but may be achieved in shorter period of time with less visits with accelerated schedules such as cluster that administers 2-3 dose increases per visit.

The maintenance phase begins when the target dose is reached. Once the maintenance dose is reached, the time between the allergy injections can be increased and generally range from every 2 to every 4 weeks. Maintenance immunotherapy treatment is generally continued for 3 to 5 years.

Some people have lasting remission of their allergy symptoms but others may relapse after discontinuing immunotherapy, so the duration of allergen immunotherapy varies from person to person.

Risks involved with the immunotherapy approach are rare, but may include serious life-threatening anaphylaxis. For that reason, immunotherapy should only be given under the supervision of a physician or qualified physician extender (nurse practitioner or physician assistant) in a facility equipped with proper staff and equipment to identify and treat adverse reactions to allergy injections.

The decision to begin immunotherapy will be based on several factors:

- Length of allergy season and severity of symptoms
- How well medications and avoiding allergens control allergy symptoms
- Desire to avoid long-term medication use
- Time. Immunotherapy will require a significant time commitment during the build-up phase, and a less frequent commitment during the maintenance phase
- Costs may vary depending on region and insurance coverage. Yet, allergy shots can be a cost-effective approach to managing allergy symptoms.

## Allergen Immunotherapy: still working after 100 years

In 1911, both allergen immunotherapy and the electrical ignition system for cars were introduced. Although unrelated, these events share a common outcome. One paved the way for advances in transportation, the other led to advances in the treatment of allergies.

The earliest published successes for allergen immunotherapy were based on the work of two English scientists, Leonard Noon and John Freeman. Recognizing that pollen was the cause of hay fever, these scientists thought that they could induce immunity and tolerance by injecting hay fever patients with the pollen to which they were allergic.

This idea was based on the positive results of vaccines that produced protection against infectious disease such as small pox.

Over the years, we've learned much more about allergen immunotherapy including long-term benefits and what protocols are needed to make it very beneficial. Among the most important findings are that immunotherapy can provide long-term symptom relief for years after treatment is discontinued, and that it is a cost-effective approach to treating many allergies.

Research has demonstrated that allergy immunotherapy can be effective in treating:

- Allergic asthma
- Allergic rhinitis and conjunctivitis
- Stinging insect allergy
- Atopic dermatitis

## New frontier

Currently, immunotherapy for food allergies is not recommended and strict avoidance of the food is advised although investigations with oral desensitization for food allergies are in progress in the United States.