"Allergy Shots"

The handout is provided courtesy of:

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***Tips to Remember*: This informational handout is created by the Public Education Committee of the American Academy of Allergy, Asthma and Immunology.**

This handout is for informational purposes only. It is not intended to replace evaluation by a physician. If you have questions or medical concerns, please contact your allergist/immunologist.

Tips to Remember: What are "Allergy Shots?"

"Allergy shots" is the term often used for *allergen immunotherapy treatment*, or *allergy vaccination*. Allergen immunotherapy is an effective vaccination program that can increase your immunity to substances called *allergens* that trigger your symptoms.

Allergen immunotherapy involves administering gradually increasing amounts of an allergen to a patient over several months. The injections are first given on a weekly or bi-weekly basis, and when the maintenance level is reached, eventually on a monthly basis. This process reduces symptoms that are otherwise triggered by allergen exposure. Immunotherapy treatment is the closest thing to a "cure" for allergic symptoms, because once you reach a maintenance dose of allergen vaccine or have finished your course of treatment, your symptoms are typically greatly reduced.

How does treatment work?
If you are allergic to a substance such as ragweed pollen, you will not overcome your allergy by repeatedly inhaling ragweed into your nose or lungs. So, how can increasing your exposure to the substances that trigger your allergies – such as ragweed or cat allergens – help you?

Allergen immunotherapy works like a vaccination. Through your body's exposure to small, injected amounts of a particular allergen, in gradually increasing doses, your body builds up an immunity to the allergen(s) to which you are allergic. This means that when you encounter these allergens in the future, you will have a reduced or very minor allergic response and fewer symptoms.

At the beginning of allergen immunotherapy, the first injection consists of a small amount of the least concentrated vaccine, or a diluted solution of the allergen vaccine. Each week, the patient receives a slightly more concentrated allergen vaccine injection. The rate at which this concentration is increased depends on the patient's degree of sensitivity. Usually a patient will reach the top (maintenance) dose about four to six months after injections are begun. The maintenance dose is then given every one to two weeks, and later, the interval usually is extended to every three or four weeks.

If you begin allergen immunotherapy treatment, it is very important to continue your injections on a regular basis until the treatment is discontinued. Otherwise, the treatment will not be beneficial. Generally, patients receive injections for three to five years or longer. After that, their sensitivity to the particular allergen to which they are allergic is reduced, often for years following discontinuation of therapy. This can mean, for instance, that they may be able to tolerate the outdoors during specific pollen seasons without experiencing symptoms.

Allergen immunotherapy works by altering the abnormal immune responses that cause allergy. Protective antibodies, similar to those made in response to other vaccines, play a role in the beneficial results of allergen injection therapy.

Benefits

Allergen immunotherapy treatment is considered when (i) allergy symptoms are moderate to severe, or (ii) occur throughout most of the year, or (iii) do not respond adequately to medications, or (iv) are triggered by allergens not easily avoided, such as pollens or house dust mite allergens.

For example, if you are extremely allergic to both grass and ragweed pollens, you may experience intolerable symptoms such as sneezing, a runny nose, and itchy, red eyes and nose during the spring and fall. It is impossible, or at least impractical, for you to completely avoid these common, airborne allergens. Although air conditioning will help decrease indoor pollen exposure, and medications may be helpful, you may find you still experience symptoms for prolonged periods at those times of the year.

For such a patient, allergen immunotherapy with grass and ragweed allergens will provide significant relief. Some other allergens used for allergen immunotherapy include tree pollens, molds, dust mites, cat and dog allergens, and stinging insect venoms.

Potential side effects

As you can see, allergen immunotherapy can be beneficial for many allergic patients. However, there are also some drawbacks. Some patients may find repeated visits to their allergist (or other physician who administers their injections) to be inconvenient. Also, as with all treatments, some patients may experience adverse reactions, i.e., the injection can sometimes cause an allergic reaction.

After you receive each injection, your allergist or other physician administering your injection will require that you remain in the clinic for 20 minutes or longer so the staff can monitor you. During treatment, some patients develop swelling at the site of the injection. When these are large, they are called "local reactions." Oral antihistamines, ice packs and adjustment of the dose or vaccine resolves these reactions.

Rarely, a patient may have a more serious allergic reaction, resulting in asthma symptoms or *anaphylaxis*. Asthma symptoms include cough, wheezing and shortness of breath. Symptoms of an anaphylactic reaction can include sneezing, watery nasal discharge, itchy eyes, swelling in the throat, wheezing or a sensation of tightness in the chest, nausea, dizziness or other symptoms. Such reactions require immediate treatment. If not appropriately treated, these reactions may become serious. Your allergist is trained to monitor for such reactions – that is why you are asked to remain in the clinic for 20 minutes after your injection.

In summary, allergen immunotherapy is a vaccination treatment program that is highly effective for allergic patients. It is the closest thing to a "cure" for those who have allergic rhinitis or "hay fever," allergic asthma caused by allergens such as mites and pollens, and stinging insect allergy. Such therapy provides relief to many allergy sufferers who cannot avoid the allergens to which they are allergic.

Your allergist/immunologist can provide you with more information on allergen immunotherapy, or "allergy shots."