



# The Ins and Outs of Allergy Shots

**I**f you or your child suffer from asthma that is triggered by allergies, you may be offered immunotherapy as a treatment option. Immunotherapy, commonly known as “allergy shOtS,” has been used to treat allergic diseases for years. There is some debate, however, as to how effective it is for the treatment of allergic asthma. If you are considering allergy shots for yourself or your child, you may have questions. What level of improvement should you expect from the treatment? Are there risks? Will the potential benefits be worth the inconvenience and cost? The answers to these questions are important, but are not always simple.

**by Paula Moyer**

“Immunotherapy treats the allergic component of a person’s disease,” says Harold Nelson, MD, senior staff physician at National Jewish Medical and Research Center in Denver, Colorado.

"The goal is to make the patient less sensitive to the allergens for which he or she is being treated."

Typically, the treatment lasts several years. During this time, the patient receives injections of the allergens in concentrated extracts. The injections are placed just under the skin's surface, causing little discomfort. Allergy shots block the chain of events that causes allergic symptoms. "Although its success is undisputed with rhinitis or hay fever-type symptoms," Dr. Nelson continues, "the evidence is less clear with asthma."

"Asthma can improve with immunotherapy," says Malcolm Blumenthal, MD, professor of medicine and director of the asthma and allergy program at the University of Minnesota in Minneapolis. "The likelihood of improvement depends on whether the patient has allergies, what the allergies are, and for which allergens the patient receives immunotherapy." He notes that it can be quite beneficial against pollens from grasses and trees, and somewhat helpful against the allergens from dust mites and cats. However, treatment against mold has been disappointing.

### **The Process of Diagnosing Allergies**

The process of diagnosing allergies begins with allergy testing. Skin "prick" or "scratch" tests are types of allergy testing. In these tests, a small amount of specific allergens are pricked into the patient's skin or applied to small scratches made on the skin. If a given test site develops "wheals" (i.e., it becomes swollen) the patient may be allergic to the substance applied to that specific site. The larger the wheal, the more likely that the patient is allergic to it. "If somebody has a cat, and cat dander produces a wheal the size of a dime, the cat is probably contributing to the person's symptoms," says Dr. Nelson.

Other types of allergy testing are done through blood tests. These tests detect whether the patient has elevat-

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ed levels of IgE. IgE is a chemical the body generates that triggers allergic reactions. These tests are the Radio Allergosorbent Test (RAST) and the Enzyme Linked Immunosorbent Assay (ELISA).

If an allergy test indicates that the patient may have allergies, the task has only begun. Both Drs. Blumenthal and Nelson stress that allergy tests can produce "false positives." These are reactions during the testing that indicate an allergy, even though the patient may typically have no symptoms from contact with that allergen. The physician will need to find out if those substances cause symptoms when the patient encounters them in daily life. If you or your child undergo allergy testing, you may also be asked to fill out a questionnaire or keep a diary of symptoms. The physician will be looking for clues about which allergens are causing problems. These clues might include whether symptoms are worse at certain times of the year, more

prevalent during the day or at night, or made worse by activities such as housecleaning. Seasonal symptoms could indicate a pollen or mold allergy. Nighttime symptoms suggest an allergy to dust mites that can live in mattresses, pillows and bedding. A reaction while cleaning the house would indicate an indoor allergen, such as dust mites or animal dander.

If a patient has a positive skin test to an allergen and exposure to it causes asthma symptoms, allergies are undoubtedly contributing to the patient's asthma. However, even if the patient is shown to have allergies that make the asthma worse, there still may be reasons why allergy shots may not be appropriate. For example, children under 6 years old are generally too young to understand and cooperate with weekly injections. Also, patients taking beta-blocker medications to control blood pressure or glaucoma may not be good candidates for allergy shots. Although these medications do not increase the risk of an allergic reaction, if one does occur, they can make it more difficult to bring under control.

### **A Shared Decision**

Before beginning allergy shots, all options for managing the allergy should be reviewed. If appropriate, preventive measures to avoid exposure to the allergen(s) should be tried. For allergens found in the home, such as animal dander, dust mites and molds, there are some fairly simple avoidance measures that can be quite effective. It makes sense to try this approach before getting into more complicated or expensive treatments. There are also a number of medications, such as antihistamines or various types of nasal sprays, that can relieve allergic symptoms. But if these efforts are not offering the desired relief, allergy shots may make sense.

### **What to Expect From Allergy Shots**

In order to be satisfied with immunotherapy, you need to know

**When allergy shots are successful, the patient may enjoy a remission from the allergies, allowing him or her to come in contact with things that would have previously caused problems.**

what to expect. It will not cure allergies, but it is considered successful if the patient has fewer and less severe allergic symptoms over time.

Immunotherapy begins with a “build-up” period. During this time, the dose of each injection is gradually made stronger. This process desensitizes the patient. The build-up period may vary. Usually six to eight months of weekly injections are necessary to achieve “maintenance” — the maximum dose the patient can tolerate. The injections are then given less frequently, decreasing to once a month. Allergy shots are typically given for three to five years, after which time they stop. Although most patients will enjoy a remission of allergy symptoms at this time (and often a long-lasting remission), some may relapse and need to resume the injections.

Time and patience are necessary to determine if allergy shots will be a success. Dr. Blumenthal encourages patients to try it for one year. If they

are going to succeed, patients will

begin to see improvement within six to 12 months.

### Are They Worth It?

Allergy shots must be given at a dose

high enough to alter the patient’s immune response. Such doses, however, also cause some risk of an allergic reaction. Reactions are most common during the build-up period. As a precaution, patients must generally wait in the clinic for 20 to 30 minutes after an injection. If a reaction occurs, they can then receive immediate treatment.

Reactions that can occur from immunotherapy can be either local or systemic. Local reactions are typically itching and swelling at the injection site. If this occurs, the patient or parent should notify the clinic staff, who may treat the injection site with ice. Systemic reactions may consist of wheezing, shortness of breath or hives. These also are typically mild reactions. However, while extremely rare, a severe systemic reaction could be life-threatening. If this were to occur, a clinician would give a medication such as epinephrine to interrupt the reaction. Dangerous reac-

tions are most likely to occur if the

patient’s asthma is not under good control. For this reason, some clinics test patients’ asthma condition by having them blow into a peak flow meter at each visit.

Because allergy shots have some risk, leading allergists discourage home therapy. A substance is too weak to be useful if it is safe enough for home use. The injections would be of little benefit.

### Are Allergy Shots Worth the Cost?

Insurers sometimes discourage allergy shots because of their cost. However, if a patient has both nasal symptoms (allergic rhinitis) and asthma, allergy shots may actu-

ally be less expensive over time than taking medications to treat the symptoms. Without allergy shots, treatment of symptoms must be ongoing. If the patient stops taking the medication, the symptoms will return when the patient encounters the allergen. When asthma patients with allergies take allergy shots, their disease often improves, says Dr. Blumenthal. They may then be able to reduce the amount of medication they take for both rhinitis and asthma.

So if allergy shots are a consideration, there is homework that needs to be done first. If the physician and patient determine them to be appropriate, however, they can provide some long-sought relief. Allergy shots may be the missing piece to the puzzle to reduce a person’s symptoms from both asthma and rhinitis brought on by allergies.

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