

What are allergy shots?

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Allergy shots were first used in 1911 as a way to protect hay fever patients from the effects of pollens. They worked then, and they have worked since.

They are called shots because they are given as injection, usually in the arm, under the skin (not into a vein).

To start, a person goes to see an allergist.* The allergist talks with her or him, then examines that person. If they both think it is appropriate, skin tests are done to see if she or he is allergic to common allergens, such as cat and dog dander, dust mites and pollens. This is best done with skin tests, but blood tests can be used. Some allergens are obvious—you may sneeze around a cat, for example. Other can be present in your environment and contribute to ongoing symptoms—such as dust mites. The effects of allergens add up, so it may take the addition of tree pollens in the air, or being around a pet, for allergies to bother you enough to notice much.

You would then try to minimize your exposure to the allergens that are bothersome. For some, such as pets and dust mites, this can work very well. Others, such as pollens and molds, are not really possible to avoid. Many medications are available, both over-the-counter (and behind-the-counter nowadays) and by prescription from your primary care physician or allergist. If these are not enough, it may be time to consider allergy shots.

Shots treat more than hay fever (what doctors call “allergic rhinitis”). Another important ailment they can treat is allergic (or “extrinsic”) asthma; another is systemic allergy to insect sting venom—bees and wasps, including yellow jackets. The process of allergy shot treatment is sometimes called “desensitization,” because it teaches your body to become less reactive to the allergens used. This is a very selective process. Your immune system learns to be less sensitive only to the allergens used for desensitization, not to all allergens or to any germs. (For this reason, another medical term for allergy shots is “allergen immunotherapy”.) Some people feel that they get fewer respiratory infections because their airways are healthier, but don’t count on it.

Desensitization is a very important treatment for those with systemic allergic reactions to bee or wasp sting venom. Adrenalin used promptly can control these reactions. But venom immunotherapy is the only treatment that can prevent them. It is extraordinarily effective for this. Studies using intentional stings have shown that at least 97% (yes, ninety-seven percent) of children and adults are protected after three months of treatment. Many of those remaining have much milder reactions than initially, so they really have partial responses.

You could call allergy shots a “natural” treatment, in that the allergens you receive in the shots are specially prepared, purified and standardized versions of the ones in the air you breathe each day. Allergy shots usually can be used for pregnant women, for example, because the mother is exposed to the allergens anyway.

How they work is still only partly understood. Allergy results from your body’s decision to defend you from airborne proteins in your environment which are not

harmful. Your body should ignore them. Instead, for about 15% of people in general, your body reacts as if they were from parasites and makes a specific type of antibodies (immunoglobulin E or IgE for short) against them, which you do not need to be making. When this happens we call these proteins “allergens.” When you receive allergen immunotherapy, the allergens are injected under your skin, this makes your body see them out of context—not landing as particles in your nose or lungs. This slowly retrains your immune system to ignore them. How this works is only partly understood, even after all these years of use. We know that over time you make less of the allergic-type antibody (IgE). You also make more general-purpose antibodies (called IgG) to the allergens, which have been called “blocking antibodies.” Your responses to allergens change in other ways as well.

When shots are begun, there is a period of months when the dose builds up toward the maintenance dose. During this build-up phase, injections are usually given weekly until the maintenance dose is reached. At that point the time between shots usually starts to increase, to two, three and then four week intervals for the remainder of treatment.

Shots are not a lifelong commitment. The goal of treatment with allergy shots is for the patient to feel better, on less medication treatment, off shots. Studies have shown that for some people after three to five years treatment can be discontinued with the benefits maintained for years afterwards.

*Allergists are certified by the American Board of Allergy and Immunology (www.abai.org). Ask about certification when you call the office.