

General Information About Allergy Injections

The following information is for patients who may be considering immunotherapy (allergy shots or injections) as part of their allergy treatment plan.

The goal of immunotherapy is to reduce allergic sensitivities. Treatment involves a series of injections given on a regular weekly or biweekly basis. The kinds of allergy injections prescribed, as well as the number and frequency of injections, will be described and discussed with your doctor. The prescription is based on your particular symptoms, your physician examination, and your allergy test results.

Allergy injections are started at a low dosage. The strength and amount of the injections are gradually increased over a period of months until you reach the highest dosage that has been prescribed by your doctor, or a level above which there is a reaction. You will then continue "maintenance" injections at this level. The best "maintenance" dosage for an individual is one that achieves relief of symptoms without unpleasant side effects.

Improvement of allergy symptoms will be gradual. About 85 to 90% of patients given allergy injections receive significant reduction in their allergic symptoms. However, improvements usually occur over a period of three (3) to six (6) months. The maximum benefit may not be reached until 12 to 24 months into treatment.

The duration of immunotherapy treatment varies greatly. The minimum treatment period for most patients is three (3) to five (5) years, but in many cases longer periods of treatment are beneficial or necessary. In general, the injections should be continued about one (1) year beyond the time when allergic symptoms are under control. Thus, the total duration of treatment must be individualized. The duration depends on the nature of the allergic problem, the rate and completeness of recovery, and whether symptoms return when immunotherapy is discontinued.

Because allergy injections are extracts of substances to which you are allergic, you and your doctor will need to be alert to any signs that you are having an allergic reaction to the injection. Early indications of a reaction are described in the accompanying pages of this packet. You will be asked to read and sign a consent before beginning immunotherapy. If you develop local swelling (greater than two inches) at the injection site or have any other symptoms that you feel are due to the injection, please contact our office before your next injection so that we may adjust the dosage.

Allergy injections should be given under the direct supervision of a physician, so that the physician can monitor potential problems and treat any reactions. If your injections are to be given somewhere other than in our office or clinic, we must have the name, address and telephone number of the physician who will assume the responsibility for administering your injections. We will provide you with a form to complete that will allow us to forward your extracts to another physician or medical facility. Allergenic extracts will be **released only to a licensed physician**.

After completing the initial series of injections, immunotherapy patients should have a follow-up visit. At that time, if your allergic symptoms are not clearly improving, the allergist-immunologist may make changes in your prescription to make it more effective for you. It is important for patients who are experiencing persistent allergic problems to have regular re-evaluations, usually at six (6) to 12 month intervals. Patients who are doing well, who are having no problems with their injections, and who have not developed any new medical problems should plan on a review of their program with the doctor once a year.

Frequently Asked Questions

What is immunotherapy?

Immunotherapy, or allergy shots, is a medical treatment involving a series of injections which gradually increases doses of a vaccine or “extract” made from the allergens which you are allergic to.

Is every immunotherapy patient on the same prescription?

No. Allergy extracts prescriptions are specifically designed for you based on the results of an evaluation of your symptoms, medical history, physical findings, and allergy testing.

What conditions are treated with immunotherapy?

Immunotherapy is a preventative treatment for allergic respiratory conditions, such as: perennial and seasonal allergic rhinitis (“hay fever”), asthma (“wheezing”), and insect sting allergy.

What are the goals of immunotherapy?

The primary goal of immunotherapy is to relieve the symptoms caused by allergies. Immunotherapy should generally reduce your allergic sensitivities, thereby reducing symptoms and reducing the need for medications. Immunotherapy is not a cure for the condition, but it usually will improve many of the symptoms and complications of allergic disease.

How effective is Immunotherapy?

Generally, 85% to 90% of patients who are receiving high-dose maintenance immunotherapy will have a significant reduction in their allergic symptoms, as well as a reduction in their need for additional medications.

What alternatives, in addition to immunotherapy, do I have for the treatment of my allergies?

Allergy problems are generally attacked from three directions: avoidance of recognized allergens, medications, and immunotherapy. Avoidance of the offending allergen is the ideal solution and is usually recommended for allergens such as foods, drugs, and animals. However, avoidance may be difficult when the allergen is airborne pollen or mold. Medications also may be beneficial, but only work with regular use and are most helpful when symptoms are mild. Immunotherapy is a “long-term” preventative treatment that can alter the causes of allergic symptoms. It stimulates the patient immune defenses and is a natural response. A patient often will require a combination of avoidance measures, medications, and immunotherapy for the most effective control.

Do I still have to avoid things to which I am allergic if I am getting allergy injections?

It always is wise to avoid know allergens, particularly easily avoided ones such as animals. However, many allergens such as pollen and mold are in the atmosphere and cannot be totally avoided. Allergy injections are especially useful for reducing reactions to these allergens. Very heavy exposure to an allergen may produce symptoms despite allergy injections. Common sense is the rule, and heavy exposures should be avoided whenever possible.

Should I take allergy medications while I am receiving injections?

There is no interference between allergy medications and allergy injections. As you begin your immunotherapy, you should continue you prescribed medications because immunotherapy will take time to become effective. As you proceed toward “maintenance” immunotherapy, you may find that your need for allergy medications will decrease and you will be able to gradually reduce or discontinue some of your medications. However, always talk to your physician before reducing an asthma medication.

How often will I get an allergy injection and how long until the injections begin to help my symptoms?

The “advancement phase” of your immunotherapy may take several months. The schedule of injections that your physician decides is best for you will determine when you reach maintenance levels. You should expect to begin seeing benefits from your immunotherapy as you reach maintenance levels, although some patients will require six (6) to 12 months on high doses before seeing maximum benefit. Your dose should never be advanced if a significant reaction occurred after your last injection. Exceeding the optimal dose can lead to worsening of symptoms.

Why can't I give the injections to myself at home?

Allergy injections contain potent doses of allergens to which you are allergic. No matter how long you have been on allergy injections, the potential always exists for you to have a serious (and possibly even life-threatening) allergic reaction to the shot.

Therefore, you must receive your injections in a physician's office where emergency treatment is immediately available. You may receive your injections in our office or in the office of another physician.

What type of reactions or side effects might result from an allergy injection?

Allergy shots usually cause no immediate problem. The only common side effect is localized swelling at the site of the injection, usually no larger than a quarter. Ice applied to the site of the swelling will help relieve some of the discomfort. There also are medications that may help avoid this side effect. Do not scratch or massage the injection site. Scratching may worsen the local reaction. You should not expect to have a major flare-up of your allergy symptoms after a shot.

Notify us or the physician administering the injection immediately if you think you are having a reaction to an injection.

Symptoms suggesting a reaction include: Any allergy symptom that occurs at a location other than the site of the injection, chest congestion or wheezing, swelling of the tongue or throat, itching at any location, hives, abdominal cramping, and/or light-headedness.

These "anaphylactic" reactions must be treated promptly by the physician and staff. Most serious reactions begin within 20 to 30 minutes, while you are still under observation. However, please do not ignore these generalized symptoms even if they begin several hours after an injection. Return to our office or go to the nearest emergency room for treatment.

Do I have to remain in the physician's office for 20 to 30 minutes after every injection?

As noted above, there is always a slight risk that you could have a serious reaction to your allergy injection, no matter how long you have been on injections. Since serious reactions can be life-threatening, a physician should be readily available. If you do not have the time to wait after your injection, please do not come for your shot that day. It is better to come another day when you have the time to stay, so that we may administer your injection safely.

What are the reasons for postponing an allergy shot?

Call us before the immunotherapy appointment if you are ill or not feeling well. For example, a fever or wheezing within the past 12 hours. We may want to postpone your shot.

How often do I need to schedule a follow-up visit with the doctor?

The answer varies from patient to patient. You should check with your physician on how often you need to be seen.

When should I have allergy testing done again?

There is no need for allergy testing every year. The general recommendation is that you consider re-testing every three (3) to five (5) years, or as new problems seem to develop. The doctor can discuss possible re-testing at your annual visits.

Should I inform the allergist of new prescription medications from other doctors?

Yes. There are several medications, particularly some blood pressure medications known as "beta blockers" and ACE inhibitors that usually are not given along with immunotherapy. Please notify the nurse of any new medications that have been prescribed for you since your last visit with the physician.

What if I become pregnant while on allergy shots?

Allergy injections are believed to be safe during pregnancy. The only possible harm to your baby could occur if you have a major reaction with a drop in blood pressure and a need for oxygen. We encourage conservative treatment during your pregnancy and not advancing your dose above the maximum dose given prior to pregnancy. The allergy injections will not cause or prevent allergies in your baby. Please arrange a follow-up visit if you become pregnant so your allergy treatment program can be reviewed. One of the benefits of continuing immunotherapy during pregnancy is that you may need less of the other medications.

What should I do about my injections if I go on vacation?

You can skip injections while on vacation if you will be gone less than three (3) weeks. Missing a week or two will not have a serious impact on the overall immunotherapy program. If you plan an extended trip, notify the office staff and we will arrange for transfer of your extract to a local physician at your destination.

Will my final "maintenance dose" always remain the same volume and be given at the same interval?

No. As you reach "maintenance", you may find that you can space your injections farther apart. If you have been receiving injections twice a week, your physician may suggest reducing them to once a week and observe for control of symptoms over the



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next month or two. If you continue to be well controlled, injections can be spaced every other week or up to four weeks apart. During peak pollen or mold seasons, you may notice that you are having more local reactions to your injections due to the increased allergen exposure in your surroundings. (This is called “co-seasonal” exposure). If this occurs, the maintenance volume will be temporarily reduced.

Cluster Immunotherapy Schedule Versus Traditional Immunotherapy Schedule

| Traditional (Singles) | | |
|-----------------------|--------|------------|
| Visit/Week | Rounds | Time |
| 1 | 1 | 30 minutes |
| 2 | 1 | 30 minutes |
| 3 | 1 | 30 minutes |
| 4 | 1 | 30 minutes |
| 5 | 1 | 30 minutes |
| 6 | 1 | 30 minutes |
| 7 | 1 | 30 minutes |
| 8 | 1 | 30 minutes |
| 9 | 1 | 30 minutes |
| 10 | 1 | 30 minutes |
| 11 | 1 | 30 minutes |
| 12 | 1 | 30 minutes |
| 13 | 1 | 30 minutes |
| 14 | 1 | 30 minutes |
| 15 | 1 | 30 minutes |
| 16 | 1 | 30 minutes |
| 17 | 1 | 30 minutes |
| 18 | 1 | 30 minutes |
| 19 | 1 | 30 minutes |
| 20 | 1 | 30 minutes |
| 21 | 1 | 30 minutes |
| 22 | 1 | 30 minutes |
| 23 | 1 | 30 minutes |
| 24 | 1 | 30 minutes |
| 25 | 1 | 30 minutes |
| 26 | 1 | 30 minutes |
| 27 | 1 | 30 minutes |
| 28 | 1 | 30 minutes |
| 29 | 1 | 30 minutes |

| Cluster (Rapid) | | |
|-----------------|------------------|------------|
| Visit/Week | Rounds per Visit | Time |
| 1 | 3 | 2-3 hours |
| 2 | 3 | 2.5 hours |
| 3 | 3 | 2.5 hours |
| 4 | 3 | 2.5 hours |
| 5 | 2 | 90 minutes |
| 6 | 2 | 90 minutes |
| 7 | 2 | 90 minutes |
| 8 | 2 | 90 minutes |
| 9 | 1 | 30 minutes |
| 10 | 1 | 30 minutes |
| 11 | 1 | 30 minutes |
| 12 | 1 | 30 minutes |

Maintenance has been reached

Once maintenance has been reached, we will then start spacing out injections until you reach once per month. This differs from patient to patient. We will evaluate how your build-up going before determining this.



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Immunotherapy Policies

Injections of a substance to which you are allergic poses a potential emergency. Systematic reactions are rare, but for your safety **you must be observed for 20 minutes after every shot, and 30 minutes if you have asthma.**

In addition, we require **all patients receiving allergy injections to carry an epinephrine auto-injector to every allergy shot visit** in the event that a reaction occurs.

If you ever use your epinephrine auto-injector, **you must first call 911 and then call our office the following business day.**

Thank you for your understanding and cooperation with these policies.

When to use an Epinephrine Auto Injector

Use an epinephrine auto injector as instructed for symptoms consistent with a systemic type 1 hypersensitivity reaction with **2 or more** organ systems involved.

- More than 75% of systemic reactions involve skin findings such as flushing, itchy skin, or hives. This alone would **not** be an indication to use an epinephrine auto injector.
- However, skin findings **accompanied by other symptoms** would necessitate immediate use of an epinephrine auto injector. Other symptoms include:
 - “An impending sense of doom;”
 - Nasal symptoms: runny nose, sneezing, congestion;
 - Throat symptoms: swelling, itching, drooling, change in the quality of voice; and/or
 - Chest symptoms: cramping, nausea, vomiting, diarrhea
- Rare cases in which the patient does not have skin findings but has the above symptoms, they are further advised to use the auto injector **sooner rather than later**.
- Additionally, if the patient ever feels as though they are having a life-threatening reaction, they should use their epinephrine auto injector.
- If symptoms do not resolve after five (5) minutes subsequent to the initial epinephrine auto injector administration, they should use their second auto injector immediately.

**If you ever use your epinephrine auto injector, you must first call 911 and then call your physician.
Make sure you bring your epinephrine auto injector with you to every visit.**

Signs & Symptoms of Anaphylaxis

| System | Symptoms | Signs |
|-------------------------|---|--|
| Respiratory | Nasal congestion Itching/sneezing Clear rhinorrhea Dyspnea Hoarseness Dysphasia Stridor "Lump in the throat" Cough Chest Tightness | Mucosal edema Watery drainage Glottic edema Cyanosis Cough Wheezing Tachycardia Retractions |
| Cardiovascular | Lightheadedness Syncope "Impending sense of doom" Palpitations LOC/coma Apnea | Hypotension Tachycardia Cold/clammy Irregular rate/rhythm Absent pulse |
| Skin | Pruritis Flushing Swelling | Wheal/flare Skin/structure edema |
| Gastrointestinal | Nausea/vomiting Abdominal cramping Diarrhea | Loose stools (may be bloody) |
| Ocular | Ocular itching Lacrimation | Conjunctival injection/edema Tearing |



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Serum Remix

During your immunotherapy, the vials containing your serum will run out, which requires our office to “remix” your vials.

At the time of your remix, you will be billed for the cost of remaking your vials. The cost of your remix will depend on your insurance benefits.

Please note that once your vials are remixed, you will need to come into the office weekly for three (3) to four (4) weeks to build back up to maintenance.

Once you reach your treatment dose, you will come into the office once two (2) weeks later and then decrease back to visits once every three (3) to four (4) weeks.