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Allergen Immunotherapy Injection Information

What are allergy shots?

Allergen immunotherapy injections or "allergy shots" are prescribed for patients with allergic rhinitis (i.e. allergies of the nose to pollens, molds, dust mites, and animal dander), allergic asthma, or life-threatening reactions to insect stings (e.g. bees, wasps, etc.). Allergy shots are the only medical treatment that could potentially modify allergic disease (i.e. improve the underlying disease and not just mask symptoms). Research studies have demonstrated that it may have a preventive role in allergic children, possibly preventing the development of allergic asthma. Allergy shots are recommended for individuals at least 5 years of age who do not want to continue medications due to lack of efficacy, cost, or are experiencing medication side effects. Even with allergy shots, environmental control measures remain a significant intervention to improve allergy symptoms.

How effective are allergy shots?

Allergy shots may "down-regulate" allergic reactions to common allergens including pollens, molds, dust mites, and animal dander. In most cases, the first 6 to 24-month of allergy shots are likely to gradually decrease sensitivity to airborne allergens. Continuation of allergy shots for the recommended 5 years leads to further symptom improvement. Adjustment of the allergy shots may need to occur after the first year or two. If no symptoms improvement occurs, allergy shots may be discontinued. Severe allergic reactions, such as anaphylaxis, may require the discontinuation of allergy shots. For some patients, allergy shots may provide some sense of cure, but for most individual, allergy shots diminish sensitivities, resulting in fewer symptoms and decreased medication burden. It is important to maintain allergy shots at the proper time interval, usually once per month during your "good" season(s) and twice per month during your "bad" season(s) once on maintenance. Missing your shots during build-up phase or maintenance phase will require a dose adjustment. Office staff have written instructions if you miss receiving your allergy shots for longer than what is recommended for your current vial.

How are my allergy shots made? Where can I get my allergy shots?

Once your questions have been answered and you have signed your allergy shot consent, your allergy shots will be mixed based on your allergy testing results. Your allergy testing results will dictate how long your build-up phase will be (explanation forthcoming). Allergy shots should be administered in a medical office with access to emergency equipment and medications to manage an allergic reaction. You may receive your allergy shots in our office or with your primary care provider. "Take-out" allergy shots refer to allergy shots given by your primary care provider. There is a "take-out" form that your primary care provider must complete prior to your allergy shots being

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mixed. Minors must have a legal guardian physically present in the medical office to receive an allergy shot. Minors presenting for an allergy shot or office visit without a legal guardian present will not receive an allergy shot or be seen for the office visit.

How long will I be on allergy shots?

There are generally two phases to allergy shots: a build-up phase and a maintenance phase

- **Build-up phase:** involves receiving injections with increasing amounts of the allergens. The frequency of injections during this phase should be no sooner than 72-hour interval. The duration of this phase depends on the frequency of the injections but generally ranges from 16-21 sets of shots. Allergic reactions to allergy shots in the build-up phase will worsen since each time an allergy shot is given, either the volume or concentration of the allergens increases. Your build-up vials are color coded and are referred to as dilutions, such as 1:1,000, 1:100, 1:10 and then 1:1. Each dilution is more concentrated than the previous.
- **Maintenance phase:** This phase begins when the effective therapeutic dose is reached, office staff will refer to this as the “1:1 dilution at the 0.5ml dose”. The effective therapeutic dose is based on recommendations from a national collaborative committee called the **Joint Task Force for Practice Parameters: Allergen Immunotherapy: A Practice Parameter** and was determined after review of a number of published studies on immunotherapy. The effective maintenance dose may be individualized based on how sensitive (i.e. how ‘allergic they are’ to the allergens in their allergy shots) and their response to the allergy shot build-up phase. Once the target maintenance dose is reached, the intervals between the allergy shots can be increased. We recommend to finish your first maintenance vial at a 2-week interval. Subsequent maintenance allergy shots generally range from every 2-4 weeks but should be individualized to provide the best combination of effectiveness and safety for each individual. Shorter intervals between allergy shots may lead to fewer reactions and greater symptom reduction. Since new mixed allergy shots are more potent and may have increased risk of allergic reactions, a half shot (i.e. 0.25ml) is administered with the subsequent maintenance shot (i.e. 0.5ml) within 14 days. Allergy shot vials are 5ml in size and maintenance dose is usually 0.5ml; therefore, you may receive about 10 shots per vial over a 9-month period.

What is anaphylaxis? Am I at risk for this on allergy shots?

When you receive your allergy shots, you are being injected with the things you are allergic to. An allergic reaction of some degree will likely occur. Most patients on allergy shots will experience what is called a large local (i.e. swelling, redness, warmth and/or pain at the injection site). If you have large locals with your allergy shots, your healthcare provider must be notified to provide guidance for appropriate management. This is especially important in the build-up phase,

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when we are increasing your allergens in your shots. A systemic reaction or anaphylaxis may occur at any time while on allergy shots. Anaphylaxis is a severe life-threatening reaction with multiple symptoms (e.g. watery eyes, sneezing, runny nose, hives, flushing, lightheadedness, coughing, wheezing and/or shortness of breath) affecting different parts of the body. Initial treatment will be initiated at the office, but some patients require advanced medical care requiring their transportation to the local emergency room. Waiting the required 20 to 30 minutes after an allergy shot helps with access to immediate emergency treatment if an allergic reaction occurs. It is better to have an allergic reaction in the waiting room than driving down the road.

Some conditions you may experience in everyday life can make allergic reactions to the allergy shots more likely to occur. Extended natural exposure to allergens, such as outdoor activities during pollen season, new pets at home, new allergen exposures at work, or spring house cleaning, may cause a “tipping point.” In essence you have dosed your immune system with allergen, and then the allergy shot “tips” the immune system into an allergic reaction. Exercising before or after your injection can increase absorption of the allergy shots and increase the risk of a systemic reaction. We recommend that you do not exercise 1 hour before or 2 hours after receiving an allergy shot.

Allergy shots should be withheld if you are sick. The risk of a systemic reaction and your ability to be successfully treated for a systemic reaction may be impacted if you are getting sick, currently sick, or just getting over a recent illness. If you are sick enough to miss school/work or need an antibiotic, then you are sick enough to not get your allergy shot. Serious systemic reactions can occur in patients with uncontrolled asthma. Your peak flow must be checked prior to and after the 20 to 30-minute waiting period with allergy shots if you have asthma. If your asthma is not controlled with your asthma action plan, you should not get an allergy shot until you have been evaluated by your healthcare provider. Individuals with other chronic diseases not well controlled, such as heart disease, diabetes, or COPD, may experience worse symptoms and require the transportation to the local emergency room.

What happens to my allergy shots if I get pregnant?

Allergy shots are generally safe during pregnancy; however, there is a risk of anaphylaxis at any time during allergy shot treatment. Build up is not advisable during pregnancy. Once pregnant, you can maintain your current dosing as long as you are on schedule. Allergy shots can be discontinued once pregnant and restarted after delivery; however, rebuilding will be necessary.

Please inform the office staff if you have been prescribed any new medications. There are some medications used to treat chronic medical conditions that would impair medications used to treat an allergic reaction, such as beta blockers.