

## **Boston Food Allergy Center Immunotherapy info sheet**

### **Allergen immunotherapy injections**

Also known as “allergy shots” are prescribed for patients with allergic rhinitis (hay fever), allergic asthma or life threatening reactions to insect stings. Immunotherapy is the only medical treatment that could potentially modify allergic disease. Some studies have shown that it may have a preventive role in allergic children, possibly preventing asthma from developing in some patients with allergic rhinitis. Immunotherapy would be considered for individuals who have moderate or severe symptoms not adequately controlled by environmental control measures and/or medications.

### **Effectiveness**

Allergen immunotherapy (Allergy shots) may “turn down” allergic reactions to common allergens including pollens, molds, animal dander and dust mites. In most cases, the initial 6 to 12 month course of allergy shots is likely to gradually decrease sensitivity to airborne allergens and continuation of injections leads to further improvement. The injections do not cure patients but diminish sensitivities, resulting in fewer symptoms and use of fewer medications. It is important to maintain shots at the proper time interval; missing your shots for a short time may be acceptable but an appropriate adjustment in the dose of antigen extracts may be necessary for long lapses in injections.

### **The Benefits of Immunotherapy**

Relief of allergy symptoms can be appreciated early in the build-up phase but may take as long as one year on maintenance. Failure to respond after one year on maintenance therapy warrants further evaluation and possibly discontinuation of treatment. Successful maintenance treatment is generally continued for 3 to 5 years. The decision to stop immunotherapy will be discussed after 3 to 5 years of treatment. Some people may experience lasting remission of their allergy symptoms after discontinuing treatment. Others may relapse after discontinuing immunotherapy, some will have a slight increase in symptoms controllable with medications, and others may require resumption of allergy injections in time. You will be re-evaluated periodically while on injections; changes in the allergen vaccine or injection schedule may be necessary to obtain optimal results. Once a year a serum review will be done during a visit with the provider to evaluate making a new serum for the following year. Serums must be remade every year.

### **Beta-blockers and Immunotherapy**

Beta-blockers are contraindicated while on immunotherapy. Beta-blockers are medications typically used for, but not limited to, heart conditions or migraines/headaches. If you are taking a beta-blocker or are unsure if you are, please discuss this with your provider. To ensure your safety before starting allergy injections, we would be happy to review your list of medications with you. Please inform us if you start on a new medication.

### **Allergy Injection Build-up and Maintenance Schedule**

When you are starting injections for the first time there are two ways that you can begin: the traditional build up or cluster immunotherapy (shots). In order to cluster, your Provider must give his or her consent, and they will discuss this with you if they think you are a candidate. After the

initial build up phase you will begin the maintenance phase. Below is a typical allergy shot schedule (it may vary for individual patient):

<b>Vial 4 1:1000 Green</b>	<b>Vial 3 1:100 Blue</b>	<b>Vial 2 1:10 Yellow</b>	<b>Vial 1 1:1 Red</b>
0.05ml	0.05ml	0.05ml	0.05ml
0.1ml	0.07ml	0.07ml	0.07ml
0.2ml	0.1ml	0.1ml	0.1ml
0.3ml	0.15ml	0.15ml	0.15ml
0.4ml	0.25ml	0.25ml	0.2ml
0.5ml	0.35ml	0.3ml	0.25ml
	0.45ml	0.35ml	0.3ml
	0.5ml	0.4ml	0.35ml
		0.45ml	0.4ml
		0.5ml	0.45ml
			0.5ml
			0.5ml in 2 weeks
			0.5ml in 3 weeks
			0.5ml every 4 weeks

**Traditional build-up:** In traditional build up, you can come once or twice a week. When you have reached the top dose you will go every other week for two weeks then maintain at once every 3-4 weeks. Most patients are on shots for 3-5 years.

**Cluster build-up:** This is a more advanced schedule. Each time you come in we will increase the dose multiple times at 30 minute increments. Cluster build up has been shown to be safe and effective.

**Maintenance phase:** This phase begins when the effective therapeutic dose is reached. 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 for a particular person based on their degree of sensitivity (how “allergic they are” to the allergens in their vaccine) and their response to the immunotherapy buildup phase. Once the target maintenance dose is reached, the intervals between the allergy injections can be increased. The intervals between maintenance immunotherapy injections generally ranges from every 2 to every 4 weeks but should be individualized to provide the best combination of effectiveness and safety for each person. Shorter intervals between allergy injections may lead to fewer reaction and greater benefit in some people.

**Reactions to allergy injections**

It is possible to have an allergic reaction to the allergy injection itself. Reactions can be local, which are common (swelling at the injection site) or systemic (affecting the rest of the body). Systemic reactions occurring in 7-10% of injection patients include hay fever type symptoms, hives, flushing, lightheadedness, and/or asthma, and rarely, life threatening reactions. Fatal reactions are rare but have been reported in 1 to 2 million injections. Some conditions can make allergic reactions to the injections more likely: heavy natural exposure to pollen during a pollen season and exercise after an injection. Serious systemic reaction can occur in patients with asthma that has worsened and is not well controlled on recommended medications. Therefore, if you have noted worsening of your asthma symptoms, notify your nurse or physician before receiving your scheduled injections! Reactions to injections can occur, however, even in the absence of these conditions.

1. If any symptoms occur immediately or within hours of your injection, please inform the nurse before you receive your next injection.
2. Patient must wait for 30 minutes after receiving an allergy injection(s) in the doctor's office staffed with appropriate medical personal.
3. Patient should not exercise for 4-6 hours after the injection.
4. Patient should have **epinephrine** on their person and at school/work in case of an anaphylactic reaction after receiving the allergy injections.
5. To minimize reactions to allergy shots, the providers recommend that the patient take an antihistamine within 24 hours before receiving the shots.
6. Please inform the nursing staff if you have been diagnosed with a new medical condition or prescribed any new medications since your last visit. If any symptoms occur immediately or within hours of your injection, please inform the nurse before you receive your next injection.

**IMPORTANT FINANCIAL CONSIDERATION**

Immunotherapy is expensive. Having said that, it is usually covered by your insurance as it is a "standard of care". However, it is prudent to call your insurance to make sure. When you call your insurance, tell them the following "CPT codes" will be used for immunotherapy: 95165 (antigen preparation) and 95117 (immunotherapy shots). Ask if you have a "deductible" and if you have a "copay" associated with each visit for injection. If you chose to have "cluster immunotherapy", you need to confirm with your insurance that CPT 95180 will be covered.

7. Please inform the nursing staff if you have asthma exacerbation prior to the allergy shots or recent illness. We might need to put the allergy shots on hold for safety reasons.