

# Allergy & Asthma Center

of Southern Oregon, PC

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## IMMUNOTHERAPY (“ALLERGY INJECTION”) INFORMATION SHEET

### **GOALS OF IMMUNOTHERAPY**

The purpose of allergy immunotherapy is to increase your tolerance to the substance(s) encountered in your everyday environment to which you are allergic (e.g. pollen, animal danders, dust mites, molds). The immune system has a natural ability to build up a tolerance to common proteins such as self-proteins, particularly when these proteins are present in high quantity. The same kind of tolerance can be induced to allergens through a series of allergy shots. This is achieved by injecting you with small quantities of the actual substances (allergens) you are sensitive to eventually building up to high quantities. The identification of agents you may be sensitive to is accomplished by skin testing. Shot extracts then are mixed to contain a diversity of allergens which are individualized for your particular situation. The decision whether to initiate allergy injections will be based upon both your individual medical history and your skin test results.

### **INDICATIONS FOR IMMUNOTHERAPY**

1. Inability to control your symptoms with conventional allergy and asthma medications and avoidance measures.
2. Symptoms are well controlled only with many medications over long periods of time so that management is difficult and inconvenient.
3. Medications required to control symptoms have unacceptable side effects, or excessive costs.
4. Allergic problems have potential serious complications (e.g. otitis, sinusitis, asthma) or interfere with daily activities (sleep, work, school etc.).

### **IMMUNOTHERAPY— PART OF A COMPREHENSIVE APPROACH TO ALLERGY TREATMENT**

Although immunotherapy often reduces the need for medication and improves allergy symptoms, it does not work immediately. Substantial improvement usually begins within a few months, but full improvement in allergic symptoms occurs gradually over the first one to two years on allergy shots. During the process of building your tolerance to allergens it is important to continue other measures which together with immunotherapy form a comprehensive approach to successfully treat your allergy and respiratory symptoms.

Environmental control measures minimize your exposure to those agents in your environment which trigger your symptoms, and are a central component of the comprehensive approach to successfully treat your allergy and respiratory symptoms. After your office visit, your doctor will provide you with an individualized plan to define appropriate environmental control measures relevant to your particular situation. Immunotherapy has a lesser effect on respiratory symptoms caused by irritants (cold air, smoke, odors etc..) and no effect on upper respiratory infections (“colds”).

To achieve maximum benefit in the short and long term, immunotherapy and environmental control measures must be combined with your individualized medication program. Modifications of this plan may be necessary on an ongoing basis as your health and/or your environmental exposures change. Medications (usually in much reduced doses) may still be required in spite of one’s best efforts to build tolerance to allergens with immunotherapy and to control environmental factors which may cause symptoms.

Your medication program, environmental control and immunotherapy each have an important role in the comprehensive approach to treating your allergic and respiratory symptoms. As your needs change, consult your doctor to determine the best treatment for you.

### **SAFETY**

1. Allergy shots have been employed since 1911. They have proven to be very safe when performed carefully in a doctors office with monitoring after each shot.
2. Several long term studies of hundreds of patients on immunotherapy indicate about 3% of patients (or 3% of shots) could lead to a systemic allergy shot reaction, such as runny nose, asthma, hives or rarely low blood pressure or throat swelling. These can be minimized by taking “premeds” such as antihistamines 2-10 hours before allergy shots to minimize local arm itching and systemic reactions. All patients need to wait in our clinic for 20-30 minutes after shots in case of any systemic reaction occurs requiring treatment. Most such reactions occur during the build up stage and are rare once maintenance is attained. Other normal side effects of shots include pain and itching at shot site, and a warm swelling goose-bump at site of shot often lasting 2-3 days.
3. **Pregnancy** – Starting injection therapy in pregnant women is not recommended. If a patient on immunotherapy becomes pregnant, continuation of immunotherapy at the achieved concentration is considered to be safe and can help keep allergies stable during pregnancy

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with minimal medicines.

### ***EFFECTIVENESS OF IMMUNOTHERAPY***

The medical literature suggests that significant reductions in symptoms can be expected during immunotherapy in at least 9 out of 10 patients. If immunotherapy often can be discontinued after 4-5 years of maintenance dose shots, but continuing beyond five years may also be helpful for severely allergic patients. Studies show at least 2/3 of patients will experience many years (at least) three or more of continued symptom relief even after stopping. Generally allergy shots may reduce symptoms for years after stopping shots, provided at least 3-5 years of **high dose** shots are received.

### ***SCHEDULE OF IMMUNOTHERAPY***

1. **Building Phase** – Initially, allergy injections are given once or twice weekly for approximately 9-16 weeks. After this period, injections are given monthly (“maintenance phase,” see next paragraph). Some patients choose to get two or three sets of allergy shots at each build up visit at 20 minute intervals with the lower strength doses to allow a more rapid buildup to high effective doses. During the building phase, the dose of allergen extract can be increased even if you miss one week, but if you miss 3 or 4 weeks, the previous dose is repeated. Missing over 4-5 weeks will require a decrease in your dose. Please try to come in at least weekly while building doses and at least monthly if on maintenance doses. It is always fine to come in early or more frequently and may further stabilize allergies.
2. **Maintenance Phase** – While it typically takes 2-4 months, it can take up to one year for immunotherapy to reach maximum effectiveness. Symptoms may continue through your first allergy season on injections. For this reason, the decision on the effectiveness of the immunotherapy is not made until you have gone through two years of allergy seasons. At this point at least 90-95% of patients usually show benefit. Progress will be reevaluated on an annual basis.

### ***WHAT TO DO WHEN ARRIVING FOR AN INJECTION***

1. Please notify staff of your arrival and sign in on the shot sign in sheet.
2. Please **inform the nurse of any problems you are having BEFORE you receive your injection**. These include:
  - ▶ Any problems associated with your **last injection**.
  - ▶ Any flaring of an allergy and non-allergy related medical problems, such as **increased asthma or respiratory infection**.
  - ▶ New medications from other doctors or over-the-counter medications you may be taking.
  - ▶ Whether you are taking any **“Beta Blocker”** medications for high blood pressure or cardiac problems. These medications (Atenolol, Propranolol, Pindolol, etc.) generally should not be taken while on allergy shots. At times Beta Blockers may be allowable for certain patients requiring Beta Blockers who consent to shots while taking Beta Blockers utilizing premeds, and have safely tolerated build up phase. If you are unsure as to whether you are on these medications, please ask. It is essential to be aware of these issues in order to prevent interactions with your immunotherapy.
  - ▶ Asthmatics who have experienced a recent upper respiratory infection, are wheezing or short of breath generally should wait to come in for shots until they have recovered.
3. ***For your own safety, we require all patients to remain in the doctor’s office for 20 minutes after each injection (even when you are on the same maintenance dose). The required wait is 30 minutes after bee sting (venom) allergy shots.***

See discussion of generalized reactions below.

### ***ADVERSE SIDE EFFECTS***

#### **Local Reactions**

As a normal feature of allergy shots, you will experience some local redness, swelling and itching at the injection site within the first 1-6 hours after receiving an injection. These local symptoms after receiving the injection are referred to as **delayed local reactions**. Applying ice packs to the area and anti-histamines are helpful in these instances. You should *have a supply of oral anti-histamines at home* and readily available, in addition to the antihistamines 2-4 hours prior to shots recommended for all patients. Delayed local swelling reactions can normally persist for 1-2 days causing “goose egg” sized warm, mildly itchy areas on the arms. Adjustment in the allergy injection dose is usually **not** necessary after such local delayed reactions. Over time as doses get higher and higher such delayed local swelling reactions usually get smaller and smaller and eventually no longer occur after shots.

#### **Systemic Reactions**

Rarely, around 2-3% of all patients receiving injections can develop itchy eyes, watery nose, generalized flushing and/or itching, hives, shortness of breath, lightheadedness or distressed feelings immediately (usually 0-20 minutes after an allergy shot, see safety section above). If this occurs, **TELL ONE OF THE STAFF IMMEDIATELY** so you can receive appropriate medication. An injection of adrenaline together with extra antihistamines and prednisone or albuterol usually produces prompt relief of these symptoms.

**NEVER HESITATE TO ASK QUESTIONS, WE ARE HERE TO SERVE YOU!!!**

## Allergy Shot Build Up Schedule

The following **building dose schedules** should help you to understand the length of time it will take to reach your maintenance dose. Generally doses are give 1-2 times **weekly** up to the maintenance dose of 0.40cc in solution #4. Once the dose of 0.40cc in solution #4 is reached you will follow the **maintenance schedule** outlined below the building schedule.

Building schedule for patients on 0.40ml maintenance:

Each solution is 10 times stronger. Solution #4 is the strongest.

	<i>Blue Vial</i> Sol. #1 (1/100,000)	<i>Green Vial</i> Sol. #2 (1/10,000)	<i>Gold Vial</i> Sol. #3 (1/1,000)	<i>Red Vial</i> Sol. #4 (1/100)
Start here — >	0.05cc	0.025cc	0.025cc	0.025cc
	0.10cc	0.05cc	0.05cc	0.05cc
	0.20cc	0.10cc	0.075cc	0.075cc
	0.25cc	0.15cc	0.10cc	0.10cc
		0.25cc	0.15cc	0.15cc
			0.20cc	0.20cc
			0.25cc	0.25cc
				0.30cc
				0.40cc maintenance dose

**Maintenance Schedule**

Then give 0.4cc every 1 week (s) for 2 doses,  
 Then give 0.4cc every 2 week (s) for 2 doses,  
 Then give 0.4cc every 3 week (s) for 2 doses,  
 Then give 0.4cc every 4 week (s).

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Building schedule for patients on 1.0ml maintenance:

Each solution is 10 times stronger. Solution #4 is the strongest.

	<i>Blue Vial</i> Sol. #1 (1/100,000)	<i>Green Vial</i> Sol. #2 (1/10,000)	<i>Gold Vial</i> Sol. #3 (1/1,000)	<i>Red Vial</i> Sol. #4 (1/100)
Start here --- >	0.05cc	0.025cc	0.025cc	0.025cc
	0.10cc	0.05cc	0.05cc	0.05cc
	0.20cc	0.10cc	0.075cc	0.075cc
	0.25cc	0.15cc	0.10cc	0.10cc
		0.25cc	0.15cc	0.15cc
			0.20cc	0.20cc
			0.25cc	0.25cc
				0.30cc
				0.40cc
				0.55cc
				0.70cc
				0.85cc
				1.0 cc maintenance dose

**Maintenance Schedule**

Then give 1.0cc every 1 week (s) for 2 doses,  
 Then give 1.0cc every 2 week (s) for 2 doses,  
 Then give 1.0cc every 3 week (s) for 2 doses,  
 Then give 1.0cc every 4 week (s).