

## *Allergy basics*

Our bodies are continually bombarded with small particles that can potentially trigger our immune system. These particles can interact with our immune system if we touch, breathe or eat them. When they stimulate our immune system, they are referred to as allergens. In a perfect world, our immune system would only respond to allergens that are dangerous to us (toxins, poisons, bacteria, etc.).

When it comes to people suffering from allergies, the immune system has been tricked into thinking that an allergen is dangerous. The immune system responds then with a ‘fight that invader’ response even though it typically wouldn’t cause any harm. This response is out of proportion to the threat it really poses to us, so we call it ‘hypersensitivity’.

It turns out that most allergy symptoms aren’t because of the allergens themselves, but the side effects of the immune system’s response to them. Entire textbooks are dedicated to the different chemicals the immune system produces. These chemicals (ex. Histamine, cytokines, interleukins) are responsible for making your symptoms (ex. feeling crummy, sneezing, wheezing, etc.) We call these chemicals ‘inflammatory mediators’.

There are three tenants of allergy treatment: Avoidance, medications, and immunotherapy. The goals of allergy treatment are to keep the immune system from inappropriately responding to certain offending allergens.

### **Avoidance**

The goal of avoidance is to not allow your immune system to be exposed to a particular allergen in the first place. Sometimes it is easy to identify a trigger antigen, and other times testing is required. Similarly, sometimes it is easy to modify your life to avoid an allergen, but sometimes it is unrealistic.

### **Medications**

There are several categories of medications (ex. steroids, antihistamines) that are used to blunt the immune system’s response to antigens. By doing so, the hope is that all those ‘inflammatory mediators’ that are on standby in the various cells and tissues of the body don’t wreak havoc on you when your immune system detects a ‘hypersensitivity’ antigen. These medications have variable effectiveness, side effects, and duration/onset of relief.

### **Immunotherapy**

This category of treatment aims to shift how your immune system responds to a ‘hypersensitive’ antigen. The goal here is that your immune system would ‘chill out’ when it sees a harmless antigen, instead of an inappropriate ‘over-board’ response. This is accomplished by first identifying the offending antigen through allergy testing. Then,

over several months or years, we carefully expose the immune system to extremely low doses of the antigen. Over time, the dose is gradually increased until your immune system is no longer triggered when exposed to normal amounts of this antigen in day to day living. The low dose of antigen is carefully administered through shots, pills, or drops placed under the tongue.

### **How we perform allergy testing**

Testing is generally done through skin testing or blood testing. Skin testing is preferred, as it tends to be more clinically relevant, while allowing us to determine starting points if we are considering immunotherapy.

Skin testing is generally done by making a small scratch in the skin with a disposable and sterile plastic device that has been dipped into a purified and dilute allergen extract. It is essentially painless, but can cause some itching, mild redness, and swelling (an allergic response!) over the ensuing 15 minutes, and can last for up to 24 hours. Very rarely the response will last for a few days, but shouldn't be cause for alarm. Following that testing, most patients will proceed with intradermal testing.

Blood testing is performed by a standard blood draw. It is advised for people who cannot safely undergo skin testing, those with a strong history of anaphylactic reactions, or if medications cannot be stopped prior to skin testing (see below). It is also used if you have a skin condition called dermatographia or in very young children.

### **Who should consider allergy testing?**

The following are typical medical issues that would benefit from an allergy assessment:

- *Chronic sinusitis, particularly with allergic fungal sinusitis or nasal polyps*
- *Chronic ear disease, eustachian tube dysfunction or multiple sets of ear tubes*
- *Meniere's disease or chronic dizziness/vestibular problems*
- *Chronic headaches or migraines*
- *Chronic laryngitis, throat clearing or globus (sensation of a lump/ tickle in throat)*
- *Postnasal drip symptoms*
- *Frequent sneezing*
- *Itchy eyes, nose or roof of mouth*
- *Food intolerance or unexplained stomach/gastrointestinal symptoms*
- *Eczema*
- *Asthma*
- *Strong family history of allergies*

### **What are the goals of allergy testing?**

- *Confirm the assumption that you indeed have allergies*
- *Identify what foods or other allergens in the environment you are sensitive to*
- *Determine how sensitive you are to the allergens*
- *Correlate the findings with your signs and symptoms*
- *Determine starting doses and antigens if immunotherapy is being considered*

## **How to prepare for your allergy testing**

Anticipate that you will need approximately 90 minutes for an allergy test appointment.

Please fill out the attached WWMG Allergy Testing Questionnaire and bring it with you to review with the provider.

Wear comfortable clothing that can be easily removed, as often times skin testing is done on the back and arms.

Please don't wear any perfumes or colognes.

At times, we may need to perform intra-dermal skin testing to help establish dosing for immunotherapy.

**PLEASE NOTE:** Some prescription and over-the-counter (OTC) medications can lead to false results in skin testing.

**The following should be stopped at least **FOUR** days prior to testing:**

- Prescription antihistamines such as levocetirizine (Xyzal), desloratidine (Clarinex), hydroxyzine (Atarax or Vistaril), Patanase nasal spray, Astelin nasal spray, and Astepro nasal spray.
- Tricyclic Antidepressants such as nortriptyline, amitriptyline, imipramine, chlorimpramine, and desipramine or MAO-Inhibitors used for depression. *Please check with the prescribing provider to make sure you can safely discontinue this category of medications!*
- Beta blockers such as atenolol (Tenormin), metoprolol (Toprol or Lopressor), propranolol, carvedilol (Coreg), and nadolol (Corgard). These medications are generally used to lower blood pressure and prevent headaches.
- Asthma medication omalizumab (Xolair) also impairs testing, and would need to be stopped **SIX** months in advance.
- OTC antihistamines such as loratidine (Claritin, Alavert, AllerClear), Benadryl, chlorpheniramine (Chlor-Trimentin), cetirizine (Zyrtec, Aller-Tec), and fexofenadine (Allegra).
- OTC cold/flu and sleep aids such as Tylenol Cold & Sinus, Nyquil, Advil Cold & Sinus, Advil PM, Nyquil Relief, Nytol, Tylenol PM, Unisom, and ZzzQuil (these contain antihistamines).
- OTC heartburn medications such as cimetidine (Tagamet), famotidine (Pepcid), and ranitidine (Zantac).

- Herbal supplements such as licorice, green tea, saw palmetto, St John's wort, and feverfew.

If you cannot stop the above medications, we will instead consider blood testing for your allergies instead of skin testing.

If you have had a history of severe anaphylactic reactions, we may also opt to proceed with blood testing instead of skin testing.

Do not stop any of your asthma medications, inhalers, nasal sprays, eye drops, or other steroid medications.

Call us at (425)791-3093 if you have questions about this.