

# Tequesta Family Practice

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8/22/07

## **What are Allergic Reactions? Recognition, treatment & avoidance are key!**

There are three different main classes of bad reaction that are often called “allergic reactions”, misconceptions can cause confusion, so it’s important to clarify terms as to what’s what:

*Allergic reactions* can range from mild discomfort to life-threatening and lethal conditions. Typically an allergic reaction happens rapidly. They can be quite impressive when they strike severely and suddenly, such as when somebody with a seafood allergy gets exposed to shrimp in their diet. Immediate signs can be tongue and throat swelling shut as the face puffs up, the lungs constrict preventing breathing and the blood pressure falls to nothing leading to cardiac arrest. THAT is what I’d call a “worse case scenario”. Allergic reactions can be quite serious but they can also be a lot less dramatic. Another type of reaction that can occur is a sensitivity reaction. Classic allergic reactions are mediated by Immunoglobulin type E (IgE), these include the common environmental allergies such as “hay fever” and other inhalant allergies.

Most of the allergies seen in a typical Florida family practice will be of the inhaled variety. Allergic rhinitis or nose inflammation is the most common of that group as well. Diagnosis can be made with a blood sample drawn and sent out for RAST testing, a clue to the presence of allergies can also be obtained with a random blood IgE level. The “gold standard” testing for allergies of this type however is the skin-prick test in which the allergens are put on the skin and observed for a skin reaction, typically redness or a localized hive. If no reaction occurs placing the extract on top of the skin, a small needle is used to prick the skin through the extract which may product a more pronounced local reaction.

It’s important to realize that you can become allergic to a substance ANY TIME IN YOUR LIFE. A patient can come in with an obvious penicillin allergy after getting that antibiotic for an infection, very surprised that they are having a reaction when they’ve never been allergic to penicillin before. Once you’re allergic however, we always assume that you’re ALWAYS allergic. Future reactions can be worse than the initial reaction, they can even be lethal.

*Food sensitivities* are not as common and classically understood as inhalant allergies and allergens. Some physicians don’t even think that food allergies are real other than the classic seafood and peanut allergies that cause immediate anaphylactic shock. Another class of immunoglobulins, IgG can cause these food sensitivities. The IgG mediated reactions can take several days to manifest and can appear as anything from fatigue, migraine, asthma worsening, rashes, abdominal pains, aches etc. The difficulty lies in figuring out the cause of the complaint. It’s simple to identify an allergen that immediately makes you stop breathing. A food that triggers a reaction 5 days later is a lot more difficult to decipher! Luckily there are labs such as Immunolab [www.immunolabs.com](http://www.immunolabs.com) located in Fort Lauderdale can do this testing. There are also clinical shortcut tests such as muscle testing in which the item in question is held next to the chest/heart while the other arm is extended. The tester pushes down on the extended arm feeling for sudden weakness or “give way” that can indicate a sensitivity to the item.

Sensitivities are best treated with avoidance of the offending substance once it’s been identified through appropriate testing.

Drugs can also cause *Adverse Reactions*, these are not necessarily allergic in nature. Most people will have nausea and perhaps vomiting and/or diarrhea after ingesting the antibiotic erythromycin. These reactions

are not mediated by immunoglobulins but are an inherent property of the drug being used. Sometimes one drug won't cause a problem until it's combined with another drug. Seldane was an antihistamine commonly used in the late '80s & early '90s that appeared to be a good drug and was allowed to be marketed by the FDA. It didn't sedate/cause sleepiness as bad as prior antihistamines. It quickly cornered a large share of the allergy drug market. Once it had been through the vigorous testing required by the FDA and put into common use people started to die of cardiac arrest while on this drug. It turns out that in susceptible people, using this drug WITH erythromycin caused prolongation of the QT interval, a heart problem that can quickly lead to cardiac arrest. This is why the FDA continues to maintain surveillance on new drugs after their release into the general market.

Adverse drug reactions are treated supportively and symptomatically depending on how the adverse reaction presents.

How are allergic reactions treated? For a very severe anaphylactic episode epinephrine is essential. There is even a device marketed as an "EpiPen" used to jab the thigh and inject a dose during a severe reaction. If the device is used however, it's essential to get the patient to the emergency room or call 911 as frequently this drug will help for awhile before the patient gets worse again.

Cortisone preparations can be given by mouth, injection or as topical creams & ointments for rashes. It's also a very valuable drug class when inhaled nasally for nasal allergies or into the lungs for asthma or allergic bronchitis. Asthma consists of bronchoconstriction—narrowing of the airways AND inflammation or swelling of the airway linings. For years we knew about and treated the first component and didn't understand why people kept dying despite good emergency treatment. We've come to understand that both constriction and inflammation need to be treated.

Antihistamines of the "H1 class" are also commonly used for treating airway allergies, often combined with decongestants. Pure antihistamines can be sedating, more expensive non-sedating drugs are available. The antihistamine/decongestant combinations work well too, the sedation effect of the antihistamine can be counteracted in many people by the decongestant which tends to cause more alertness. This is due to the decongestant being related chemically to adrenalin or epinephrine. Sometimes we'll add an "H2 class" agents such as Axid/Pepcid/Tagamet/Zantac to increase the antihistamine effects. These drugs are commonly used to decrease stomach acid production and help ulcers to heal but they also work on the histamine and can be used to treat allergic reactions.

Doxepin is an antidepressant that can be useful in treating chronic urticaria or hives that occur in some people, as a side effect, it has strong anti-histamine effects.

Leukotriene inhibitors are another class of anti-allergy/anti-inflammatory drug that can be helpful in long-term or intermittent therapy of allergies and asthma

The short form of this column is that there are a variety of drug classes used to treat allergic reactions. Avoidance is always the best strategy, other medical approaches include Adrenalin/Epinephrine for life-threatening reactions, glucocorticoids (steroids), H1 & H2 Antihistamines, Leukotriene inhibitors and even an antidepressant can be helpful in resolving these attacks.

Prevention is always the best strategy, being prepared with antidote(s) can be a good fall-back position and knowing when to seek expert help/call 911.

Stay healthy!

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