



the Trumpeteer

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Sublingual Immunotherapy (SLIT)

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Nasal complaints are among the top reasons that patients present to primary care and Otolaryngology offices.

One of the challenges with this chief complaint is that many of the nasal disease processes overlap and the understanding of these disease processes can vary among patients and providers. Symptoms of allergies are often confused with rhinosinusitis, which is a different disease process. Rhinosinusitis is more of an infectious process while allergic rhinitis is more of an immune dysfunction. Allergic symptoms can include any of the following: nasal congestion, rhinorrhea, nasal itching, nasal drainage, and itchy/watery eyes. This article will focus primary on allergic rhinitis and more specifically on one of the latest treatments: sublingual immunotherapy.

The immune system is a very important barrier to the outside world. It is comprised of a complex system of barriers, chemicals, molecules and cells that fight organisms we encounter every day. It is the immune system's responsibility to determine what is "self" and "non-self." When it recognizes something as "non-self," the immune system will initiate a cascade of events that attack the substance to clear it from the body. A particular cell called an antigen presenting cell will take the unknown substance to helper T-cells (CD4+ cells). These helper T-cells will stimulate the production of immunoglobulin IgE and plasma cells, which help clear the foreign substance. Normally this process is tightly controlled and regulated. When the immune system loses its ability to control this process, it can lead to what's

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known as a hypersensitivity reaction. In this situation, exposure to the antigen causes overstimulation of IgE and plasma cells, which in turn causes the release of histamine. This substance can cause symptoms such as sneezing, rhinorrhea, congestion, and pruritis.

Treatment of allergic rhinitis can include avoidance therapy, intranasal/oral steroids, and intranasal/oral anti-histamines. However, many of these treatment options are not feasible and may not have lasting effects. Avoidance therapy (anti-allergy bedding, avoid cutting grass, avoid pollen, etc.) is sometimes not practical and research has not demonstrated convincing evidence that these changes work. First generation oral anti-histamines produce unwanted side effects such as central nervous system suppression. Intranasal steroids and intranasal anti-histamines have demonstrated much better symptom control with fewer side effects. Oral steroids work well too but the side effect prohibits their long-term use.

What happens when medical therapy is not effective? One option is Immunotherapy. This is the process by which small doses of a particular allergy or

collection of allergens are presented to the patient over time in order to alter the patient's immune response and improve symptoms. This chronic exposure allows the body to desensitize itself to the offending agent(s). Studies have shown that immunotherapy can decrease serum-specific IgE and upregulate Treg cells, which play a role in suppressing the immune system response.



Sublingual immunotherapy (SLIT) involves administering small doses of a particular allergen under the tongue. This

treatment has been used in Europe for many years, but only recently (2014) has the practice gained acceptance in the United States. One of the advantages of SLIT is that it is administered orally instead of using injections (subcutaneous immunotherapy: SCIT). SLIT is also tolerated well in the pediatric population who tend to not tolerate multiple injections. SLIT can be administered at home whereas SCIT has to be administered in a physician's office. One concern with immunotherapy is the chance of a serious anaphylactic reaction to the allergen. SLIT has a great advantage in that the safety profile is extremely promising. Serious systemic

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anaphylactic responses are rare and SLIT is generally thought to be safe for home use. Of course, clear directions should be given to any patient and how to handle any adverse events.

Allergic rhinitis is a complicated medical problem with many different symptoms including nasal congestion, runny/scratchy nose, and water/itchy eyes. Once the diagnosis is made, medical therapy should be initiated. When medical therapy is not successful at controlling symptoms, SLIT may be an appropriate and safe choice to help relieve these everyday symptoms and allow patients to return to their normal life.

Giving Back To Community

Two Central Carolina ENT employees, Karen Garner and Sharon McNeil, are giving back to the community by volunteering for the Make A Wish Foundation. Make A Wish is an organization that grants wishes for children with life-threatening medical conditions. Karen and Sharon are volunteer wish granters. Their role is to meet the family, help the wish child determine their one true wish and act as a liaison between Make A Wish staff members and the wish family during the planning process. Once the wish is determined and approved their roles vary depending on the wish granted. They can assist with things such as shopping sprees and room makeovers, and they also plan the reveal or send-off parties. Karen and Sharon are very excited and humbled to be a part of such a wonderful organization.



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Sharon McNeil, left
Karen Garner, right