

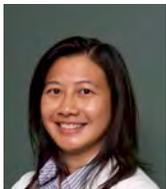


the Trumpeteer

An Ear- Responsible Publication of Central Carolina ENT, PA

Allergic Fungal Sinusitis

Doris Lin, M.D.



Allergic fungal sinusitis (AFS) is an allergic reaction to fungus in the sinus cavity. A disease most common in the Southeast, Southwest and Mississippi basin in the United States, it is quite different from invasive fungal sinusitis which is a severe disease affecting immunocompromised patients. AFS affects patients with a normal immune system. The reason for the geographic distribution is unknown but we have certainly seen cases of AFS in North Carolina. Approximately two thirds of patients have symptoms of allergic rhinitis and 90% of patients demonstrate elevated specific IgE (an allergy marker) to one or more fungal antigens. Of all patients suffering from chronic rhinosinusitis, five to ten percent actually have AFS.

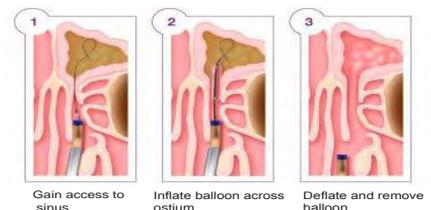
A thick allergic mucin is characteristic of the disease. At surgery, the sinuses are found to contain thick discharge, often peanut butter in consistency, that is unable to drain in the normal fashion and must be removed surgically. The disease is likely to recur.

Control of allergic rhinitis is important in controlling the disease and recurrence after surgery. Some patients may require immunotherapy (allergy shots) for several fungal antigens.

The workup for patients suspected of AFS is not much different from any patient presenting with symptoms of chronic rhinosinusitis. Symptoms of sinusitis despite multiple antibiotics, allergy regimens, and/or steroids warrants further workup. This includes nasal endoscopy in the office to evaluate for nasal polyps and/or masses, allergy evaluation, testing, and treatment, and full CT imaging of the sinus cavities. If surgical intervention is needed, CCENT surgeons are trained in all the latest technologies available for sinus surgery including image guidance and balloon assisted sinus surgery.

<http://www.centralcarolinaent.com/webdocuments/Newsletter-April-2009.pdf> (Sinuplasty)

<http://www.centralcarolinaent.com/ct-scan-sinuses-central-north-carolina.htm> (CT Scanner)



Gain access to sinus

Inflate balloon across ostium

Deflate and remove balloon

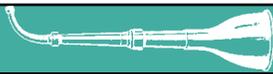
CCENT is now offering services in Siler City at the new Chatham Hospital. We are currently seeing patients on the **second** and **fourth Tuesdays** of each month from 8:30am to 12 noon. Call the Sanford office at 919-774-6829 to schedule an appointment in Siler City.

There is a possibility of performing some surgeries at the Chatham Hospital on a case by case basis. We are accepting new patients at that office and can see certain follow up cases there as well. The new address is Chatham Medical Park, 163 Medical Park Drive, Suite 200, Siler City, NC, 27344, next to Chatham Hospital.

Siler City Office Opens



Chatham Medical Park



SoundRecover - Field Study Review

J.P. Miller, MS CCC-A, Editor the Trumpeteer



As an audiologist, I am in the business of improving speech understanding for our hearing impaired patients. In past newsletters (see links at bottom of page), I have reviewed SoundRecover which is a proprietary Phonak algorithm which compresses frequencies above a pre-calculated cut-off frequency and shifts them to a lower frequency range. This technology is available exclusively in Phonak digital hearing instruments. I have been impressed with patients' reactions to SoundRecover and also in a recent field study reports which is the subject of this article.

The primary goal of amplification is to provide a sufficiently audible signal across the entire speech range. People with a significant hearing loss have difficulty hearing high frequency speech information, such as /f/, /s/, and /sh/. Although the bandwidth of current hearing instruments (HIs) is wider than ever before, high frequency gain in HIs drops off for the very high frequencies, also in so-called wide band devices. As such, the upper limit of audibility provided by conventional amplification is still below the peak frequencies of /s/ spoken by female and child talkers. For male talkers, optimum performance requires a bandwidth of at least 4-5 kHz. Optimum performance for female and child talkers requires bandwidth of up to 9 kHz. The greater the hearing loss, more gain needs to be applied at these high frequencies in order to achieve audibility. However, in many cases hearing sensitivity is so poor in the high frequencies that it is technically not possible to increase the gain sufficiently in order to achieve audibility.

The gain can be limited by acoustic feedback (squealing noise), discomfort resulting from excessive loudness or the output abilities of the amplification system. Furthermore, in some cases, even when high frequency information can be made audible, it may not be discriminated due to irreversible damage to the hair-cell receptors in the inner ear. As amplification on its own does not provide sufficient high frequency amplification, the alternative of shifting high frequency sounds to lower regions where audibility is available has been shown to be a viable alternative. Benefits of SoundRecover include improved audibility of high frequency sounds and better speech intelligibility in quiet.

In May 2010, a field study was completed at the University of Mainz, Germany. Eleven adults with a severe to profound hearing were evaluated on an adaptive speech in noise test (OLSA) with their own hearing instruments and those equipped with the SoundRecover technology. In addition, a questionnaire was used to assess the subjects opinion on the general benefit and sound quality of SoundRecover compared to their own hearing instruments. (http://www.phonak.com/content/dam/phonak/b2b/C_M_tools/Library/Field_Study_News/en/fsn_SoundRecover_in_Noise_en_may10.pdf).

The study data did show an improvement of speech understanding in noise with the hearing instruments utilizing SoundRecover in 7 of the 11 subjects. In my opinion, the results of the study were most impressive considering the study subjects had a severe to profound hearing loss. SoundRecover is now recommended for cases with even mild to moderate hearing losses because it helps overcome the hearing instrument receiver limitations in the human ear as well as discrimination limitations in certain regions of the inner ear.

I will continue to review future field studies on SoundRecover. I will also continue to recommend SoundRecover technology from Phonak as this technology is available in mid-level, advanced, and premium levels.

<http://www.centralcarolinaent.com/webdocuments/Newsletter-July-09.pdf>

<http://www.centralcarolinaent.com/webdocuments/Newsletter-january-2010.pdf>



May is Better Hearing and Speech Month



www.ASHA.org

A warning from The American Speech-Language-Hearing Association (ASHA) regarding the use of MP3 players and iPods - Apple reports that it sold 22.5 million iPods in fiscal year 2005, an increase of 409% from the previous year - yet, portable music players may be damaging your hearing if they are not used properly. Experts say users of portable music players listen to the devices too long at high volumes, causing noise-induced hearing loss that occurs gradually over time, and is not often noticed until too late. Nearly 10 Million Americans experience hearing loss as a result of noise exposure. Audiologists attribute the primary cause of noise-induced hearing damage to the lack of public awareness.

How to Prevent Hearing Loss:

- Consider upgrading your earbuds, which sit inside the ear, to sound isolating earphones that go around the ear
- Limit the time listening to player
- Keep volume down

Listening to loud music could cause hearing loss or tinnitus (a perception of sound in ears when no external source is present) or non-auditory problems including biological (increased blood pressure; ulcers), sleep disturbance, distraction or annoyance, and learning problems.

Danger Range:

Loud noise above 85 decibels (dB) can cause permanent hearing loss. Portable music players are capable of producing sound levels ranging anywhere from 60 to 120 decibels (dB). With the volume approximately one-quarter of the way up, you hear about 85dB and with the volume all the way up, you could hear about 120dB.

Experts recommend the following as maximum amounts of time to listen to portable music devices:

- 12 hrs @ 85dB - (equivalent to motor boat)
- 8 hrs @ 90dB - (equivalent to lawnmower)
- 4 hrs @ 95dB - (equivalent to motorcycle)
- 2 hrs @ 100dB - (equivalent to snowmobile)
- 1 hr @ 105 dB - (equivalent to chain saw)
- 30 min @ 110 dB - (equivalent to rock concert, arcad3)
- 15 min @115dB - (equivalent to movie theatre)



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