

## SEPTEMBER 2013 HEARING SOLUTIONS MEETING

### OPENING COMMENTS & ANNOUNCEMENTS:

- **Instructions were provided for the use of the Annex Looped Sound System** for t-coil activated hearing aids and special t-coil listening devices for those who have hearing loss with no hearing aids or hearing aids without t-coils.
- **Hearing Solutions SIG is open to all Sun City Residents**-No dues-No obligations-Group Emails-Monthly Meetings-Seminars-SIG Forum (must be an active computer club member to participate in the Forum).
- **New attendees were invited to join** the SIG which now has **238 members**.
- **Hearing Solutions Forum was displayed and briefly demonstrated** which included the following points:
  - **Over 60 separate topics** have threads covering hearing loss in general and specific, inductive looping, hearing aids (manufacturers, technical information, cost, marketing approaches, shopping for aids, hearing care, proper fitting and many other subjects).
  - **17 local Providers have individual threads** providing a data sheet edited monthly to provide the latest know information. Members are encouraged to share their comments, questions and experience in the form of “replies” which are incorporated in the individual threads in chronological order.
  - **Members were encouraged to maintain the site on their computer browser favorite’s bar** so they will always be two clicks away from access.
  - **Members were encouraged and shown how to “subscribe”** to the Forum so they will be alerted automatically by email of any new posting and members were reminded that subscribing to one Computer Club Forum does not automatically apply to all of the Forums.
  - **In keeping with Murphy’s Law** I forgot one character of my password to access the Forum and had difficulty logging in. I was surprised at the reaction of a number of attendees who expressed having similar experiences. This led to what turned out to be a useful discussion on how to cope with this occurrence and an invitation to anyone from the Hearing Solutions SIG having difficulty getting access or navigating to call or email Gary Shepard before giving up.

### MEMBER CONTRIBUTIONS:

- **Two members shared experiences with Zounds** (THIS INFORMATION HAS BEEN POSTED TO THE FORUM).
- **A new member spoke to difficulty and complexity in both adjusting to new hearing aids and learning about the hearing process** and numerous technical issues. She has resolved to learning as much as possible but admits it is hard work. She is on the right track by becoming a member of Better Hearing Institute, and Hearing Loss Association of America (two leading national consumer associations) as well as joining Hearing Solutions whose goal of providing and sharing information through meetings, seminars, forum, meeting notes, member profile group and group emails.
- **A member shared his experience with New Sound** (THIS INFORMATION HAS BEEN POSTED TO THE FORUM).
- **Discount coupons were made available** by members for Zound's and CaptionCall phones.
- **A member shared his experience with a CapTel phone** going out and another member offered to help in troubleshooting the problem (SEE FORUM TOPIC ON CAPTIONING PHONES)

The remainder of the meeting was devoted to the following presentation:

## **HIGH FREQUENCY HEARING LOSS                      by Gary Shepard**

I look at lot of audiograms in the maintenance of the Hearing Solution Profile Group data and an overwhelming amount of significant hearing loss is in the high frequency range where most female and children voices live. This is also the home of the most common consonant "s" speech sound.

One of the things that audiograms do is determine hearing thresholds at frequencies from 250Hz to 8000Hz. A threshold is a point where a frequency specific tone is determined 50% of the time.

A loudness threshold of 80dB + at different frequencies represents "dead zones" within the cochlea. Amplification at these damaged regions is pointless because it just creates distorted speech.

The challenge is how to make speech in high frequency dead zones discernable.

Hearing Aids originally were all about amplification but since the early 1950's it has progressively been more about speech recognition and speech clarity so manufactures first converted from analog to digital as a means to manipulate sound waves and then concentrated on reducing the high frequency sounds to a lower frequency. For about 50 years their results had to be considered

unsuccessful. Basically what they produced was information overload and a worthless combination of distorted speech and noise.

Arguably, in the last few years some success has been achieved:

Widex developed “Audibility Extender” using a Linear Frequency Transposition (LFT) that takes the high frequency sounds and overlays them on existing sounds in a lower frequency range. Because the transferred high frequency sounds mask the lower frequency sounds only the strongest high frequency sounds are transferred. I have never experienced this but it seems to me to be a better than nothing compromise.

Phonak developed “Sound Recover” using a Non-Linear Frequency Transposition (NLFT) which employs a compression technique that pushes the higher frequency sounds into a lower frequency range the result of which also pushes the lower frequency sounds even lower so they developed a cutoff. I have experienced this but frankly I just don’t notice a difference.

Starkey developed “Speech Shift” using Spectral Feature Identification (SFI) in which high frequency sounds are identified and classified and those sounds are replicated and transferred into a lower frequency range. The identification process looks only for peaking sounds (speech) and ignores constant sounds (noise). I have no experience but a Hearing Solutions member recently told me that after a trial of Starkey’s “Cadillac” Audibel aids he returned them.

Summary:

LFT-Temporarily shifts high frequency speech and noise via overlap

NLFT-Compresses high frequency speech and noise and preserves low frequency sounds

SFI-Selectively excludes noise sounds and overlaps only high frequency speech sounds.

All three technologies introduce a sound not previously heard and that requires varying degrees of acclimatizing the brain so making instant judgments would be counter productive.

The extensive Research and Development involved in hearing aid features plays a significant role in the cost of hearing aids.

THIS TOPIC HAS BEEN POSTED TO THE FORUM WHERE MEMBERS CAN ADD COMMENTS AND PROVIDE ADDITIONAL INFORMATION BY SIMPLY “REPLYING” TO THE THREAD.