November 2019

Hearing Loss Association of America

North Shore of Long Island Chapter

Meeting Location

Long Island Jewish Hearing & Speech Center is located on the grounds of the Long Island Jewish Medical Center.

Enter the grounds from LAKEVILLE ROAD and it is the first building on your left. Free parking is available behind the hearing and speech building: first entrance to parking lot after building. DO NOT go into the main parking building. Go to the Conference room on the Lower Level

270-05 76th Avenue
New Hyde Park,
NY 11040.

Join us and learn how HLAA can make a positive impact on your life as a hard of hearing person.

If you are in doubt as to whether there is a meeting, or if you'd like further information, please call Sal:
516-331-0231.

Meeting News

Our meetings are held bi-monthly, on the third Wednesday of every other month.

Wednesday, November 20, 2019

6:30pm – 8pm

Topic: Hearing Loss; Causes and Treatments

Speaker: Dr. Stan Pelosi

Dr. Stan Pelosi is a board-certified otolaryngologist and neurotologist affiliated with Long Island Jewish Medical Center and North Shore University Hospital. His primary clinical focus is in the surgical treatment of disorders affecting the ear, including cholesteatoma, otosclerosis, chronic mastoiditis, and tympanic membrane perforation. He has expertise in performing cochlear implant surgery as well as placement of other implantable hearing devices for hearing restoration. Dr. Pelosi also is part of a multi-disciplinary team at Northwell Health that specializes in management of vestibular schwannoma and other tumors of the lateral skull base. Prior to his arrival at Northwell, Dr. Pelosi spent several years in academic practice in Philadelphia, PA.

Hearing Loss Association of America
North Shore of Long Island Chapter

Meeting Dates

Our upcoming meeting dates are:

- September 18, 2019
- November 20, 2019
- January 15, 2020
- March 18, 2020
- May 20, 2020

Voice: 516-331-0231
http://hearingloss-longisland.org
hlaalongisland@gmail.com

Wearing Hearing Aid May Help Protect Brain in Later Life

A new study has concluded that people who wear a hearing aid for age-related hearing problems maintain better brain function over time than those who do not.

By Science Daily

It builds on important research in recent years pulled together by the Lancet Commission on Dementia Prevention, Intervention and Care, through which hearing loss emerged as an important risk factor for dementia. This research suggests that wearing a hearing aid may mitigate that risk.

The research was conducted by the University of Exeter and King's College London and is presented at the Alzheimer's Association International Conference in LA. In the PROTECT online study of 25,000 people aged 50 or over.

The findings provide early evidence that encouraging people to wear an effective hearing aid may help to protect their brains and reduce their risk of dementia.

Both groups undertook annual cognitive tests over two years. After that time, the group who wore hearing aids performed better in measures assessing working memory and aspects of attention than those who did not. On one attention measure, people who wore hearing aids showed faster reaction times—in everyday terms, this is a reflection of concentration, for example, 'straining to hear a sound', 'peering closely at an object of great interest', 'listening intently to someone speaking'.

PROTECT lead Dr Anne Corbett, from the University of Exeter, said: "Previous research has shown that hearing loss is linked to a loss of

Continued on Page 5

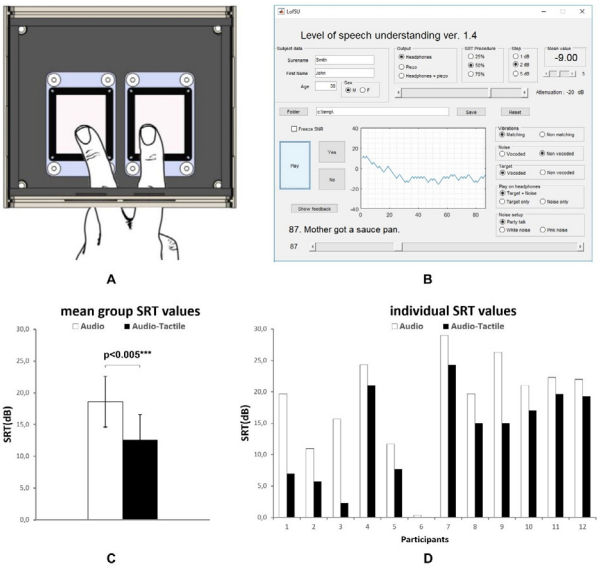
Hearing Through Your Fingers: Device That Converts Speech

A new proof-of-concept study provides the first evidence that a speech-to-touch sensory substitution device can improve hearing in the hearing-impaired without any training, scientists report.

By Science Daily

A novel study published in *Restorative Neurology and Neuroscience* provides the first evidence that a simple and inexpensive non-invasive speech-to-touch sensory substitution device has the potential to improve hearing in hearing-impaired cochlear implant patients, as well as individuals with normal hearing, to better discern speech in various situations like learning a second language or trying to deal with the "cocktail party effect." The device can provide immediate multisensory enhancement without any training.

"Despite recent advancements in hearing aid and cochlear implants, the most widespread surgical implant to restore audition, hearing-impaired users still encounter significant practical and social challenges with or without aids," explained lead investigator Amir Amedi, PhD, Department of Medical Neurobiology, Institute for Medical Research Israel-Canada, Faculty of Medicine, Hebrew University of Jerusalem, Hadassah Ein-Kerem, and The Cognitive Science Program, The Hebrew University of Jerusalem, Jerusalem, Israel. "In particular, they all struggle with understanding speech in challenging, noisy acoustic environments, especially in presence of a competing speaker."



Caption: A) Vibrating interface of the Vibrating Auditory Stimulator; B) Matlab GUI for stimuli presentation and control; C) Speech Reception Threshold (SRT) values obtained for auditory and auditory-tactile speech in noise stimulation at the group level; and D) in individual subjects [subject 6 showed an improvement from 0.3 to –3.0 SRT(dB)]

The number of sensory deprived patients and auditory deprived patients is expected to rise so it is crucial to develop efficient techniques for auditory recovery designed to convey the missing information to patients. "We live in a world that is becoming steadily more multisensory and we really need to understand the mechanisms underlying multisensory perception and integration. Providing relevant information using the sense of touch can significantly help hearing," commented Dr. Amedi.

In this current proof-of-concept study investigators hypothesized that they would be able to improve speech understanding under challenging conditions by exploiting the ability of the brain to integrate

Continued on Page 4

information coming simultaneously from different senses. They designed a minimalistic auditory-to-tactile sensory substitution device (SSD) that transforms low-frequency speech signals into tactile vibrations delivered on two fingertips. They asked a group of non-native English speakers to repeat a series of sentences, which was degraded by embedding them in speech-like noise.

As expected, when participants could rely only on audition, their understanding of such sentences was poor. Crucially, however, their sentence understanding significantly improved when they paired the degraded speech signal with complementary vibration delivered on the participants fingertips. The vibration conveyed a specific set of frequencies known as fundamental frequencies that characterize speech signals.

The reported improvement at the group level was 6 dB—a major difference considering that an increase of 10 dB represents a doubling of the perceived loudness. These results are especially relevant when compared to earlier SSD studies showing effects in behavior only after demanding cognitive training.

"Our results carry important implications for further research, as well as possible clinical and practical solutions," noted co-author Tomasz Wolak, PhD Eng, Head of the Bioimaging Research Center, Institute of Physiology and Pathology of Hearing, World Hearing Center, Warsaw, Poland. "The ability to 'hear through one's fingers can significantly help hearing. Our approach suggests that multisensory stimulations providing the same type of information (in this case spoken language conveyed through touch in addition to hearing) should be processed in the same brain region (in this case spoken language centers), ultimately then predicting that multisensory stimulations (both sounds and touch) should enhance perception.

According to lead author Katarzyna Cieśla, PhD, World Hearing Center, Warsaw, and Hebrew University of Jerusalem, "The most compelling aspect of our study is the fact that learning to use such speech-to-touch sensory substitution device did not require any training. We believe it can also serve as an aid for the elderly population, which finds it challenging to follow extensive training regimes. This might be the first study showing such immediate relevant enhancement of a sensory substitution device and suggests the brain is much more multisensory than the common wisdom."

"This study is a major step forward to introduce multisensory plasticity of the brain as an innovative paradigm to maximize the potential of patients to compensate for their sensory loss," commented Bernhard Sabel, PhD, Editor-in-Chief of *Restorative Neurology and Neuroscience.*

Next the team plans to further improve the device and training regimes in order to reach the goal of 10 dB enhancement and to test for human brain mechanisms using an MRI-compatible version of the device in various populations (both hearing and hearing-impaired people).

What Started with One Interpreter Has Grown Into a Church for the Deaf and Hearing

By Barry Carter | NJ Advance Media for NJ.com

Except for the pastor, hardly anyone at Chosen Generation Ministries in Newark knew about Thyson Halley's gift.

Halley, who is hard of hearing, has been signing since he was two years old, a skill he's mastered after recovering from a devastating diagnosis. Doctors told his family that spinal meningitis would not allow their toddler to walk, talk or hear.

We see how that turned out.

"God gave me this gift of signing," said Halley, a Jersey City resident. "If I can share this gift of the good news to the masses, I will do that."

Deaf in one ear and with partial hearing in the other, Halley speaks clearly and his hands most likely were super expressive that Sunday when Pastor Darrin Monroe called on him to interpret his message 10 years ago.

Read more at: https://bit.ly/2WMwKzC

***Wearing Hearing Aid May Help Protect Brain in Later Life**, Continued from Page 2*

brain function, memory and an increased risk of dementia. Our work is one of the largest studies to look at the impact of wearing a hearing aid, and suggests that wearing a hearing aid could actually protect the brain. We now need more research and a clinical trial to test this and perhaps feed into policy to help keep people healthy in later life."

Professor Clive Ballard, of the University of Exeter Medical School, said: "We know that we could reduce dementia risk by a third if we all took action from mid life. This research is part of an essential body of work to find out what really works to keep our brains healthy. This is an early finding and needs more investigation, yet it has exciting potential. The message here is that if you're advised you need a hearing aid, find one that works for you. At the very least it will improve your hearing and it could help keep your brain sharp too."

The poster is entitled 'Use of Hearing Aids in Older Adults with Hearing Loss Is Associated with Improved Cognitive Trajectory'.

Hearing Loss Association of America

7910 Woodmont Avenue, Ste. 1200
Bethesda, MD 20814-7022
Phone: 301.657.2248 • Fax: 301.913.9413
Email: membership@hearingloss.org
Website: www.hearingloss.org

Hearing Loss Association of America
North Shore of Long Island Chapter

HLAA opens the world of communication to people with hearing loss through information, education, support, and advocacy. HLAA is a 501(c)(3) organization.

MEMBERSHIP FORM

I'd like to: ☐ Become a member of HLAA ☐ Renew my membership ☐ Give a gift membership

My Membership/Renewal

Name: _____

Address: _____

City: _____ State: _____ Zip: _____ Country: _____

Email: _____ Phone: _____-_____-_____

Chapter I belong to: _____

How did you learn about HLAA?_____

Gift Membership

Name: _____

Address: _____

City: _____ State: _____ Zip: _____ Country: _____

Email: _____Phone: _____-_____-_____

	Annual USA Membership Fees	Annual Non-USA Membership Fees
Individual	☐ **$35 (1 year)** ☐ **$95 (3 years)** ☐ **$140 (5 years)**	☐ **$45 (1 year)**
Couple/Family	☐ **$45 (1 year)**	☐ **$55 (1 year)**
Professional	☐ **$60 (1 year)**	☐ **$75 (1 year)**
Library/Nonprofit	☐ **$50 (1 year)**	☐ **$75 (1 year)**
Student	☐ **$20 (1 year)**	N/A
Corporate	☐ **$300 (1 year)**	☐ **$325 (1 year)**

My membership fee is $ _____

Plus I'm adding a tax deductible donation of $ _____

My total is $ _____

3 Ways to Join, Renew or Give a Gift Membership

1. Return this form to your chapter with your check made payable to HLAA.
2. Mail or fax this form to the HLAA office at the address above with your credit card information.
3. Visit www.hearingloss.org/content/join and use your credit card online. (this is a secure website

Credit Card Payment Information: __American Express __Discover __MasterCard __VISA

Card Number: _____ Expiration Date _____ Security Code _____

Name: _____ (as it appears on card)

Signature: _____ (Include your billing address if different than membership address above.)

Revised 5/2014

If You're New, This is for You!

More than 48 million people in the US have a hearing loss, which can hinder daily communication. By age 65, one in three Americans has a hearing loss. This invisible condition affects the quality of life of the individuals with hear loss, as well as family, friends, co-workers and everyone with whom they interact. HLAA believes people with hearing loss can participate successfully in today's world.

HLAA
Hearing Loss Association of America

Information - Education - Support - Advocacy

Founded in 1979, the mission of HLAA is to open the world of communication to people with hearing loss through information, education, support and advocacy.

HLAA is the nation's foremost membership and advocacy organization for people with hearing loss. HLAA publishes the bimonthly *Hearing Loss Magazine*, holds annual conventions, a Walk4Hearing, and more. Check out: www.HearingLoss.org

The North Shore Chapter is a dynamic group of individuals working together as a team. To join, please fill out the Membership Form in this newsletter. Welcome!

Donating Hearing Aids to the Lions Club

By Michelle Gross

If you have used hearing aids to donate, please address the package to:

John McNamara, Au.D., Ontario Hearing
2210 Monroe Ave., Rochester, NY 14618
Put on the lower left corner of the package:
"Finger Lakes Region Lions Club"

(Cleaning tools, cases, most accessories, etc. have virtually no value and are discarded.) Aids that are usable are cleaned and checked and made ready for sending to the Lions Club for qualified recipients.

You can obtain a receipt for your donation (for tax purposes) but **you must request it**. And, thanks for considering donating your used aids.

Why You Lose Hearing for a While After Listening to Loud Sounds

By Science Daily

When we listen to loud sounds, our hearing may become impaired for a short time. Researchers at Linköping University, Sweden, have discovered a mechanism that helps to explain how this happens. Their results are presented in the journal *Proceedings of the National Academy of Sciences, PNAS.*

"Most people have experienced that their hearing is impaired and the ear feels numb after listening to loud sounds. After a while hearing returns to normal. We have discovered that a tiny structure in the cochlea known as the tectorial membrane plays an important role in this process, by acting as a storage depot for calcium ions. These calcium ions contribute to regulating the function of the sensory cells," says Anders Fridberger at the Department of Clinical and Experimental Medicine, who has led the study.

Calcium ions, which are calcium atoms with a positive charge, play a key role in the processes that make hearing possible. The conversion of sound waves to nerve impulses takes place in the inner ear, also known as the cochlea, which looks like the spiral shell that some snails have. The cochlea contains many sensory cells, which detect sounds and generate signals that are passed on to the brain.

Previous research has shown that the fluid that surrounds the sensory cells in the cochlea has a low concentration of calcium ions. There were, however, questions surrounding this, because sensory cells that are placed in fluids with the natural level of calcium no longer work normally. The scientists at LiU have investigated the calcium ion concentration in the inner ear of guinea pigs, which is very similar to the human ear. By fluorescently labelling the calcium ions, the researchers discovered that a membrane that lies on top of the sensory cells, the tectorial membrane, has a much higher concentration of calcium ions than the surrounding fluid. The membrane seems to function as a store, such that the sensory cells are surrounded by higher levels of calcium ions than previously believed.

When the scientists added a substance that mops up calcium ions, the sensory cells ceased to function. In the next step, they exposed the inner ear to noise levels that correspond to those experienced at rock concerts, which had the same effect.

"When we expose isolated inner ears to loud noise in the lab, the level of calcium in the tectorial membrane falls, and the sensory cells cease to function. After a while, however, the calcium ion concentration returns to its previous level, and the sensory cells start to function again," says Anders Fridberger.

Read more at: https://bit.ly/2NgFjzR