HearSay Volume 20 Issue 3 Fall 2021 Text Only

The Official Newsletter of HLAA-PA

Support and Advocacy since 2001 for Pennsylvanians with Hearing Loss

In This Issue:

HearSay Articles

HLAA-PA welcomes articles of interest to the hearing loss community for publication in HearSay, as well as suggestions for topics. Send e-mail to editor@hlaa-pa.org

DISCLAIMER

Opinions expressed in HearSay are those of the authors. Mention of goods and services in articles does not mean HLAA-PA endorsement, nor does absence suggest disapproval. To reach readers of HearSay, contact Dale Long **Director of Marketing** (long@hlaa-pa.org) for information

Nancy's Message

. By Nancy Kingsley, HLAA-PA State Director

Kent Taylor, the founder and CEO of the Texas Roadhouse chain of over 600 restaurants, ended his life in March after struggling with post-COVID symptoms that included severe tinnitus. While there is no cure for this condition, which is often associated with hearing loss, there are a number of coping methods, including the following:

- Hearing aids and cochlear implants
- Tinnitus counseling programs
- In-the-ear electronic sound generators that mask tinnitus with tones or music
- Tabletop sound generators that play pleasant sounds to aid sleep
- Acoustic neural stimulation, a new technique using a palm-size device and headphones to deliver a music-embedded acoustic signal that stimulates change in the brain's neural circuits; this reduced or eliminated tinnitus in a significant percentage of study volunteers
- Prescriptions for antidepressant and anti-anxiety medications

More information about tinnitus is at www.nidcd.nih.gov/health/tinnitus

Every Pennsylvania county has a 24-hour crisis hotline; the numbers are listed at elurimdpc.com/pdf/Suicide_Prevetion_Hotlines.pdf If the number has changed or is unavailable, the National Suicide Prevention Lifeline can be contacted anytime at 800-273-8255. Tinnitus can be challenging, but there are ways to achieve relief.

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State Happenings

by Carolyn Meyer, Outreach Coordinator

We are all looking forward to returning to the Walk Day celebration outdoors in-person. As of now, the day will be at the location below and please check the Walk website for

updated details. All precautions will be used to ensure your safety according to CDC guidelines. The following is the schedule for the day. Visit www.walk4hearing.org

The Navy Yard
4747 South Broad Street
Philadelphia, PA
9:30 a.m. Registration/Check-in
10:30 a.m. Walk begins

HLAA National Convention Update

The HLAA 2021 Convention was again reimagined as a virtual event due to the COVID-19 pandemic. HLAA Virtual Convention 2021 was held June 24-26 on a new, interactive platform. More than 700 attendees enjoyed connecting with each other, interacting via video chat with exhibitors and viewing our live sessions.

The Welcome Session kicked off the convention with keynote remarks from FCC Acting Chairwoman Jessica Rosenworcel. Workshop sessions included the future of Bluetooth technology, updates on hearing aids, communication access in healthcare and the latest in digital inclusion technologies. There was also a fun Happy Hour with an amazing comedy set by D.J. Demers.

More than 300 people attended the 2021 Research Symposium on hearing care for all. Attendees found this topic of providing underserved communities better hearing health options very important.

HLAA Convention 2022

The HLAA 2022 Convention is June 23-25 in Tampa, Florida! HLAA is very excited to be hosting an in-person Convention again. This year the exhibit hall, workshops, demo presentations, plenary sessions, social events and Research Symposium will all be held under one roof at the brand new JW Marriott Tampa Water Street. When you aren't learning and networking at the most communication accessible convention for people with hearing loss, you can explore Tampa's new Sparkman Wharf area or cruise down the local Riverwalk. Start booking your trip now!

Tribute: Remembering Edwin Paschall

Ed's chapter members and friends describe him so well. "Ed was an active, devoted and founding member of the HLAA Chester County chapter. He was a willing volunteer for anything that came up and had participated in many chapter events, the Walk4Hearing and HLAA conventions. His smiling face at almost all the chapter meetings was surely an inspiration to all the attendees. He will be missed by many! "

CHAPTERS

Some chapters continue to plan virtual meetings whereas others are scheduling regular in-person meetings. The Philadelphia (suburban-northeast) Chapter is waiting to see if the meeting room in the Huntingdon Valley Library will be available soon. No dates are set yet. The newsletter will inform members as soon as safety precautions are in place. Until then, if you were a member of the Bucks Chapter and want to join this Philadelphia Chapter please send your email address to meyer@hlaa-pa.org to have your name added to the newsletter online. All are welcome. Watch for the chapter newsletter soon for updates.

The MontCo (Montgomery County) Chapter has decided to revert to zoom meetings. The library protocol request is for masking and members decided that would be too difficult for communication.

The ChesCo (Chester County) chapter has reserved a space for a luncheon at McKenzies Brew House in Malvern on Saturday October 2, 2021 to plan future meetings and events. For details go to their website www.hearinglosschesco.com or email hlaachesco@gmail.com . Chapter leaders request that you check for any changes as it gets closer to that date. As of now there are a few spaces left for others to join this luncheon.

Attention chapter leaders: please inform our webmaster of your meeting dates as they are set, groff@hlaa-pa.org for listing on the hlaa-pa.org calendar.

We have to revisit the safety guidelines for meeting as our various locations prepare to open again. We are all trying our best to provide support to you all and welcome you back.

Be safe and stay well everyone!

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2021 Convention

by Chris Doig

The Hearing Loss Association of America (HLAA) annual convention, which took place from June 24th to June 26th, was held virtually this year due to the Covid-19 pandemic. The convention had an interactive exhibit hall, a happy hour meet and greet, and workshops that covered a range of topics, including wireless accessibility, the future of Bluetooth LE (low energy), updates on hearing aids, communication access in health care, and the latest in digital inclusion technologies.

The welcome session featured Federal Communications Commission (FCC) Acting Chairwoman Jessica Rosenworcel. During the session on wireless accessibility, representatives from T-Mobile, Verizon, Samsung, AT&T, and the Cellular Telecommunications Industry Association (CTIA) discussed features such as hearing aid compatible (HAC) phones and real-time text (RTT) that can help to improve accessibility, and text-to-911 and Wireless Emergency Alerts (WEA) that can aid in improving public safety. For more information on wireless features, mobile devices, and emergency preparedness, visit CTIA's accesswireless.org website. This workshop provided information on finding mobile devices and features that are useful to people with hearing loss.

The workshop on hearing aids reviewed over-the-counter (OTC) and direct-to-consumer (DTC) devices and connectivity. The different categories of devices were defined, and product examples were depicted. There was also discussion about federal regulations for the devices. Some new developments were noted, including the emergence of online delivery models; innovations in lithium-ion battery shapes; and the use of sensors, which are expanding what a device can do. For example, many

hearing devices can detect falls or monitor various health functions such as heart rate. Barriers to OTC adoption were also discussed. The workshop underscored the need to use tele-audiology and self-care to expand hearing healthcare.

In "The Latest in Digital Technologies," attendees learned how virtual, augmented, and mixed reality can be made accessible to people with hearing loss through captions. This type of accessibility is in the early development stage, and there is some focus on giving the user the ability to control where and how the captions are displayed. More information is at xraccess.org.

Over 300 people attended the research symposium, which focused on hearing care for all and examined innovations that extend the reach of hearing care for underserved communities. It highlighted programs that provide hearing health care via a public health model (which uses community health workers to work within their local community) instead of the standard medical model. The public health model can be effective in rural areas, among specific groups, and within certain age ranges. Several examples were examined, including communities and projects in Alaska, Baltimore, and Arizona on the US-Mexican border.

For more information about the 2021 convention, including some of the workshop recordings, go to hearingloss.org. The 2022 HLAA convention will be held from June 23rd to June 25th in Tampa, Florida

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Sound Fingerprints

by Don Groff

I've been a casual birder for a long time, able to identify a goodly number of birds by their song. When my hearing began to fail several decades ago, that diversion was badly impacted. Then 15 years ago I got a cochlear implant and found, as many others have, that music was problematic. Pitches did not sound right, and harmony was distorted. But happily, these effects did not seem to be a problem with bird song, and I've devoted a lot more attention to increasing my repertoire.

For a long time I have looked for a reference that would identify the source of a bird song recording I made. There are myriad recordings available, but grinding through them trying to find a match was unsatisfactory. Then I became aware of **birdNET**, a marvelous smartphone app from Cornell Lab of Ornithology that does what I was looking for, using internet communication and artificial intelligence (AI) software.

birdNET is a marvel of modern technology. On your smartphone or tablet, you record a bird song, which is displayed as a spectrogram, in effect a "fingerprint" of the sound. It's a little like sheet music, on a time scale with the high notes on top. That picture is transmitted over the internet to a server computer in Germany, where it is compared to an enormous number of spectrograms of known bird songs, looking for a match. If one is found, the result is sent back, all in a few seconds.

Some bird reference books include spectrograms of songs. Expert birders looking at such a spectrogram can often identify the singer, drawing on human rather than artificial intelligence.

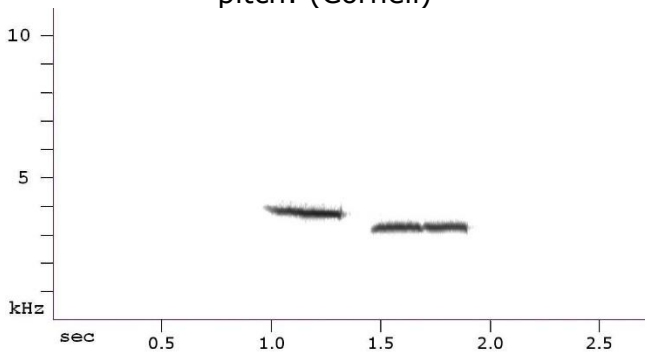
The process is a cousin to automatic speech recognition (ASR). Just as specific bird songs have specific spectrograms, specific words do too. It seems unlikely that human intelligence could recognize more than a few words from spectrograms, but computers are well suited to this task.

Moreover, individual human voices have distinctive spectrograms, sometimes called voiceprints. Though not to the same degree as fingerprints, voiceprints can identify individuals. Captioning services such as otter.ai can distinguish between a number of

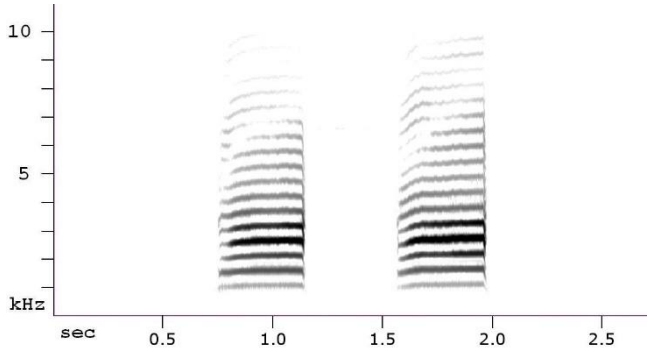
speakers.

Here are a few spectrogram examples, from simple to complex.

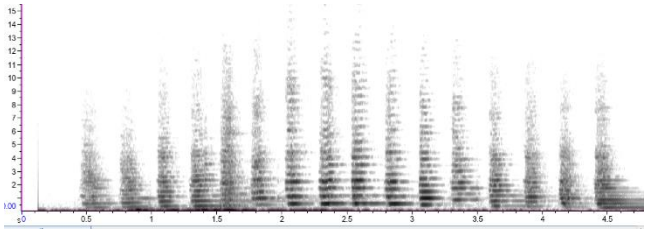
A black capped chickadee song consists of two almost pure tones, a bit different in pitch: (Cornell)



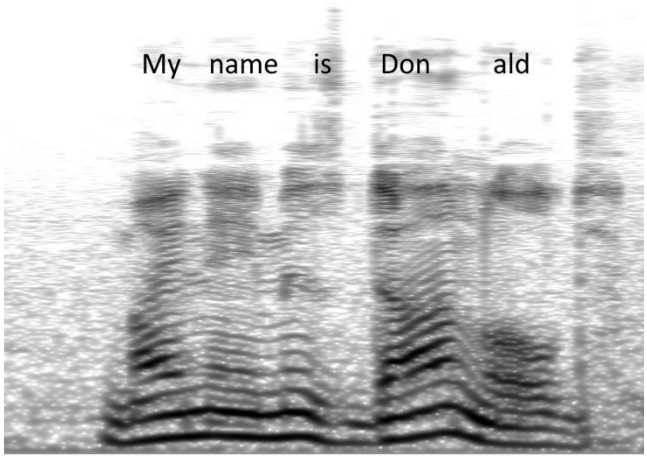
The red breasted nuthatch has a nasal song, rich in harmonics.(Cornell)



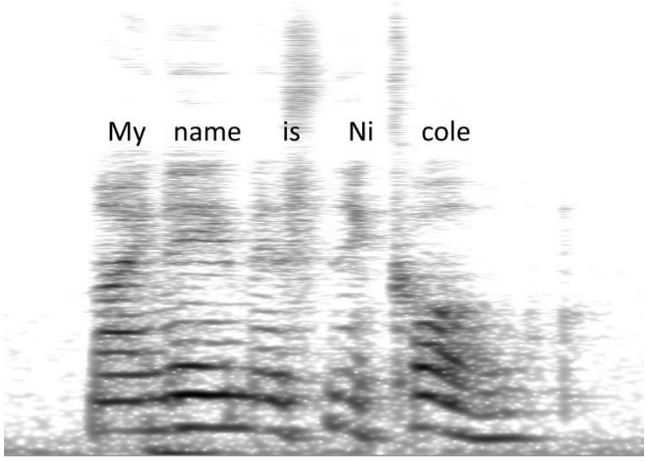
Ascending and descending scale on a violin. Note the harmonic content.



Human speech is far more complex. This is a male voice:



A female voice typically contains higher frequency components:



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The Auditory and Vestibular Effects of COVID-19

It has been over a year and a half living with the impact of the COVID-19 global pandemic, which has affected every one of us greatly. The respiratory and circulatory complications of the COVID-19 virus have been well documented, but there are other complications that need to be discussed. Research suggests that COVID-19 may be associated with auditory and vestibular complaints, such as hearing loss and dizziness, as well.

It became apparent at the beginning of this pandemic that, along with typical symptoms like shortness of breath, cough, and fever, patients with COVID-19 were complaining of neurological manifestations including impaired consciousness, headaches, and most commonly, dizziness. Neurological symptoms were more commonly reported in older individuals with other underlying conditions. This virus is thought to be able to directly infect the central nervous system or cause vascular damage, leading to the neurological manifestations.

It is believed that the virus can affect the peripheral nervous system as well. In particular, it can affect the auditory-vestibular system in the inner ear, leading to symptoms such as vertigo, dizziness, or hearing loss. There are many case examples of patients suffering from sudden hearing loss or episodes of vertigo/imbalance coinciding with a COVID-19 infection.

It has been documented that other viral infections have the potential to trigger auditory dysfunction, causing hearing loss. The processes that result in auditory damage vary depending on the viral infection. Some can lead to vascular damage to the inner ear structures, others trigger an inflammatory response, and some can directly infect the inner ear by binding to a receptor found in inner ear structures.

The pathophysiology of COVID-19 on the auditory system is not completely understood, but similar theories exist about why this virus may be leading to complaints of hearing loss. Some studies suggest that COVID-19 may cause damage to the inner ear structures. Patients with COVID-19 have reported audiologic symptoms such as hearing loss, earaches, and tinnitus. Studies suggest a possible correlation between a COVID-19 infection and increased risk of hearing loss, specifically in the high frequencies (high pitches); however, more studies need to be conducted with larger population sizes. Case studies have also shown individuals with COVID-19 experiencing sudden onset of hearing loss.

There is also a potential that some medications used to treat COVID-19 can lead to

increased risk of temporary or permanent hearing loss. These include chloroquine and hydroxychloroquine. Chloroquine typically leads to a more sudden hearing loss, whereas hydroxychloroquine can have ototoxic effects after prolonged use.

Vertigo and dizziness have also been reported as clinical manifestations of COVID-19. Similar to how the COVID-19 virus is thought to cause damage to the auditory system, it is also believed that it can cause damage to the vestibular system (the balance system of the inner ear). There have been several case studies of COVID-19 patients suffering from a sudden onset of vertigo, likely the result of a vestibular neuritis or labyrinthitis caused by the infection.

It is not uncommon for patients suffering from prolonged COVID-19 symptoms, commonly referred to as "COVID long haulers," to experience persistent imbalance for months after their initial infection.

More research needs to be done in order to draw conclusions as to whether the COVID-19 virus can cause hearing loss or vestibular symptoms.

It has been documented that people with tinnitus are rating their tinnitus as more bothersome during the pandemic compared to before. In the same study, many patients reported increased anxiety, depression, and irritability due to pandemic stresses. We know that stress can greatly impact how a person perceives tinnitus, so it is likely that the increased stress related to a global pandemic has led to exacerbation of tinnitus symptoms.

Many of us have been wearing face masks regularly, especially prior to the availability of vaccinations. Numerous studies have shown that face masks can impact speech understanding because of muffled sound and a lack of visual cues. This has made communication much more difficult for everyone, particularly those with hearing loss. We are also standing farther apart from one another. As distance increases, the sound intensity of a speaker's voice decreases, making it more difficult to understand what others are saying. Many people with hearing loss are reporting that they are more aware of their hearing loss during the pandemic than they were prior to it. Patients have also reported more difficulty understanding conversations in public places, on the phone, and during video calls, as well as worsening tinnitus and hyperacusis, due to increased anxiety associated with the pandemic.

As vaccines for the COVID-19 virus are becoming more available, it is also important to consider any audiologic or vestibular vaccine side effects. The US Vaccine Adverse Events Reporting System database, which stores all reported vaccine side effects, cited a small number of reports of tinnitus in recipients of the Pfizer and Moderna vaccines; the mechanism for this is not well understood. The CDC also reports dizziness as one of the most frequently reported side effects.

We continue to research the possible effects that this virus has had on the world. While auditory and vestibular symptoms have been reported following COVID-19 infections, the cause remains unclear. But there is no doubt about the major impact the pandemic and resulting social isolation have had on everyone, particularly those with hearing loss and balance disorders.

Gina Lerner, Au.D.
Clinical Audiologist

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About HLAA and its State Office, HLAA-PA

The Hearing Loss Association of America (HLAA), founded in 1979, is the nation's foremost membership and advocacy organization for people with hearing loss. HLAA opens the world of communication to people with hearing loss by providing information, education, support and advocacy. The national support network includes the Washington, DC area office, 14 state organizations, and 200 local chapters. HLAA is a 501(c)3 non-profit organization.

Hearing Loss Association of America
7910 Woodmont Avenue, Suite 1200
Bethesda, MD 20814
hearingloss.org

HLAA-PA is the all-volunteer state office of Hearing Loss Association of America. We were established *in 2001 to carry out the mission of HLAA for Pennsylvanians with hearing loss, their families and friends.*

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VOLUNTEERS NEEDED!!

Assist the HLAA-PA State Director by serving on the Advisory Council or one of its committees. The Council meets periodically at locations convenient to its membership. But committees conduct most of their business by e-mail and occasionally meet in various parts of the state. If you think you would like to serve on the council or any of its committees, please contact one of the state leaders listed here:

State Director: Nancy Kingsley (kingsley@hlaa-pa.org)
Editor: HearSay and HLAA-PA Website Don Groff (groff@hlaa-pa.org)
Advocacy: Nancy Kingsley, Chair (kingsley@hlaa-pa.org)
Sponsor Coordinator, Dale Long (long@hlaa-pa.org)
Outreach Coordinator: Carolyn Meyer, Chair (meyer@hlaa-pa.org)
ALD Demo Kit: Bill Best, Chair (best@hlaa-pa.org)
Chapter Coordinators: Mike Miles, Eastern PA (miles@hlaa-pa.org), Dale Long, Central PA (long@hlaa-pa.org), Teresa Nellans, Western PA (nellans@hlaa-pa.org)

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