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Sue used to avoid using the phone ... ... then her hearing-care provider recommended CaptionCall.

Hearing loss is required to participate in this program. A standard phone line and Internet connection are also required to use this service.
CaptionCall is an FCC-authorized IP CTS provider.
Bringing Together the Cultures of Music, Audio, and Hearing Science for Hearing Awareness Many believe the time is right to combine the currently parallel efforts of the music, audio, and hearing science communities to improve technology for the protection of hearing and to raise awareness of the value of hearing.
By S. Benjamin Kanters

Sudden Sensorineural Hearing Loss? Think Again! This study describes a near-miss event that would have compromised a patient's safety and ended in an unnecessary invasive surgery. Instead, an innovative approach was taken to treat the disorder.
By Jenne Tunnell

Culture and Diversity in Health Care: The Changing Face of America Cultural diversity will be seen in both the general population and the physicians who care for them. Audiologists and practices that understand and embrace the richness and opportunities associated with cultural diversity will enjoy the rewards.
By Richard E. Gans

Downs Lecture: Seewald's Prescription for Hearing Aid Success If you look at the profession of audiology, the fitting of amplification and implants in children is one of the really strong legs that we have to stand on. If we can't do this well and establish our territory to ensure that these technologies are optimized, then we will lose control over something that is our unique domain.
By David Fabry

The Profession of Audiology Obtains Independent Seat at the RUC HCPAC At the October 2013 meeting, the RUC HCPAC voted to approve that a separate seat be created for the profession of speech-language pathology and that the current audiology seat be represented by the two leading audiology organizations, the Academy and ASHA, on a rotating basis.
By Kayden Williams, Paul Pessis, Erin Miller, and Sharmila Sandhu
# DEPARTMENTS

![Image](https://example.com/image.png)

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### EDITORIAL MISSION

The American Academy of Audiology publishes *Audiology Today* (AT) as a means of communicating information among its members about all aspects of audiology and related topics.

AT provides comprehensive reporting on topics relevant to audiology, including clinical activities and hearing research, current events, news items, professional issues, individual-institutional-organizational announcements, and other areas within the scope of practice of audiology.

Send article ideas, submissions, questions, and concerns to amiedema@audiology.org.

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‘Tis the Season: A Collective Culture of Giving

Many audiologists are passionate about ensuring the success of our profession, particularly with regard to the professional entitlements inherent to autonomy. To make real and lasting progress, however, we’re going to have to get serious about creating a “culture of giving.” What will that involve? Such a culture will require us to develop and promote the concept of professional philanthropy from the grassroots up, across all age groups, educational programs, practice settings, and research areas. Audiology must be willing to raise and leverage resources by and from our profession, on its own behalf—as well as maintain a mindset where “community” is defined not by geography but by our singular commitment to collective giving.

Currently, audiology’s primary mechanisms for professional giving are the American Academy of Audiology Foundation (AAAF) and Political Action Committee (PAC). The Foundation, whose mission is to promote philanthropy in support of research, education, and public awareness in audiology and hearing science through grants, scholarships, and awards to initiatives, individuals, or organizations, working to advance our profession. But, like most scenarios in life, there’s good news and there’s bad news. The good news is that hundreds of audiology philanthropists donate every year, building our culture of giving.

Source: Center for Responsive Politics.

FIGURE 1. The Academy’s PAC compared to like professional membership organizations.
bad news is that those donors represent only five percent of our membership. That’s right…95 percent of audiologists don’t contribute anything to our Foundation. You don’t have to be a wealthy donor to make an impact. Even small gifts to AAAF, collectively, can make a huge difference for our profession.

PACs have been around since 1944, are highly regulated, and constitute an important part of the U.S. political process. Collectively, audiologists’ PAC donations enable us to support our profession in a powerful and positive way. Our PAC uses funds to defend audiologists’ interests, support legislators who understand and advocate for our mission, and educate lawmakers and other policymakers regarding hearing health-care initiatives and issues. Through our PAC contributions and other advocacy outreach efforts, audiology builds positive relationships with elected officials and candidates whose policy decisions affect our profession.

The Academy’s PAC, however, is dwarfed by those of other like professional membership organizations (FIGURE 1). We have a collective choice before us: continue struggling under the same professional constraints that have plagued audiology for decades, or build the electoral and legislative power required to ensure more autonomy for audiologists through adequate PAC contributions, enhancing the availability and affordability of hearing health care for our patients. You don’t have to like politics to understand its current importance in the development and implementation of health-care regulations. Unquestionably, political decisions will be made that impact our profession and our ability to effectively serve our patients. The only real question is whether Audiology’s collective voice will be heard.

’Tis the season for a culture of giving. I implore each of you to contribute to both the AAAF and the PAC. Together we can make audiology’s collective voice heard.

Bettie Borton, AuD
President
American Academy of Audiology

CALL FOR NOMINATIONS
2014 Active Advocate of the Year Award

Nominate an Academy member who has exhibited extraordinary efforts to promote audiology or to advance initiatives impacting public policy issues pertinent to audiologists at the state or national level.

Award to be presented at the annual State Leaders Workshop preceding AudiologyNOW!® 2014.

Visit www.audiology.org and search keyword “advocate” for more information and to download nomination form.

Nominations must be received by December 31, 2013.

Bettie Borton, AuD
President
American Academy of Audiology
Why Academy?

Because your gifts to the American Academy of Audiology Foundation advance the science and practice of audiology, and educate the public about the value and importance of audiology care.

2004
- Established Jerger Awards for Excellence in Student Research and made first grant for Research Awards

2005
- Held inaugural Marion Downs Lecture in Pediatric Audiology
- Founded HearAfter Society

2006
- Began Member Assistance Program

2007
- Released Turn It to the Left NIHL rap

2008
- Launched Hearing Great in 2008! PSA
- Visionary Donors honored the Academy’s 20th Anniversary

2009
- Developed National Education Association outreach
- Provided grant for Gold Standards Summit
- Began state audiology science fair initiative
- Awarded first grant to ACAE
- Released Hearing Assistance Technologies DVD

2010
- Funded first Vestibular Research Grant
- Established Student Travel Award Reimbursement program and SAA restricted fund
- Began National Association of Advisors for the Health Professions outreach
- Awarded first Roger Ruth Memorial Scholarship

2011
- Awarded first five Empowering People Scholarships
- Created SAA Special Olympics Healthy Hearing Grants

2012
- Held inaugural Improving Patient Care Through Innovation in Workplace Management Lecture
- Awarded first Sadanand Singh Memorial Scholarship

2013
- Held inaugural Topics in Tinnitus Lecture
- Awarded first EARmark Your State Grants
- Awarded first SAA Student Leader Scholarship and initiated SAA HEAR Chapter Grant Program

Executive Update

By Cheryl Kreider Carey, CAE, Executive Director

Total Member Giving to the AAA Foundation

$587,200

Member Giving to the AAA Foundation

2003 $4,100
2004 $22,500
2005 $49,600
2006 $49,000
2007 $59,200
2008 $59,300
2009 $58,900
2010 $59,300
2011 $55,400
2012 $78,500
2013 $89,300

Ten Years of Milestones

Year
- 2003
- 2004
- 2005
- 2006
- 2007
- 2008
- 2009
- 2010
- 2011
- 2012
- 2013

Caption:

Member Giving to the AAA Foundation

Ten Years of Milestones

2003
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Ten Years of Milestones

2003
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- 2005
- 2006
- 2007
- 2008
- 2009
- 2010
- 2011
- 2012
- 2013

Caption:
XearA Technology now in custom instruments!

XearA has brought color back to the market in BTEs. Enthusiastic users are singing its praises. Now we offer XearA to you in a full line of custom instruments built in our new, state-of-the-art shell lab.

Full line of custom instruments, including an elegant CIC

AQ Rechargeables, full-concha and canal styles.

Discover the new generation of technology by HANSATON.

XearA technology offers a multitude of true innovations and makes possible first-rate care for the most diverse types of hearing loss. Introducing new features like the revolutionary Feedback X, Conversation Lift and Sound Restore frequency compression. Experience a new era in hearing and enrich your customer’s hearing world. XearA technology by HANSATON brings back color to the hearing experience.
IHHAPP Builds Resources for Hearing Health Care Worldwide

By Gretchen A. Magee

The World Health Organization (WHO) has identified 360 million people worldwide with a disabling hearing loss. This represents approximately five percent of the population. Disabling hearing loss has previously been defined as hearing loss greater than 40 dB in the better ear for adults and more than a 30 dB loss for children. At the present time, it has been estimated that current hearing aid production meets less than 10 percent of the global need, and the majority of afflicted individuals have limited resources in low- or middle-income countries.

Nearly seven million hearing aids are needed by developing countries. High-unit prices of hearing aids prove cost prohibitive in distributing large quantities of devices. Audiologists serving on humanitarian missions worldwide are motivated to provide the best hearing care possible. The International Humanitarian Hearing Aid Purchasing Program (IHHAPP) has evolved to provide a resource for medical teams worldwide.

Vision

IHHAPP has followed the recommendations of WHO and its mission, which encourages the provision of high-quality instruments to individuals in need throughout developing countries. Professionals connected to the project strive to support the investment toward improved best practices, family and community empowerment, technology access, enhancement of education and training, and advocacy in related areas of hearing health.

Several organizations were instrumental in the development of the IHHAPP from 1995 to the present day.

Development Timeline

- 1995–2002: Assistive Devices for the Hearing Impaired was founded with Ron Brouillette to provide hearing aid kits that were assembled in the Philippines and distributed worldwide, with financial support from the Christian Blinden Mission.
• **2003–2009:** Affordable Hearing was founded with the same director, and hearing aids were distributed by wholesale cooperative to eight humanitarian groups.

• **2009–2011:** Worldwide Hearing continued the project and developed the Purchasing Consortium, which negotiated agreements with Siemens and GN Resound.

• **2011–2012:** Worldwide Hearing withdraws from the program, and the Purchasing Consortium was then managed independently by two different professionals.

As of February 2012, Mayflower Medical Outreach currently serves as administrator of IHHAPP. They are supported by the Coalition of Global Hearing Health.

Collaboration between the two groups created the formalized processes for the available application and goals toward sustainability. The Mayflower organization brought experience to the venture, as it has made great strides since 1999 with the provision of hearing health care within the country of Nicaragua. Their work provides multiple missions each year with audiologic and otolaryngology collaborations to support new and existing patients.

IHHAPP strives to provide low-cost but quality digital behind-the-ear hearing aids. The current models available can accommodate hearing loss ranging from mild to profound. All units are priced under $100, and additional reductions in pricing are available for bulk purchasing. The behind-the-ear hearing aids can be attached to comply-tips, slim-tubing, insta-molds, or traditional earmolds. Specification sheets on each of the three currently available hearing aid models can be found online at the organization’s Web site, which will add professionals in making the most appropriate recommendation for patient usage. IHHAPP continues to make changes in their technology offerings to meet the needs of various countries. Their leadership also anticipates offering the Solar Ear unit for product flexibility; however, these hearing aids may cost slightly more than $100, to give buyers an additional choice.

### Available Hearing Aid Features

- Trimpots on the instruments allow adjustments with low-frequency, high-frequency, and MPO capabilities. There are variances present in some of the models.

- Feedback management and noise management features are available on the hearing aids.

- T-coil technology can be found on two of the available models.

### Ordering Hearing Aids

- Hearing aids may be purchased online through an established process to promote convenience for professionals and organizations.

- Orders are transacted with individuals solely in foreign countries and are not dispensed with audiologists who currently service the U.S. market.

---

**Hearing aid fittings can be conducted in an instant manner but still provide the benefits of digital technology.**
• Product information including device specifications are available on the Web site for reference, and questions can be submitted to the program’s administrative staff.

• Prospective members are required to complete an application that will include information about their specific organization and hearing aid program, as well as letters of reference with a signed agreement form.

• Approved members may complete their orders online.

• Purchased hearing aids are then packaged and shipped for usage.1

IHHAPP is currently building its connections with a variety of humanitarian groups and nonprofit organizations worldwide to increase access to hearing health care. Hearing aids offered through their program have been provided to match the needs of these specific missions and would not be intended for profit or to create competition with other buying groups or hearing aid manufacturer agreements.

Barriers for access with hearing health care come from a variety of barriers, in addition to cost. Other considerations for humanitarian audiology include accessibility to structure and traveling distance in a country. Development of successful missions promotes awareness of hearing services, along with an appropriate relationship to the involved culture. The systems and services developed should also be acceptable to everyone needing services. IHHAPP uses their goal of hearing aid affordability to promote special agreements with major manufacturers. Humanitarian audiologists can then use their talents to better meet the accessibility needs across nations.

Conclusion

Removing the stumbling block of hearing aid cost increases movement in the right direction for closing the gap with hearing health care worldwide. Hearing aid manufacturers have an opportunity to expand their exposure in countries throughout the world. IHHAPP continues to expand their offerings to professionals and is currently negotiating with other manufacturers to increase the technology choices available. More information on the organization can be accessed at http://ihhapp.org, or questions may be e-mailed to information@ihhapp.org.

Gretchen A. Magee, AuD, is a private practice audiologist and owner of Better Hearing and Balance Connection in Bella Vista, AR. She is a member of the Academy’s Business Enhancement Strategies and Techniques (BEST) Committee.

Illustration by Johanna van der Sterre.

Note

1. Hearing aids purchased through this program are shipped directly to the buyer of the units.

References


We asked. You answered.
Social Media Responses from the Audiology Community...

If you could practice audiology in any part of the world, where would it be?

- Cayman Islands...oh wait, I already am — A. Stephenson
- Germany or Australia — S. Dollarhite
- Hawaii or Italy — H. Martin
- India — P.P. Khatri
- Israel — H. Jacobster
- Alaska — T.S. Burdette
- Denmark — K. Engdal
- New Zealand or Iceland — R. Dinkes
- Belize — A. Cruser
- Germany or Italy — A. Stephenson
- Monterey, CA, or Norway! — W. Andreassen

November 4
Member Registration Opens
AudiologyNOW! 2014
www.audiologynow.org

November 7
eAudiology Web Seminar
Vestibular Grand Rounds 2013
www.eaudiology.org

November 12
eAudiology Web Seminar
Coding and Reimbursement Series: Preparing for the ICD-10 Code Transition—Part II
www.eaudiology.org

November 15
Meeting
Everyday Implications of ANSD Current Perspectives and Best Practice
Walnut Creek, CA
www.childrenshospitaloakland.org

November 18–19
Meeting
British Academy of Audiology
10th Annual Conference
www.baaudiology.org

December 2
General Registration Opens
AudiologyNOW! 2014
www.audiologynow.org

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Bringing Together the Cultures of MUSIC, AUDIO, AND HEARING to Better Promote Hearing Awareness

BY S. BENJAMIN KANTERS
Last summer, Columbia College Chicago hosted the 47th conference of the Audio Engineering Society, titled Music-Induced Hearing Disorders—New Technologies for Measurement and Prevention (June 20–22, 2012). Attendees from the United States, Europe, Canada, and New Zealand participated in two days of paper presentations and networking.

This was, perhaps, the first time that researchers and practitioners in music, audio, and hearing sciences gathered to share their common concerns and efforts to reduce the incidence and severity of music-induced hearing disorders. I believe there are now things we can do, as a unified community, to further accelerate this important effort.

Since the mid-1980s we have seen evidence of increased hearing loss and other disorders in progressively younger populations. The music and entertainment industries have been singled out, receiving much of the blame for the fact that young people exhibit hearing profiles of people two generations older. Many believe the time is right to combine the currently parallel efforts of the music, audio, and hearing science communities to improve technology for the protection of hearing and to raise awareness of the value of hearing.
Many believe the time is right to take this effort up another level, by combining the currently parallel efforts of these communities toward what we all agree is a set of common goals:

1. Improve technologies that enable us to moderate volume levels in entertainment media.

2. Improve technologies for better protection where volume levels remain at dangerous levels.

3. Raise awareness, first with audio and music professionals and then the general public, of the value, sensitivity, and delicacy of the hearing mechanism.

The Disciplines of Sound, Music, and Hearing Science

Those of us who work in all three of these industries/communities know that we all perceive sound and audio in terms of frequency, amplitude, and time. Everything we do, study, produce, and discuss involves some combination of these three physical components. But while we all speak this same “language,” I would suggest that we have learned to speak that language in different “dialects.” This helps explain why it has taken so long for us to come together, share ideas, and join forces. If we can recognize the differences and similarities of our disciplines, it will help us better understand, communicate, and collaborate with each other.

Looking at the tools of each field, one can see that they are all designed to “manage” sound and signal in those same domains of frequency, amplitude, and time, whether we are dealing with musical instruments, recording and PA systems, or audiometric, hearing assistance, or safety technologies. We also share the practice of visualizing our work through graphic formats such as musical scores, frequency and gain structure diagrams, and audiograms and sensitivity/tuning curves. (I have colleagues in all three disciplines who have found it easy to share ideas through their diagrams, once the measurement and scaling is explained.) Finally, we each have aesthetic goals: composition and performance, fidelity of capture and delivery, and quality of communication (and lifestyle).

What we share, then, is the pursuit of technical knowledge to understand and preserve “aural acuity,” driven by a passion for art and quality of life. Unfortunately, we have been plagued for many years by what I consider an “aural ignorance”: a cultural bias toward the visual that has desensitized (actually, never sensitized) society to hearing and most things aural.

While the public certainly values our efforts in these fields, they struggle to fully understand sound in all its complexity, let alone the incredible mechanism that is human hearing. Asked their opinion of a song, most can’t speak to more than the melody, lyrics, and beat (“fun to dance to”). Audiologists know their patients’ difficulty (read: frustration) in articulating just what is wrong with the sound of their hearing aids. Tony Schwartz, a noted recording engineer who worked in the advertising industry through the 1950s and ’60s, pointed out that even our everyday phrases offer evidence of our bias against the aural in favor of the visual: “seeing is believing” and “I can read him like a book” connote fact, but “hearsay” would never hold up in court, and “playing by ear” is considered a sign of inferior musicianship. In fact, we have surprisingly few words in English tied specifically to sound—three, to be precise: loud, quiet, and silent. All our other words for sound are borrowed from the other senses. We simply have grown up in a culture that pays no attention to sound or hearing, even though the frequency response of vision is barely an octave (infrared to ultraviolet), while our hearing response spans over 10 octaves. Visually, we can only scan a scene, able to look at one thing at a time; aurally, we can hear an entire soundscape at once, locating every sound object in three-dimensional space.

I always ask my hearing workshop audiences, “How many here enjoy a couple hours of staring into the sun every now and then?” This is invariably received with chuckles from the group. I then ask, “How many here have enjoyed a two-hour concert, standing in front of the speaker stack?” More often than not, about one-third of the group will (somewhat sheepishly) raise their hands. How odd that we consider our ears somehow...
Bringing Together the Cultures of Music, Audio, and Hearing Science

more bulletproof than our eyes. And I get this response from every audience, including those in music, audio, and hearing. "Aural ignorance" is an unfortunate widespread phenomenon and points to just how daunting a challenge we face in promoting a culture of safe, sensible hearing. That said, we should first reach out to sound artists, students, and professionals in the music and audio industries. This is a population predisposed to care. They quickly realize the importance of taking care of their ears, because their professional lives depend on healthy hearing. Then they can become role models as they moderate volume levels in live performance.

The Hearing Conservation Workshop

Teaching Physiology
The critical first step in building awareness is education. Once people understand the workings of something they own, they develop a sense of ownership and then seek to take care of what they own. My Hearing Conservation Workshop has proven successful in achieving this goal in 60 seminars presented over the past four years. Other conservation efforts worthy of note include the Dangerous Decibels program, developed by William Martin, PhD, an education/awareness program for school-age children. Another, HearForever, is sponsored by Howard Leight/Honeywell and taught by Theresa Schulz, PhD, Lt. Col, USAF (Ret.) and is directed at industry personnel to promote effective hearing conservation programs in the workplace.

All three programs use the same three-step concept:

1. Teach the basics of hearing physiology.
2. Show how the system can be damaged.
3. Teach conservation strategies.

Since the inception of the Hearing Conservation Workshop five years ago, I have collected teaching resources (images and animations) that help illustrate the mechanisms of hearing. Among the best are two animations. Auditory Transduction by Brandon Pletsch (seven minutes), available on YouTube (search “auditory transduction”), is not only beautifully rendered but also very accurate; it shows with amazing detail most of the critical “subsystems” of the middle and inner ear. No other animation I have found has done as good a job showing the mechanics of the organ of Corti. The other animation, which shows the mechanics of the basilar membrane, was produced by the Howard Hughes Medical Institute and can be downloaded (.mov file) from this address: http://lab.rockefeller.edu/hudspeth/graphicalSimulations.

An image and a third animation help complete the picture of the “subroutines” within the ear. The image is from the book An Introduction to the Physiology of Hearing, by James Pickles, showing the combined resonances of outer ear structures (FIGURE 1). This is the frequency shift imposed on all sounds entering the ear; it shows how we are “tuned” to human speech and why the range of 2 to 6 kHz is where we typically suffer the most loss due to “noise trauma.” The other animation, also available on YouTube, is called The Dancing Hair Cell and shows how outer hair cells provide amplification, making the softer sounds of our world audible to us. With these and other graphics and images available from texts and on the Web, musicians and audio engineers easily understand and deeply appreciate how it is possible for us to enjoy over 10 octaves of frequency and 120 dB of dynamic range sensitivity.

After I show these images, the value of and need to protect our hearing becomes self-evident. At this point in the workshop, I have a room full of converts, eager to learn about disorders and conservation.

It might be surprising to know how few in audio, music, and even the hearing sciences are familiar with or have ever used a sound level meter.
Teaching Disorders
To understand hearing disorders, one must first understand measurement of sound and hearing. The tools here are the sound pressure level (SPL) meter, the audiogram, and the NIOSH/OSHA safe-exposure levels. It might be surprising to know how few in audio, music, and even the hearing sciences are familiar with or have ever used a sound level meter (FIGURE 2). Given the importance of knowing if one is in a noise-hazardous environment, it becomes obvious to seminar attendees that they should all own a meter. We should be as sensitive to volume levels as many of us are to frequency, pointing to those who have developed acute pitch and timbre sensitivity or frequency discrimination skills for combatting feedback. Reasonably accurate meters are now available for as little as $30.

I am often asked about the accuracy of sound level meter apps in smart phones. Colleagues who have tested them against calibrated meters all found that the apps are relatively accurate up to around 95 to 100 dB-SPL. However at higher sound levels, the microphones and/or analog electronics behind the microphones distort. The result is erroneous readings. That said, once you are at that level, you are looking at 15 to 30 minutes safe

We have been plagued for many years by a cultural bias toward the visual that has desensitized society to hearing.
exposure time anyway and you should be thinking about using plugs or just getting out of that environment.

The audiogram is another tool easy to understand, as it is simply a frequency response graph of the hearing mechanism (FIGURE 3). Looking at the scale from 125 Hz to 8 kHz, musicians and audio engineers ask, “Where’s the rest of it?” referencing the missing low and high frequencies (20 Hz–20 kHz). This becomes an opportunity to bring attention to the distinction between the disciplines of audiology and the sound arts and is, thus, a moment when the union of purposes between these communities becomes quite palpable.

Attendees are then presented with the NIOSH and OSHA safe-exposure charts (TABLE 1). Now they can see how trauma is a combination of intensity and duration, much like exposure to the sun. With an understanding of measurement they can easily begin to understand the “scale” of hazards, and the potential for trauma.

With an understanding of mechanics, measurement, and measuring hazards, attendees are ready to see the array of possible hazards. It is important to show that, while we may be focusing on music-induced disorders, we must be aware of all the possible noise-hazardous environments. Many do not consider the noise danger of sporting events such as hockey, NASCAR, or soccer. Measurements of 120 dBA were recorded when fans were blowing the vuvuzela horns at the World Cup in South Africa. Even recreational vehicles such as jet skis and snowmobiles can be as hazardous as a loud concert or dance club.

The seminar then addresses the actual nature of disorders. First, we discuss the combined frequency and dynamic losses (noise notch and recruitment) brought on by trauma. Musicians and audio engineers easily understand these symptoms and are unnerved by the notion that trauma results in what could be described as “signal processing gone haywire.” The condition known as temporary threshold shift is of particular concern to the working musician or engineer. Most just put up with the temporary “dull hearing” and ringing. But with the need for as much as 48 or more hours for this temporary hearing impairment to fully recover, someone working four or five nights a week does not have that recovery time. The result is what could be termed continuous temporary threshold shift. I have attended concerts where the intensity in the 4 to 6 kHz band is so harsh it can only be attributed to this shift in the hearing of the front-of-house mix engineer.

What may be of greatest concern are disorders triggered by noise trauma such as tinnitus, hyperacusis, and diplacusis. While we can compensate for frequency and amplitude shifts with the signal processing found in
hearing aids, there are no technologies to compensate for these other disorders. Even more unfortunate is that many times people do not seek the help of an audiologist until they are suffering from these disorders. Of course, at that point it is too late to do anything but offer strategies to prevent their conditions from getting any worse.

**Teaching Conservation**
Finally, the workshop focuses on conservation strategies and technologies, including custom and generic flat-attenuation earplugs and in-ear monitors for live music performance (again generic and custom). The important point here is that once attendees understand the mechanics of hearing and the mechanics of loss, they are eager to learn ways of protecting themselves. The real work is done; now they are driven to know more.

So, clearly, the challenge is to get this message out before irreversible damage has occurred. This, then, takes us back to the original mission to promote knowledge and awareness. If there is no knowledge and no “ownership,” we are only leading the horse to water. We have not yet convinced them that they are thirsty. It is my belief that, with the newly combined and coordinated efforts of our three communities, we can more effectively deliver this message and reach those in the sound arts and then the general public.

**Pushing a Cultural Shift**
The hesitation, even resistance, to “turn it down” must be viewed as a cultural bias. We are encouraged to protect

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**TABLE 1. National Institute of Occupational Safety and Health (NIOSH) and Occupational Safety and Health Administration (OSHA) Safe Exposure Levels**

<table>
<thead>
<tr>
<th>Exposure Time</th>
<th>NIOSH (dBA SPL)</th>
<th>OSHA (dBA SPL)</th>
</tr>
</thead>
<tbody>
<tr>
<td>8 hr</td>
<td>85</td>
<td>90</td>
</tr>
<tr>
<td>4 hr</td>
<td>88</td>
<td>95</td>
</tr>
<tr>
<td>2 hr</td>
<td>91</td>
<td>100</td>
</tr>
<tr>
<td>1 hr</td>
<td>94</td>
<td>105</td>
</tr>
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<td>30 min</td>
<td>97</td>
<td>110</td>
</tr>
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<td>15 min</td>
<td>100</td>
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</tr>
<tr>
<td>7.5 min</td>
<td>103</td>
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<tr>
<td>&gt;2 min</td>
<td>109</td>
<td></td>
</tr>
<tr>
<td>&gt;1 min</td>
<td>112</td>
<td></td>
</tr>
</tbody>
</table>
our eyes, our skin, even our feet. But we are never taught to be mindful of our ears.

There is one public health initiative that we can look to and learn from, that of cigarette smoking. In the 1930s and ‘40s, one could find magazine ads featuring, of all things, doctors touting the virtues of “fresh cigarettes.” Cigarette smoking was glamorous (as portrayed in the media). They were a “pleasurable” (read: addictive) experience. But over time, the health risks became clear. As many recall, it was in the mid-1960s that the surgeon general mandated that warnings be stamped on the sides of cigarette packs. Yet in spite of ever-increasing evidence of the dangers of smoking, it was not until this past decade that we came to the point of a truly smoke-free world...at least in the United States.

We face the same challenges with the hazards of loud sound in entertainment and recreation as well as industry. Loud is viewed as “cool” by many. Loud is even mildly addictive, as shown by research that relates high-intensity sound with an endorphin release by way of the vestibular system.

But we also have a potential population of advocates who can accelerate the growth of public awareness. As noted above, musicians and audio engineers will potentially act as role models to the music-going public. Concertgoers will experience more and more “safe-level” concerts. The louder shows will begin to be the outliers rather than the norm.

As our three communities join forces and share resources, we, also, will help accelerate this change. Because if knowledge and awareness accelerate, so too will the demand for high-quality hearing protection and/or better control of volume levels in all entertainment media.

This will, in the best of circumstances, be self-regulated by the artists and performance venues. And that would be a much better alternative to regulation handed down by a government regulatory agency.

Benjamin Kanters, MM, is an associate professor and associate chair in the Department of Audio Arts and Acoustics at Columbia College, Chicago, IL.

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Straightforward Case of Sudden Sensorineural Hearing Loss?

By JENNE TUNNELL
The purpose of this case study is to promote awareness of conversion deafness disorder and how it may present in an adult patient with a long history of hearing loss. This study describes a near-miss event that would have compromised a patient’s safety and ended in an unnecessary invasive surgery. Instead, an innovative approach was taken to treat the disorder.

CONVERSION DEAFNESS DISORDER (CDD) presents itself as a condition whereby a patient reacts in a way that is physiologically unsubstantiated. For example, a patient may present with a sudden parasthesia of a previously normal leg and be impervious to pain in that leg and unable to walk. The disorder is distinct from malingering as it is not a conscious decision on the patient’s part, nor does the patient stand to gain from the disability. The disorder usually is characterized by a sudden onset of symptoms after a substantial stress or trauma has occurred. Diagnosis of CDD is difficult and involves ruling out other disorders using objective measures (Monsell et al, 1984). CDD can occur at any time during a person’s life but is usually found in patients ranging in age from preadolescence to early adulthood and is two to ten times as prevalent in females as males. The prevalence of the disorder is estimated to be .01–.5 percent of the general population over a lifetime (Hollifield, 2005). TABLE 1 lists some common symptoms that manifest as a result of CDD according to the DSM-IV manual (American Psychiatric Association, 2000).

The term conversion deafness disorder (CDD) is defined here as hearing loss in the absence of any anatomical or pathophysiological abnormality. It is distinct from malingering or factitious disorder because the deafness is not consciously feigned or used as a means to obtain secondary gain. CDD cases have been reported in the literature (Wolf et al, 1993; Ying-Piao et al, 2006).

Sensitivity to such signs as the patient’s speech patterns and use of communication strategies, as well as psychological history, may help the clinician identify the presence of this disorder. Once CDD is suspected, the clinician should perform objective tests and work in tandem with a behavioral health professional and a hearing therapist or speech-language pathologist familiar with the disorder. Identification of the disorder is important in order to prevent unnecessary use of steroid treatments and/or surgical intervention.

The purpose of this case study is to promote awareness of CDD and how it may present in an adult patient with a long history of hearing loss. This study describes a near-miss event that would have compromised a patient’s safety and ended in an unnecessary invasive surgery. Instead, an innovative approach was taken to treat the disorder. This study refers to the clinic’s Cochlear Implant team, which is made up of representatives from the
following disciplines: ENT, audiology, hearing therapy, speech language pathology, social work, and psychology.

**Patient History and Initial Evaluations**

A 65-year-old woman with a long-standing history of severe-to-profound hearing loss in one ear and a moderate hearing loss in the other presented to our clinic with a sudden total loss of hearing in her better ear. She had been fit with a hearing instrument on her better ear at another clinic and had been wearing that hearing instrument on the better ear for the last 15 years. She reported to us that her poorer ear had been “dead for many years.” She and her supportive husband were very concerned about her isolation and her inability to communicate. The clinician needed to write everything in large font on a large screen in order to communicate with the patient. The patient was very concerned about missing anything that was said during the session.

An audiolgic evaluation showed profound sensorineural hearing loss bilaterally (FIGURE 1). The ENT physician immediately began a course of steroid injections and antiviral medication. Follow-up audiologic testing revealed no significant improvement in her hearing (FIGURE 2).

The patient was understandably distraught and her spouse deeply concerned about her ability to cope, so she was referred to the cochlear implant surgeon, who performed the necessary medical evaluation and computed tomography (CT) scan and scheduled her for surgery. The audiologist began intensive counseling about the cochlear implant but noticed unusual behaviors and speech patterns during the counseling process. The patient used “baby talk,” for example, and would leave out adjectives and use only present tense verbs when communicating. Typically, newly deafened individuals demonstrate a desperate need to communicate by searching the speaker’s face for expressions, watching gestures, and attempting to lipread. This patient purposely avoided eye contact and needed reminders to watch the speaker’s face or to look at the computer screen to read what was being said. Her mood frequently changed during the sessions, and she was often angry with the audiologist for asking questions. She was especially affronted by the referral to a psychologist, which is a requirement of cochlear implant candidates going through pre–cochlear implant evaluations at our clinic. On numerous occasions, she stated that medical staff just thought she was “crazy” and were refusing to help her. She said, “I don’t care anymore” and everyone should just “leave me alone to be deaf.”

Further evaluation by other members of the cochlear implant team and her primary care physician revealed more unusual findings. Her initial visit with the psychologist revealed an extensive history of abuse as a child by a family member. Subsequently, the audiologist then told the patient that an auditory brainstem response (ABR) was needed in order to determine the ear to be implanted. The audiologist felt the need to tread carefully, in order to avoid undue suspicion or anger from the patient resulting in loss of the patient to follow-up. The ABR was performed, but the patient had difficulty relaxing, and there was a large amount of artifact in the recording. In spite of the artifact, there appeared to be a Wave V response at elevated levels, which was inconsistent with the level of hearing loss recorded in the sound booth. Cortical evoked potentials were attempted, but again, the artifact obscured interpretation of the results (FIGURE 3).
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Straightforward Case of Sudden Sensorineural Hearing Loss?

Upon Further Evaluation
The Cochlear Implant Team utilized a multidisciplinary approach that engaged psychology, otolaryngology, audiology, and hearing therapy in order to identify the true nature of the patient’s disorder. This included a series of tests that ultimately ended in an ABR test under general anesthesia.

ABR results under anesthesia showed a mild sensorineural hearing loss bilaterally. This was an unexpected finding, as it meant that the patient had been manifesting her CDD for at least 15 years (Figures 4 and 5)! Typically, the literature shows that CDD has an abrupt onset typically followed by a quick recovery, with a likelihood of reoccurrence in the patient’s lifetime. We are unaware of any studies addressing prolonged CDD such as this case.

The Intervention
The audiologist gently informed the spouse of the test results while the patient was in recovery from the general anesthesia. Surprisingly, he accepted the diagnosis readily and reported, “deep down I had a hunch.” This also was a surprise to the clinician because he had not mentioned this before. It was assumed that the husband was not able to express his doubts with his wife in the room. His main concern was how he was going to let her know the test results as he was afraid our discovery would prevent her from returning to our facility and getting the help that she so desperately needed. The clinician suggested that the husband could tell the patient that the results would be discussed at her follow-up appointment by the audiologist.

The audiologist, psychologist, and hearing therapist met several times to discuss the findings and to formulate a plan of care. By using this three-pronged approach and engaging the patient, the team was able to gently guide her acceptance of the diagnosis. Since the patient had refused to see the psychologist after the initial pre-implant candidacy appointment, our first step was to address her communication needs. We needed to ensure that she felt sufficient confidence in our diagnosis to follow our recommendations and delve deeper into the reasons behind the conversion reaction with the help of our psychologist.

The first post-ABR appointment was with the audiologist, who explained that the test results indicated that her hearing “looked better than previously anticipated” and that a hearing aid trial with clinic loaner hearing aids was in order. Focusing on the new hearing aids enabled the patient to break away from her fixation on the cochlear implant and allow her to focus her attention on more appropriate interventions.

The second post-ABR visit was scheduled with the hearing therapist. Our hearing therapy program is run by an audiologist who is also a teacher of the deaf and hard of hearing and who specializes in helping severe-to-profoundly hearing impaired patients develop auditory skills postimplantation. Therapy typically begins with assessments and inventories, but the team psychologist warned that this would trigger the patient’s stress response and might frighten her. Instead, the therapist focused on getting to know the patient and planned simple listening activities using iPad applications, which moved the focus off the patient and on to the listening tasks. Therapy was planned to focus on increasing communication competence, explanations of levels of auditory skill, and basic communication strategies in ways that validated the patient’s communication needs. The hearing therapist reported that she started out typing everything that she

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TABLE 1. Common Symptoms of Conversion Deafness Disorder (CDD)

<table>
<thead>
<tr>
<th>Symptom</th>
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<tbody>
<tr>
<td>Anesthesia</td>
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<tr>
<td>Ataxia</td>
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<tr>
<td>Ageusia</td>
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<tr>
<td>Anosmia</td>
</tr>
<tr>
<td>Aphonia</td>
</tr>
<tr>
<td>Blindness</td>
</tr>
<tr>
<td>Coma</td>
</tr>
<tr>
<td>Convergence spasm</td>
</tr>
<tr>
<td>Deafness</td>
</tr>
<tr>
<td>Facial weakness</td>
</tr>
<tr>
<td>Globus hystericus</td>
</tr>
<tr>
<td>Nystagmus</td>
</tr>
<tr>
<td>Paralysis</td>
</tr>
<tr>
<td>Parkinsonism</td>
</tr>
<tr>
<td>Syncope</td>
</tr>
<tr>
<td>Tonic-clonic pseudoseizures</td>
</tr>
<tr>
<td>Tremor</td>
</tr>
</tbody>
</table>
Straightforward Case of Sudden Sensorineural Hearing Loss?

FIGURE 3. Initial click ABR under natural sleep.

FIGURE 4. Click ABR under general anesthesia.

FIGURE 5. Estimated audiogram based on AEP results under general anesthesia.

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<table>
<thead>
<tr>
<th>CEUs</th>
<th>GRAND ROUNDS SERIES</th>
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<tbody>
<tr>
<td>.2</td>
<td>Vestibular</td>
</tr>
<tr>
<td></td>
<td>Presented by Amy L. Ariss, AuD; Patricia Gaffney, AuD; Devin McCasin, PhD; and Richard A. Roberts, PhD</td>
</tr>
<tr>
<td>.2</td>
<td>Auditory Processing Disorder</td>
</tr>
<tr>
<td></td>
<td>Presented by Deborah Moncrieff, PhD; Teri James Bellis, PhD; Jay R. Lucker, PhD; and Larry Medwetsky, PhD</td>
</tr>
<tr>
<td>.2</td>
<td>Cochlear Implants: Across the Lifespan</td>
</tr>
<tr>
<td></td>
<td>Presented by Allison Biever, AuD; Jenny Goerhing, AuD; Jordan King, AuD; and Douglas Sladen, PhD</td>
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<td>.2</td>
<td>Pediatrics</td>
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<tr>
<td></td>
<td>Presented by Lisa L. Hunter, PhD; Ryan McCreery, PhD; Gail Padish Clarin, AuD; and Eileen Rall, AuD</td>
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<td>.2</td>
<td>Audiological Intervention</td>
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<td>Presented by Shannon Burns, AuD; Barbara Bell-Lehmkuhler, AuD; Darcy Strong, AuD; and Stacy Claycomb, AuD</td>
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<td>.2</td>
<td>Adult Diagnostics</td>
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<td></td>
<td>Presented by Therese Walden, AuD; Ken Henry, PhD; Meggin Petronis, AuD; and LaGuinn Sherlock, AuD</td>
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</table>

VISIT WWW.EAUDIOLOGY.ORG TO SEE THE FULL ON-DEMAND LIBRARY AND ALL UPCOMING LIVE SEMINARS.
was saying and displaying the print on a large display screen. As the initial session progressed, however, the patient increasingly maintained eye contact and attended to the therapist’s face. By the end of the first 90-minute session, the patient was able to hear and communicate in conversation with the therapist with relative ease and without print on topics of shared interest. Subsequent sessions targeted specific communication situations, such as having coffee with a close friend at her house or a telephone conversation with a daughter. After several successful hearing therapy sessions, the therapist asked the patient if the team psychologist could be invited to a therapy session, and the patient agreed. This allowed the psychologist to enter into the patient’s care in a pre-established “safe place.”

Currently, the patient communicates by listening and speaking and wears mild gain open-fit hearing instruments. She regularly sees our psychologist for post-traumatic stress disorder and has seen a psychiatrist for adjustment of her medications. She and her husband express joy at her communication abilities. She had been fearful and housebound but now is getting involved in her local community, and she and her husband are planning a vacation together.

Summary
A 65-year-old woman with a long-standing history of severe-to-profound hearing loss in one ear and a moderate hearing loss in the other presented to our clinic with a sudden total loss of hearing in her better ear. She was treated medically and referred for cochlear implant candidacy evaluation. The cochlear implant team evaluations revealed inconsistencies between her functional communication behaviors and audiometric results leading to objective audiometric measures. The two greatest challenges were accurately diagnosing the patient’s condition and establishing the patient’s trust in order to help both the patient and her husband understand the diagnosis and the treatment. Team members worked together to maintain the patient’s trust so that the therapies she needed to recover could be provided. Our work reinforced the importance of validating a patient’s symptoms, even in the absence of a physiologic basis for those symptoms. This provided the framework for the patient to trust us and ultimately led to her regaining her hearing abilities in a variety of communication situations and increasing her participation in activities within her extended family and community.

Jenne Tunnell, AuD, is the regional manager of audiology at Mayo Clinic Health System, Mankato, MN.

Acknowledgments: We thank the Cochlear Implant Team at Mayo Clinic Health System, Mankato, MN. Special thanks to Lisa Hardesty, PhD, behavioral psychologist, and Ann Vaubel, MA, hearing therapist.

References


The relationship between hearing aids and the brain has significant clinical implications with respect to the diagnosis and treatment of individuals with hearing impairment in both the pediatric and adult populations. This can have far-reaching consequences on health and significantly impact quality of life.

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The Changing Face of America the Beautiful

By Richard E. Gans

Miss America 2014, Nina Davuluri, an Indian-American, and runners-up Crystal Lee and Rebecca Yeh, Asian-Americans, epitomize the changing face of America the Beautiful. For those of us who have lived and worked in many U.S. cities, this does not seem like news at all. We are well aware of the richness of living in a culturally diverse community, which speaks languages other than English, eats a variety of foods, and has its own traditions and music, the people a tapestry woven with threads of many colors. As America’s demographics change, we may ask, who will be our patients, what languages will they speak, and will audiology understand how to best reach, communicate with, and meet the needs of a population that is much more diverse? Diversity may be defined to include gender, culture, ethnicity, language, race, religion, and sexual orientation.

U.S. News and World Report has identified audiology as among the top professions of the future. Combined with an armamentarium of skills, competencies and technologies, our newly minted AuDs are ready and eager to diagnose and treat the hearing and balance needs of America’s children and adults. They are embarking on a career that will take them well into the middle of this century. If we have taught them well, we have instilled the desire to be life-long learners. They will learn new scientific truths and clinical protocols that have yet to be discovered. Education and technology alone, however, may not be sufficient to connect with the new faces, languages and cultures of this new century. The purpose of this article will be to provide readers with an overview of the changing demographics of the population.

Bigger, Older, and More Diverse

It is estimated that by the middle of this century, the population of the United States will increase by 100 million to a total of nearly 400 million people. We are all aware that the boomers, those born between 1948 and 1964, are here. For the next 18 years, 10,000...
persons each day will turn 65. This has been greatly anticipated within the hearing health-care space. The fact is, however, that although demographic of 65 years old and older will increase from 13 to 20 percent of the general population, this will not be the group most responsible for America’s growth.

Where will the largest growth come from? Babies. In 2006, the U.S. fertility rate reached a 45-year high of 2.1 births per female (primarily due to higher birth rates among immigrant population). The U.S. fertility rate is already 50 percent higher than Russia, Germany, Japan, and well above China, Italy, Singapore, South Korea, and virtually all of Europe. It is estimated that between 2000 and 2050, the age group between 15 and 64 years of age will represent 42 percent of the population. The U.S. will actually have approximately 350 million people under age 65 (Shrestha, 2011).

This is in stark contrast to the rest of the world, where the numbers of people younger than 65 are actually declining. The populations of Europe, Japan, China, and South Korea are aging without the surge of births. In each of these countries 30 percent or more of their populations will be over age 65. These countries, unlike the United States, do not attract immigrant populations.

Changing Demographics

The changing ethnic, cultural, and racial diversity over the next 40 years is a result of growing minority birthrates and immigration. In 2011, whites represented 63 percent of the population, with Hispanics and Asians representing 17 and 5 percent respectively (Smithsonian, 2013). See FIGURE 1 for the breakdown of population through 2050. By 2050 the United States will look like this:

- Whites will no longer be a majority—down to 47 percent.
- Minorities will exceed 50 percent of the U.S. population.
- No other advanced country will see this diversity.
- Latino and Asian populations will triple.
- Forty percent of all children younger than age five will be Hispanic.

Immigrants: The U.S. Economy Needs Them

According to the United Nations (Henning, 2012), it is estimated that two million persons move from poor countries each year, with 50 percent of this emigration wave moving to the United States. Without this influx...
of immigrants there would not be a sufficient working-age population to support the tax base and fund Social Security and Medicare for the increasing segment of the elderly population drawing on these services. Likewise, without a working-age population, who would do the work in the professions, manufacturing and service industries. Consider the following:

- The United States is home to 12.5 million skilled immigrants. This equals the combined total of skilled immigrants in Germany, France, the United Kingdom, Australia, Canada, and Japan.
- Between 1990 and 2005, immigrants accounted for one out of four venture-capital backed public companies.
- Fifteen of the Fortune 100 companies have CEOs with foreign roots.

The Medical Profession: Same Demographic Changes

For past generations, the face of a physician was that of a white middle-aged male. You may remember Marcus Welby, MD, a popular television show of the 1970s, about the quintessential family doctor played by the actor Robert Young, who also played the dad in the Father Knows Best series of the 1950s. Diversity among physicians is growing and changing just as is the general population. This should be considered whenever analyzing the entire landscape of diversity and the impact on how a practice may market or position itself within its community. The first significant diversity shift has been in the gender composition among physicians.

Gender

There was a 430 percent increase in female physicians between 1980 and 2009 (AAMC, 2011). Today, one-third of all physicians are women, and this will continue to increase, due to the approaching retirement of male boomer physicians and increasing entry into medical school by females. In 1980, females only accounted for 20 percent of medical students; by 2007 they were at 49 percent, and the number of females is projected to increase...
to 54 percent by 2025 (AAMC, 2011). A recent survey of female fourth-year medical students reported the distribution of their interests in specialties as follows: 73 percent pediatrics, 55 percent family practice, 45 percent internal medicine, and 83 percent OB/GYN. There is also an interaction between ethnicity and gender, with an increasing number of female physicians represented within all ethnic groups. The ethnicity of both male and female physicians in 2008 may be seen in FIGURE 2.

This pattern of increasing number of female physicians is an inverse relationship to the number of physicians in independent private practice. In 2000, 57 percent of all physicians were in an independent practice, by 2013, that percentage had fallen to 33 percent. It is estimated that the percentage of family and specialty physicians in a private practice may fall to as low as 12–15 percent within the next five years.

Quite simply, physicians are leaving independent practice to become employees of hospitals, health-care corporations, and multispecialty groups. This trend is based on a variety of factors including the complexity of managing a medical practice, reduced reimbursement, and payment incentives through the Affordable Care Act, which pays hospital- and organization-owned physicians a facility fee in addition to the physician charges, as part of Accountable Care Organizations (ACOs).

Diversity Marketing
Corporate giants such as Chevrolet, Walmart, and yes, even McDonald’s, have crashed and burned when they arrogantly or ignorantly failed to recognize the power of cultured diversity apart from language alone. Attempting to insert one’s own brand, style, product, or successes from elsewhere into another culture is naive and may not produce the expected results. Likewise, not recognizing the growing diversity of the population may impair your practice’s ability to reach a sizable and valuable segment of the community.

**Ethnicity**

Beyond the significant gender shift, the shift in the ethnicity of physicians is substantial, and there is also an interaction between ethnicity and gender. The ethnicity of physicians in 2008 may be seen in FIGURE 2.

It is prudent, however, to look at the trends for entry into medical schools to understand the future ethnic composition of America’s physicians. Just as with the increasing female attendance, we see an increasing percentage of minority representations. Why is this important? It has been reported (Chen, 2013) that across the general population, patients have long-lasting and more harmonious relationships with physicians of the same race. Patients view their doctor appointments as more satisfactory and intimate and their doctors as more caring and compassionate. This is an important factor, as according to the American Medical Association, over 25 percent of all physicians are foreign trained. In my practice, we have utilized these trends, as can be seen in FIGURE 3, when marketing to the medical profession. In addition we continue to reach out to the global medical community with education in their own languages as seen in FIGURE 4 (Passel, 2008).

**FIGURE 2.** Ethnic representation of U.S. physicians.
This set of specific consumer tastes based on different life experiences, cultures, and social settings is referred to as “cultural programming” (Bloor, 2010). Because of the lasting imprint of cultural programming, the tastes, values, expectations, beliefs, ways of interaction, ways of entertaining, and lifestyle preferences of these groups tend to be different from others. These differences require the creation of customized marketing strategies. By catering to the racial, ethnic, and cultural differences in a diverse population, sophisticated businesses expand their market share and attract a new and loyal customer base by providing products and services desired by each minority group.

One only needs to spend an hour watching commercials on the Spanish-language television stations Telemundo and Univision to see how differently well-known companies and brands advertise to the Hispanic community. Products are positioned and merchandised within a cultural context, not just a translation from English into Spanish. Whether the product is dishwashing soap or cars, the entire marketing experience is shaped for the target audience. Companies that have enjoyed market penetration into these culturally diverse communities understand “Hablamos su idioma”—we speak your language, a much more powerful commitment than simply “Hablamos Espanol.”

Understand that there is diversity among minority groups themselves. For example, in Florida we have a large and diverse Hispanic population. They are not at all homogenous, coming from Mexico, Central and South America, and the Caribbean. Remember Latin America represents twice the land mass of the continental United States and twice the population. The entire continental...
United States would fit neatly into Brazil, whose native language is Portuguese, not Spanish. So if you are targeting a growing, well-educated, and affluent Brazilian immigrant population, recognize that your messaging needs to reflect not only a different culture but a different language than their South American neighbors. This certainly is the case as well with regions on the West Coast with large Asian populations representing immigrants from India, Indonesia, South Korea, China, Taiwan, Vietnam, Thailand, and Japan. To lump these very distant cultures into “the Asians” is insensitive and one which will not produce a good outcome.

Conclusion
The United States is undergoing significant demographic changes, which will continue well into this century. The combined buying power of America’s minorities will increase from $1.6 trillion in 2010 to more than $2 trillion by 2015. The Hispanic market alone, at $1 trillion (in 2010), is larger than the economies of all but 14 countries in the world. Moreover, 46 percent of all mothers in the United States are Latina, black, or Asian. This cultural diversity will be seen in both the general population and the physicians who care for them. Audiologists and practices that understand and embrace the richness and opportunities associated with cultural diversity will enjoy the rewards.

Richard Gans, PhD, is the executive director at the American Institute of Balance, in Largo, FL.

References


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If you look at the profession of audiology, the fitting of amplification and implants in children is one of the really strong legs that we have to stand on. If we can’t do this well and establish our territory to ensure that these technologies are optimized, then we will lose control over something that is our unique domain.
Richard Seewald, PhD, distinguished university professor emeritus from the National Centre for Audiology, University of Western Ontario, presented the 2013 Annual Marion Downs Lecture in Pediatric Audiology at AudiologyNOW! in Anaheim, California. His presentation, “A Retrospective on the Development of a Science-Based Approach to Pediatric Hearing Aid Fitting—What a Difference 40 Years Can Make!,” is available on demand at no charge on eaudiology.org. The annual Marion Downs Lecture is funded by the American Academy of Audiology Foundation with a grant from The Oticon Foundation.

Audiology Today (AT) was able to spend a few moments recently with Dr. Seewald to discuss his thoughts about pediatric amplification, audiology, and Marion Downs.

Audiology Today: Thanks, Richard, for taking the time to meet with us today, and congratulations on your outstanding lecture at AudiologyNOW! When did you first become aware of Marion Downs?

Richard Seewald: I first learned of Marion from a paper she published in 1968. My professor at Ithaca College (Dr. Walter Carlin who, along with Arthur Boothroyd, was a former student of Sir Alexander Ewing at the University of Manchester), where I was doing my undergraduate degree, handed me Marion’s recent publication (Downs and Sterritt, 1967) and suggested that I study the paper and consider the possibility of carrying out a research project in the area of infant hearing screening. I read the paper, and the importance of this concept grabbed me immediately. It seemed something that was revolutionary and very interesting to pursue, so we went ahead and screened 100 babies with the approach developed by Marion and her colleagues. I will be forever grateful to Marion for inspiring me, as a young undergraduate student, to have a meaningful career in pediatric audiology.

Audiology Today: What did you use for the screening procedure at that time? Certainly, ABR was not in widespread clinical use, and OAEs were not yet “discovered.”

Was it essentially the Moro, or startle, response?

Yes, we were looking for the limb movement or whole-body response (Moro reflex), as well as the aural-palpebral reflex—and how not, with a 100 dB SPL stimulus!

Yes, and it is fascinating to think how far we have come in less than 50 years, to consider that in virtually every state in the United States that we have completed OAE or ABR screening on every baby before they leave the hospital.

What did you do next?

Next, I headed to the University of Minnesota to work on my master’s degree in audiology. I did my master’s thesis under the supervision of Dr. Frank Lassman, looking at the effects of subject state and stimulus intensity on human heart rate response. The lab we used was a modified cortical response lab, and I used some of the equipment to do signal averaging of the human heart.

Of course. What did you do next?

We were using something called a Vicon Apriton. It was a battery-powered audiometer that was capable of delivering 100 dB SPL of white noise. The procedure included placing a loudspeaker over the baby’s head, delivering the signal, and looking for a response. I have no doubt that some of those newborns, who are now 45 years old, are still searching for the guy who woke them up from their well-deserved naps.
rate response to sound. My thesis was an outcome of my earlier experience looking at behavioral testing of newborns, with a hope to develop a more objective approach to infant hearing screening. Of course, this work predated the developments that were to come in measuring the auditory brainstem response and otoacoustic emissions.

What has always impressed me about your work is that, although you have approached the issues as a researcher, you also worked on problems pragmatically, with insights focused on patient outcomes.

I think that my experience as a clinician was critical in developing my further interest in trying to solve some everyday clinical problems. I will admit that early in my academic career, I was reluctant to admit to my “basic science” colleagues that my work was applied. I would tell them that I was working on “the developmental changes in external ear geometry in infants” and this seemed to keep them happy. Meanwhile I was hiding in my basement office on evenings and weekends working on the development of a new approach to pediatric hearing instrument fitting. Of course, the older I got, the less I cared about what the “real scientists” thought about this work!

Early on in your career, you were focused on diagnosis of hearing loss. When did you start thinking about treatment?

I think that the turning point for me was experiencing the rubella epidemic that we had in the Atlantic provinces of Canada in the early 1970s. I was working as a clinical audiologist at the Children’s Hospital in Halifax, Nova Scotia, along with Patricia Stelmachowicz and George Mencher. Fortunately, there were some sharp neonatologists in Halifax who knew that there was a connection between maternal rubella and hearing loss. Consequently, these babies were referred immediately to our clinic for hearing evaluations. In this case, it wasn’t a question of identification—we knew that these babies were at risk for hearing loss. What we couldn’t avoid seeing was that all elements were not in place to perform diagnoses and, for the many infants who did have hearing loss, to enter into an evidence-based and infant-friendly approach to habilitation, including the fitting of amplification. I developed this point of view in one of my favorite publications—a Viewpoint article in the American Journal of Audiology titled “Universal Habilitation” (Seewald, 1995).

Kind of like, okay, now what?

Exactly! It hit me in the face; I had to accept that I did not know how to fit a hearing aid to a three-month-old. I came to see that it is one thing to do the screening, and I don’t downplay the importance of it, but then it is quite another thing to diagnose and to provide help to these infants and their families in a meaningful way.

I will admit to you that although I have spent the majority of my career focusing on clinical applications of hearing aids, early on I shied away from the “uncertainty” involved with fitting infants. I was often paralyzed by the lack of “quantifiable” information available to me.

I don’t think that you’re the only one! I was working at a children’s hospital, so I would identify a baby with hearing loss every month or two. Pat, George, and I were working at the Children’s Hospital that served all maritime provinces in Canada. So we could kind of bounce along and ignore the limitations of what we had to work with at that time. But, in the case of the rubella outbreak, and we had 45+ babies and parents sitting in front of us—there was no way for us ignore the limitations of what we had to offer. Nonetheless, I do believe that we worked well together to provide the best services that we could at that time. Needless to say, all three of us learned a great deal from this event, and each of our careers evolved productively from this experience.

So that was the catalyst that brought you to your next stage with Mark Ross. Many young clinicians think of you as the father of the “SPlogram,” and although you have been primarily responsible for innovating it, through the DSL fitting method, you are quick to point out that you didn’t invent the concept.
There were a number of key factors that contributed to its development. Until the early 1980s, we really didn’t question the use of what was known as comparative hearing aid evaluation developed by Raymond Carhart (1946) in his article “A Practical Approach to the Selection of Hearing Aids.” It was the “holy grail” and had been used for decades.

There were a couple of publications that raised important questions regarding the comparative approach as a valid predictor of “real-world” success. For me, the most important was a paper by Brian Walden and colleagues (Walden et al, 1983), that pulled the rug out from under the comparative method that used repeated monosyllabic word recognition testing with adults.

Another gem was a paper by David Hawkins and colleagues (Hawkins et al, 1987) that examined the test-retest variability of aided sound field thresholds—the procedure most commonly used at that time for pediatric hearing aid fitting. There was this emerging collective realization that the measures we were using in the fitting of adults and children were not scientifically “sound.”

My interest, because of my previous experience in Halifax, was still on babies, and those publications in the early 1980s triggered interest in approaching hearing aid prescription of electroacoustic characteristics for infants and children in a more systematic and infant/child-appropriate way. The first underlying assumption was that there should be a predictable relationship between the degree of hearing loss and the amount of amplification that we provide to an individual (i.e., the prescription of amplification characteristics should be possible).

Others working on systematic prescriptive approaches to fitting at that time included some real pioneers such as Margo Skinner, David Pascoe, Robyn Cox, Denis Byrne, Harvey Dillon, and Mead Killion. The second assumption was that infants are not simply “little adults” and that the relevant differences between infants, children, and adults must be defined and accounted for in the development of any new approach to pediatric hearing instrument fitting.

And many of the individuals you mentioned also believed that the prescription of amplification characteristics should not simply be based on audiometric thresholds but on the measured or predicted residual auditory area.

Yes. There is another seminal paper (Gengel et al, 1971) that showed me a new direction regarding making use of the supra-threshold speech spectrum to provide as much audibility as possible, given the limitations of a child’s residual hearing characteristics. Some of this was a bit out of sequence, because you don’t always find the gems of the past until later in your process of searching the literature. In the end, as I studied the literature carefully, I had to do a lot of “unlearning” in the late 1970s and early 1980s.

Interesting turn of a phrase. The challenge is to have the courage to be open to unlearning, rather than to continue doing things that same way that you always have done them, when you discover a better way. Is that what happened? Yes, and it was very unsettling. In the end, what I had to do was erase the whiteboard (we called them blackboards at the time) and start again. My focus was always on babies; practically speaking, the comparative hearing aid evaluation with aided sound field thresholds simply didn’t work with three-month-old infants, and thus we needed to find a new approach to this important clinical problem.

Yes, I can see that by waiting until an infant is capable of performing a VRA task, for example, we have lost some valuable time in our goal to introduce amplified sound to the infant as early as possible.

Yes. That was part of the re-thinking process. And, as I suggested earlier, there was also a need to question all of our assumptions regarding the use of HL to SPL acoustic transforms that were only relevant for the average adult. In time, however, I began the process of moving from feeling unsettled to the joys of discovery. For me, the 1980s were the most exciting for me because I could put some things behind me and look forward to how we might do this a lot more effectively.

So let’s talk a little bit about your work with Mark Ross. I have always been struck by his ability to capture the essence of what it is like to have a hearing loss, from the perspective of an audiologist and a patient. I frequently paraphrase him when discussing the lack of acceptance of FM technology in adults, despite the obvious signal-to-noise benefits. I heard Mark say many times that when you wear visible hearing aids, you are admitting to the world that you have a disability, while if you use FM/assistive technology, you actively involve the outside world in your disability, and that is difficult for many people. What was it like to have him as a mentor?
I think that Mark is one of the greatest philosophers that we have had in our profession. He was always thoughtful, philosophical, and patient centered. He always supported me in my work, and I was blessed to have him as my mentor.

During the time that I was working in Nova Scotia, the first edition of Pollack’s Amplification for the Hearing Impaired was published, which was the first text on hearing aids. In there, I found a chapter written by Mark Ross on fitting and selection of amplification for preverbal hearing-impaired children. It was beautifully written, philosophical, and he laid out an alternative to the way that we were fitting amplification in the 1960s and 1970s. If you look at Mark’s 1975 chapter, you’ll find some early versions of what we now refer to as SPLograms.

After reading Mark’s chapter, I decided to go to the University of Connecticut in 1976 to study with him. You will also find something that looks like our modern day SPLogram in a brilliant article that Norman Erber published in 1973 (Erber, 1973). To my knowledge it was Norman Erber who coined the term SPLogram sometime in the 1970s.

And you finished your PhD in 1981 and returned to Ithaca College for two years before returning to Canada, where you ultimately ended up at the University of Western Ontario, and where you have been since 1986. Your work with the Desired Sensation Level Fitting Method has been well chronicled (Seewald et al, 2005), and it is safe to say that it has made a tremendous global impact on the discipline of pediatric amplification. If you were starting over right now, what do you see as the critical “whiteboard” issues right now that you would focus your attention on? Thanks for asking that question. If this profession is to evolve and to gain even greater respect in the health sciences, I really feel strongly that the field of audiology needs to embrace some of these emerging/growing disciplines such as health services research, epidemiology, knowledge translation, evidence-based practice, among others.

There is wonderful work being done that can help the profession of audiology to be more effective—to better understand issues such as patient compliance with our recommendations and patient satisfaction, for example. I look at my career, and while I’ve spent so many years fractionating decibels, there have been these larger service-delivery, programmatic issues that we really need to attend to. I feel very strongly about practice guidelines and best practice protocols. For example, from my work in developing provincial infant hearing and communications development programs, I have come to understand that if everybody is doing something different, there is absolutely no way to evaluate the performance of our program.

Interesting you bring that up. One issue that is bound to emerge in the near future is self-programming of hearing aids, as we see more and more “apps” for patient engagement in the fitting process. While this is exciting, it also brings to mind some of the concerns over the “comparative” fitting approach that we discussed earlier, particularly for children. Through such emerging technologies we may take all that we have learned about best practices and evidence-based clinical protocols out of the equation.

To end on a positive note, I believe that our profession has a great deal to offer and a great deal to be proud of. We only need to compare where we were in 1970 with where we are today to appreciate the enormous knowledge we have generated and the extent to which our clinical effectiveness has increased. For me, the administration of infant hearing screening programs, the performance of sophisticated evidence-based diagnostic protocols, and the accurate fitting of amplification and implants in children are examples of the really strong legs that we have to stand on. Additionally, of course, are the support, compassion, and information we offer to families to empower them in advocating for their children. As a profession, these services we provide should make us extremely proud.

Thank you for taking the time to speak with us today, Richard. As a final note, one of the most poignant moments in your Marion Downs lecture was when you took the time to thank your mentors—“the elders”—who helped shape your career. As you said, it takes a village to shape a career, and clearly the elders impacted your thinking through their work and their generosity. In that tradition, I am certain that through your research, lectures, and publications, you have become an elder for future generations.
Richard Seewald, PhD, is a distinguished university professor emeritus from the University of Western Ontario. He presented the Annual Marion Downs Lecture in Pediatrics at AudiologyNOW! 2013 in Anaheim, California.

David Fabry, PhD, is the content editor for Audiology Today and the managing director of sales for Starkey Hearing Technologies.

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An Opportunity for Collaboration: The Profession of Audiology Obtains Independent Seat at the RUC HCPAC

BY KADYN WILLIAMS, PAUL FESSIS, ERIN MILLER, AND SHARMILA SANDHU

The Academy is pleased to report that, at the October 2013 meeting, the RUC HCPAC voted to approve a separate seat be created for the profession of speech-language pathology and that the current audiology seat be represented by the two leading audiology organizations, the Academy and ASHA, on a rotating basis.

For the first time, the professions of audiology and speech-language pathology have separate and distinct representation at the American Medical Association/Specialty Society Relative Value Scale Update Committee (RUC) as a result of a newly created seat on the RUC Health Care Professionals Advisory Committee Review Board (HCPAC), referred to as the “RUC HCPAC.” From its organizational inception, the American Academy of Audiology has advocated that audiology is an autonomous profession, distinct from speech-language pathology and the broader notion of a communication disorders discipline. A seat at the RUC HCPAC committed solely to the distinct needs of audiology supports the Academy’s vision for the profession and establishes parity with all other allied health-care professions on the RUC HCPAC.

Why Should Audiologists Care About Independent Representation on the RUC HCPAC?

It is important to understand the relevance of the RUC HCPAC process to audiology reimbursement. In 1992, the American Medical Association (AMA) created a mechanism to develop and value health care procedures, supported by the Centers for Medicare and Medicaid Services (CMS). The CPT Editorial Panel allows recognized health-care specialties to develop and revise Common Procedural Terminology (CPT®) codes for individual procedures, while the RUC recommends a relative value for physician work and direct practice expense inputs for each code, representing the professional time, complexity, and resources needed to complete the procedure. CMS considers the AMA RUC HCPAC relative value recommendations when developing the annual Medicare fee schedule. In addition, many commercial payers use the Medicare fee schedule as a point of reference when developing their proprietary fee schedules. Therefore, the RUC HCPAC relative value recommendations, if accepted by CMS, greatly impact reimbursement.

Both the CPT and RUC “branches” of the AMA process have a designated Healthcare Professional Advisory Committee (HPCAC), which represents limited licensed practitioners and other allied health
The AMA/Specialty Society Relative Value Scale Update Committee (RUC)

Annual updates to the physician work relative values are based on recommendations from a committee involving the AMA and national medical specialty societies. The AMA formed the AMA/Specialty Society Relative Value Scale Update Committee (RUC) to act as an expert panel in developing relative value recommendations to CMS. The AMA established a process in the course of its activities to develop relative values for new or revised CPT codes. This process was established in the course of the AMA’s normal activities and as a basis for exercising its First Amendment right to petition the federal government as part of its research and data collection activities, for monitoring economic trends and in connection and related to the CPT development process. In addition, CMS is mandated to make appropriate adjustments to the new RBRVS in response to the Omnibus Budget Reconciliation Act of 1989 to account for changes in medical practice coding and new data and procedures. The purpose of the RUC process is to provide recommendations to CMS for use in annual updates to the new Medicare RVS.

The RUC represents the entire medical profession, with 21 of its 31 members appointed by major national medical specialty societies including those recognized by the American Board of Medical Specialties, those with a large percentage of physicians in patient care, and those that account for high percentages of Medicare expenditures.²

Importantly, for many years, the professions of audiology and speech-language pathology have been represented by one seat on the CPT and RUC HCPACs. In 2011, following continuous Academy efforts, the profession of audiology was awarded a unique seat on the CPT Editorial Panel. The Academy petitioned and was granted representation on the CPT HCPAC, effective January 2012, with Brad Stach, PhD, serving as a CPT advisor, and Paul Pessis, AuD, serving as the alternate advisor. In October 2013, the Academy learned that the RUC HCPAC will support that the two distinct professions of audiology and speech-language pathology be represented separately on this committee. The Academy is grateful to the AMA and the RUC HCPAC for recognizing that audiology and speech-language pathology are best served when each profession holds an autonomous seat.

Pathway to Audiology Independence on the RUC HCPAC

To appreciate the significance of this decision by the AMA and the RUC HCPAC, it is important to understand some of the history surrounding the quest for audiology’s independence on the Committee. The original HCPAC seat, granted in 1992 when the Academy was in its organizational infancy, was created for the profession of audiology. At the time, as an established professional organization, ASHA was the designated representative for the profession of audiology. Speech-language pathology services were not assigned work relative values as there was no provision for the profession to independently report their services to Medicare. However, ASHA was permitted to represent speech-language pathology in reviewing practice expense inputs through the audiology seat.

In 2001, representatives from the Academy’s Coding and Reimbursement Committee began attending both the CPT and RUC HCPAC meetings as observers. This participation generated questions regarding the anomaly of
The CPT Editorial Panel

The CPT Editorial Panel is responsible for maintaining the CPT code set. This panel is authorized by the AMA Board of Trustees to revise, update, or modify CPT codes, descriptors, rules and guidelines. The Panel is comprised of 17 members. Of these, 11 are physicians nominated by the National Medical Specialty Societies and approved by the AMA Board of Trustees. One of the 11 is reserved for expertise in performance measurement. Supporting the CPT Editorial Panel in its work is a larger body of CPT advisors, the CPT Advisory Committee. The members of this committee are primarily physicians nominated by the national medical specialty societies represented in the AMA House of Delegates. Currently, the Advisory Committee is limited to national medical specialty societies seated in the AMA House of Delegates and to the AMA Health Care Professionals Advisory Committee (HCPAC), organizations representing limited-license practitioners and other allied health professionals.³
status to speech-language pathologists (SLPs) and permitted private practice SLPs to bill Medicare. The new law opened the door for discussion regarding an independent audiology seat on the HCPAC. This legislation allowed the SLP profession to pursue its own independent seat on the RUC HCPAC. ASHA, however, did not pursue a separate seat for SLP, choosing instead to continue to represent both professions through one seat. Academy subject matter experts and leadership contended that the change in provider status for SLPs was an opportunity to request independent representation for the profession of audiology on the RUC HCPAC. Therefore, in July 2008, the Academy petitioned AMA to create separate seats for the two distinct professions of audiology and SLP.

Academy leaders began to appreciate the complexities of the CPT code development and valuation process and started to explore sources of support for the Academy’s coding and valuation efforts at AMA RUC and CPT meetings, which involves diligent preparation and travel to meetings held throughout the country, as well as, carry out the many other functions such as member education and advocacy. Members of the Academy’s Board of Directors, subject matter experts, consultants, and professional staff met in 2008 to assess the current needs for ongoing participation at these meetings. The outcome was the establishment of the Academy’s Practice Policy Advisory Council (PPAC). The council was charged with obtaining (and subsequently maintaining) an independent seat for audiology on both the CPT HCPAC and the RUC HCPAC. Since its establishment, the council has tirelessly advocated for separate and distinct representation for the profession of audiology on the CPT and RUC HCPAC committees. These dedicated volunteers have continued to attend every CPT and RUC meeting (six meetings per year) since the inception of the PPAC in 2008, but as previously noted, many of PPAC’s members have a history of attendance and representation for the profession that pre-dates the creation of the PPAC and began in 2001.

In October 2008, the Academy presented its request for separate representation before the full RUC HCPAC. The decision of the committee was that audiology was “meaningfully represented” by ASHA because they viewed ASHA as an “umbrella organization” for the professions of speech-language pathology and audiology. While the Academy did not agree with the committee’s decision, PPAC representatives continued to attend AMA meetings and provide input to ASHA on behalf of the profession.

In August 2012, the Academy again petitioned the AMA for separate representation for the profession of audiology on the RUC HCPAC. Specifically, the Academy sent AMA and RUC HCPAC leadership an analysis of the governing document on RUC HCPAC composition. As a result of these continued efforts and unwavering desire for audiology to have independent representation on the RUC HCPAC, in October 2012, the Academy was granted a meeting with ASHA, HCPAC leadership and AMA staff to discuss Academy concerns with the composition of the HCPAC. The outcome of the meeting was that AMA and HCPAC leadership requested the two organizations work together to develop a compromise proposal to ensure audiology is best represented on the HCPAC.

Between January and March of 2013, Academy representatives engaged in three meetings with ASHA representatives to seek a compromise solution to the representation of audiology on the RUC HCPAC. Unfortunately, compromise could not be achieved. The Academy subsequently initiated another meeting in April 2013 with AMA.

RUC Survey on Vestibular Procedures—Your Input Is Essential

The profession of audiology needs your help! As part of our new RUC collaboration on the audiology seat, the Academy and ASHA will be surveying CPT codes this November to assess the audiologist’s “professional work” value for each procedure. Professional work value includes factors such as mental effort and judgment, technical skill, and psychological stress. The work value recommendations that the RUC makes to CMS are based in large part on these survey results completed by audiologists who perform the procedure in question. Your participation in the survey process and the data it generates is essential to estimate the professional work and time necessary to perform audiology procedures. If you have received an e-mail from the Academy or ASHA on this topic, please be sure to follow the electronic link to complete the survey. Staff contact information for questions will be included in the message you receive. We look forward to hearing from you!
and RUC leadership requesting that they to facilitate a solution for the profession of audiology. As a result, the AMA hosted a meeting at their Washington, DC, office to facilitate a resolution on August 6, 2013. During this meeting, ASHA maintained that audiology and speech-language pathology were well represented under one shared seat and did not support the need for each profession to have its own representative seat on the RUC HCPAC. The Academy presented data regarding the educational and scope of practice differences between the two professions and emphasized how the current representation (one seat for two professions) has the potential to result in compromised outcomes for audiology and does not have safeguards in place for possible conflicts of interest.

Following the presentations, the Academy and ASHA agreed to continue to negotiate in order to facilitate a compromise that would be in the best interests of the profession of audiology. Again, agreement on the concept of two autonomous seats for each profession could not be reached. When the AMA recognized a joint proposal was not forthcoming, the AMA submitted a proposal to the RUC HCPAC for discussion and vote at the RUC HCPAC face-to-face meeting on October 3, 2013.

**AMA Proposal to the HCPAC**

Based in part on the discussions at the August 6 meeting between the Academy and ASHA regarding potential compromise solutions for the representation of audiology, the AMA developed the following proposal for HCPAC discussion and vote in October:

1. Due to the 2008 change in the Medicare statute allowing speech-language pathologists to independently bill Medicare for their services, the RUC HCPAC should create a separate seat for speech-language pathology, with a RUC HCPAC Member and Alternate appointed by the American Speech-Language-Hearing Association (ASHA).

2. Due to the substantial audiologist memberships in both ASHA and the American Academy of
The Profession of Audiology Obtains Independent Seat at the RUC HCPAC

Audiology, it is appropriate that the audiology RUC HCPAC seat be shared by ASHA and the Academy.

a. The Academy and ASHA should each appoint an individual for the audiology RUC HCPAC seat for a three-year term.

b. One individual will serve as the audiology RUC HCPAC member and the other individual will serve as the audiology RUC HCPAC alternate member, rotating on an annual basis.

The Academy is pleased to report that, at the October 2013 meeting, the RUC HCPAC voted to approve a separate seat created for the profession of speech-language pathology and that the current audiology seat be represented by the two leading audiology organizations, the Academy and ASHA, on a rotating basis. The Academy offered ASHA the first opportunity to appoint an audiology advisor and will serve the first year as the alternate advisor. The Academy will assume the RUC HCPAC advisor seat in 2015, with ongoing annual rotation. This accomplishment would not be possible without the determination and persistence of the members of the PPAC: Kadyn Williams, AuD (chair); Annette Burton, AuD; Alan Desmond, AuD; Paul Pessis, AuD; and Brad Stach, PhD.

Moving Forward
The Academy’s pursuit for an independent seat on the RUC HCPAC for the profession of audiology was not without philosophical differences among some of the professional audiology organizations. Having an independent voice at both the CPT and RUC HCPAC is in alignment with all other specialties represented on these panels. While other allied health professions such as physical therapy/occupational therapy and psychology/social work have areas of common care that may overlap, each profession has individual representation at the CPT and RUC HCPAC. The same is now true for the professions of audiology and speech-language pathology. The RUC HCPAC decision allows the profession of audiology to have an autonomous voice and function independently in this important code development and valuation process.

Audiology, like all other health-care professions, faces ongoing challenges in the evolving health-care delivery model in this country. The professional audiology organizations will need to work together to generate the strongest voice possible when advocating with regulators and policymakers, not to mention consumers of health care to ensure continued access to quality hearing and balance care. Critical to this advocacy are the dual processes of creating and modifying CPT codes to best describe the services provided and securing correct valuation of audiological procedures. The Academy and ASHA have already begun preliminary discussions on how to work collaboratively with all stake holders in this process and we welcome the opportunity to work alongside ASHA, the Academy of Doctors of Audiology (ADA), and other audiology organizations to educate our colleagues about the value of our services and bring a unified, cohesive voice to the profession of audiology.

Kadyn Williams, AuD, is the co-owner of Audiological Consultants of Atlanta and chair of the Practice Policy Advisory Council.

Paul Pessis, AuD, is president of North Shore Audio-Vestibular Lab in Highland Park, IL, a member of the Practice Policy Advisory Council, and the Academy’s new AMA RUC HCPAC representative.

Erin Miller, AuD, is clinical faculty and coordinator of the Northeast Ohio AuD Consortium and serves as the board liaison to the Practice Policy Advisory Council.

Sharmila Sandhu, Esq., is the Academy’s director of regulatory affairs and staff liaison to the Practice Policy Advisory Council.

Notes

1. CPT® is a registered trademark of the American Medical Association.


I AM AN AUDIOLOGY ADVOCATE.

Advocating for audiology is something I am compelled to do…it is the only way to grow and improve the profession.

—John Coverstone, AuD

BE AN ADVOCATE. Challenge yourself to do at least ONE of these today.

1. Write to your congressional representatives in support of audiology legislation. Use the Legislative Action Center at http://capwiz.com/audiology. This takes less than two minutes!

2. Put letters at your front desk or waiting area for your patients to sign. Patients make great advocates.

3. Give to the Academy’s Political Action Committee (PAC).

4. Get involved in both your state and national audiology association.

5. Visit your congressional representatives when they are in their home offices—often a personal visit is more memorable than a letter.

Get involved, visit www.audiology.org and search keyword “advocacy” for more information.
WELCOME BACK to an ongoing series that challenges the audiologist to identify a diagnosis for a case study based on a listing and explanation of the nonaudiology and audiology test battery. It is important to recognize that a hearing loss or a vestibular issue may be a manifestation of a systemic illness. Being part of the diagnostic and treatment “team” is a crucial role of the audiologist. Securing the definitive diagnosis is rewarding for the audiologist and enhances patient hearing and balance health care and, often, quality of life.

—Hillary Snapp, AuD, Investigator in Chief

electrocochleography (ECoG), audiometric evaluation, and a comprehensive tinnitus evaluation and counseling session.

Are there any additional examinations that should have been included in the patient workup? Do the presenting symptoms assist you with making a differential diagnosis?

**Audiological Findings**

- **Immitance:** Tympanometry and acoustic reflexes demonstrated normal middle ear function bilaterally (FIGURE 1).

**Remember:** Take caution with performing acoustic reflexes on any patient who reports subjective tinnitus or sound sensitivities. The loud intensity of the stimulus may cause an aggravation of the patient’s symptoms. Instead, consider performing loudness discomfort level (LDL).

**FIGURE 1.** Audiologic examination demonstrating normal tympanograms, present acoustic reflexes, and normal hearing sensitivity from 250–8000 Hz bilaterally.
testing first before performing acoustic reflexes. In the case of a tinnitus patient, acoustic reflexes should not be presented at intensity levels higher than the patient’s LDL.

- **Audiometry:** Normal hearing sensitivity and word recognition ability bilaterally. High frequency audiometry was within normal limits bilaterally (9,000–14,000 Hz) (FIGURES 1 AND 2).

- **Distortion Product Otoacoustic Emissions (DPOAEs):** Present 1500–10,000 Hz, bilaterally (FIGURE 3).

*Why are OAEs important to evaluate when assessing a tinnitus patient? Do OAEs provide any valuable information for tinnitus patients with normal hearing sensitivity?*

OAEs are expected to be present in patients with normal hearing. Normal hearing sensitivity with reduced or absent OAE findings may be a subclinical indicator that changes are occurring on a cellular level within the inner ear. In tinnitus patients with normal hearing sensitivity, it is not unusual to see a patient pitch match their tinnitus to a frequency where reduced or absent OAE function is observed.

- **Electrocochleography (ECoG):** Negative for presence of endolymphatic hydrops for both the right (0.22 SP/AP ratio) and left (0.31 SP/AP ratio) left ear, where >0.45 is considered to be a positive finding for TM electrode placement.

*Why do you think that the ENT ordered the ECoG evaluation? Are there any additional tests that you would have considered to help with your differential diagnosis?*

Tinnitus is often the first sign of Ménière’s disease (Ying and Arriaga, 2011) which is also commonly associated with dizziness. The patient reported both of these symptoms in his case history, triggering the ENT to consider it as part of the differential diagnosis.

- **Neurodiagnostic Auditory Brainstem Response (ABR):** Negative for the presence of retrocochlear involvement bilaterally. All absolute, interpeak, and interaural wave latencies were within normal limits bilaterally.

**Tinnitus Evaluation**

- The patient reported that he was aware of his tinnitus 25 percent of waking hours. Of this 25 percent, the patient reported his tinnitus to be disturbing five percent of the time.

- **Tinnitus Reaction Questionnaire (TRQ) assesses disturbance severity of tinnitus.** The patient’s results demonstrated a score of 30, which indicated significant disturbance.

- **Tinnitus Handicap Inventory (THI) assesses the handicap the patient experiences secondary to their tinnitus.** Results demonstrated a score of 42, which is consistent with a category 3, or moderate handicap. This suggests that the tinnitus is mostly noticed in the presence of background noise, although daily activities can still be performed.

- **Tinnitus pitch was matched to a 6000 Hz pure tone.**

- **Broadband noise minimum masking level (BBN MML) is performed to determine the patient’s threshold to a white noise.** The patient’s BBN MML was identified at ~10 dB HL. The BBN was then increased in intensity until the patient indicated that his tinnitus was completely masked. This was achieved at 10 dB HL, resulting in a BBN MML sensation level (SL) of 20 dB SL (BBN MML – masking threshold = BBN MML SL). This means that for a patient to have complete relief from his tinnitus, the presenting stimulus must be at least 20 dB HL or greater. This is important when considering sound therapy management options. If a patient is fit with a tinnitus sound generator, it must be able to produce a level of output equal to or greater than the patient’s BBN MML SL for the patient to achieve relief. Furthermore, it is important to consider the patient’s BBN MML SL in correlation with the patient’s LDL levels. If a patient requires a significant amount of BBN to cover their tinnitus but also has decreased LDLs, tinnitus management may be difficult for this patient to achieve.

- **LDLs were established to assess the patient’s tolerance to sound.** To perform LDL testing a pure tone noise is presented one ear at a time, at an increasing intensity for specific frequencies (typically 500, 1000, 4000, and pitch matched). The patient is to identify when a sound is uncomfortably loud, which is defined as a level that they would not be able to tolerate for greater than 1 minute in duration. The patient demonstrated normal sound tolerance levels for both ears. Sound tolerance levels of 90 dB HL or greater are considered normal.
Residual inhibition (RI) was not demonstrated. RI is the suppression of tinnitus by presenting the patient with sounds that mask their tinnitus. The purpose of the RI test is to see if relief from tinnitus (to any degree) is experienced once the masking stimulus is removed. For test purposes, NBN is presented at least 10 dB SL at the frequency of the pitch match for the duration of one minute.

In some cases, the patient may experience a decrease in their tinnitus for seconds to much longer after removing the masking stimulus. RI is used as a prognostic indicator, and positive results may suggest that the patient would benefit from sound therapy. When a patient does not achieve RI, it is not necessarily a negative prognostic indicator; rather, the finding is considered to be neutral. On the other hand, if a patient reports that his or her tinnitus is increased poststimulus, this is considered to be a negative prognostic indicator and may suggest that this patient would not benefit from sound therapy.

Based on the patient's history and combined results, what could be the cause of the patient's tinnitus?

**FIGURE 2.** Audiologic examination demonstrating normal high frequency hearing sensitivity from 9,000–14,000 Hz bilaterally.

**FIGURE 3.** OAE test results demonstrating present and robust emissions from 1,500–10,000 Hz bilaterally. Results are consistent with audiometric findings for both ears.
When contemplating the differential diagnoses above consider the following: Ménière’s disease typically presents with intermittent vertigo, fluctuating hearing loss, roaring low-pitched tinnitus, and/or aural fullness on the affected side. This patient’s results were negative for the presence of asymmetric, low frequency sensorineural hearing loss as well as for the presence of endolymphatic hydrops. Should the results have come back positive, a comprehensive vestibular evaluation would have been recommended. Patients with vestibular schwan-noma typically present with asymmetrical sensorineural hearing loss that is often associated with unilateral tinnitus and/or dizziness. The audiometric findings resulted in normal symmetric hearing, and normal acoustic reflexes, and his ABR was not suggestive of retrocochlear involvement for either ear.

While it is possible that this patient is simply experiencing subjective tinnitus or that his preexisting psychological involvement is a contributing cause, it is more likely that the tinnitus is somatic in nature. Approximately 65–80 percent of patients that report tinnitus have the ability to conduct somatosensory modulation, or changes in their tinnitus, by performing simple physical maneuvers or muscle contractions (Sanchez and Rocha, 2011). This type of tinnitus is referred to as “somatic tinnitus” or “somatosensory tinnitus.” In this CSI case, the patient was experiencing somatic tinnitus related to temporomandibular joint (TMJ) syndrome. In addition to the jaw, maneuvers of the head, neck, limbs, eyes, and orofacial area can cause or change tinnitus, as can applying pressure to myofascial trigger points or stimulation to the skin of the face and hands (Sanchez and Rocha, 2011). While maneuvers may cause a change in pitch or tonality, the most common change is that of intensity (Behr, 2011).

Our patient reported an increase in tinnitus intensity every time he would yawn. Because the patient has an issue with his TMJ, the action of his yawning evoked an afferent nerve response, which is innervated by the sensory part of the trigeminal nerve (Sanchez and Rocha, 2011). Afferent nerves from the head or neck muscles, which are associated with TMJ, are known to interact with central auditory pathways in the dorsal cochlear nucleus (DCN), which ultimately can be perceived as tinnitus (Behr, 2011). TMJ can occur both with and without the perception of tinnitus. Symptoms include pain or tenderness in the joint of the TMJ, myofascial pain, limitation of jaw movements, clicking sounds from the joint, joint/jaw locking, oral parafunction, clenching/rocking of the teeth, and fatigue in the jaw (Bürgers and Behr, 2011). Of note, it would have been beneficial if the medical physician performed a TMJ screening during the patient visit to assist with differential diagnosis. When an individual is stressed, it is not uncommon for them to subconsciously clench their jaw, which in turn increases the afferent responses to the DCN, thereby eliciting an increase in perceived tinnitus. This explains why our patient reported an increase in his tinnitus during stressful periods. Furthermore, patients with TMJ may experience mild dizziness or imbalance, as noted by our patient.

Tinnitus providers should be aware of concomitant somatic involvement. For example, somatosensory tinnitus has been known to be present in individuals who have cervical spine involvement. Awareness of posture in patients reporting tinnitus may be helpful with differential diagnosis (Sanchez and Rocha, 2011). The jaw and the cervical spine are part of an integrated motor system that projects to the cochlear nucleus. Patients
experiencing dental occlusion may project their jaw abnormally and in turn adjust their posture. This change in jaw placement and as well as posture causes a muscular imbalance by affecting muscles controlling both the jaw as well as the cervical spine (Sanchez and Rocha, 2011). This imbalance may cause a stimulation of somatosensory input, resulting in perceived tinnitus by the patient.

**Treatment**

It is important for the evaluating audiologist to be aware of the signs and symptoms associated with somatic tinnitus so that appropriate referrals can be made for management. Aside from the audiologist and ENT, patients suffering from concomitant somatic involvement may warrant a multidisciplinary approach, such as an oral surgeon in conjunction with an orthopedist or physiotherapist, for complete management of their symptoms.

In some cases, the management of the somatic component can improve or resolve the patient’s tinnitus. Our patient was referred to an oral surgeon for the evaluation of possible TMJ involvement. He was also counseled on stress management, reduction of alcohol intake, and continuing with his established mental health specialists. Incorporating cognitive behavioral therapy (CBT) into this mental health management was also encouraged.

Common management options for TMJ include:

- Conservative methods such as eating soft foods, application of heat/cold packs
- Splint or bite guard
- Pharmacological intervention such as a muscle relaxant or pain reliever
- Exercises/relaxation techniques for the jaw muscles and avoidance of extreme jaw movements
- Corrective dental procedures
- Transcutaneous electrical nerve stimulation (TENS)
- Ultrasound, radio wave therapy
- Trigger-point injections (such as Botox, Lidocaine)
- Surgery (such as arthrocentesis, arthroscopy, open-joint surgery)

In many cases, simply managing the TMJ can alleviate the tinnitus enough that the patient does not require further tinnitus management. For those patients who continue to suffer from bothersome tinnitus, sound therapy or lifestyle management may be beneficial.

It is important to note that not all patients suffering from somatic tinnitus will experience improvement in their tinnitus, even if the somatosensory component is addressed. In these cases, the patient may benefit from further tinnitus management. Examples may include lifestyle management such as relaxation techniques; proper diet and exercise; sound therapy; counseling; and reduction of caffeine, alcohol, salt, and tobacco. 

Tricia Sheehan, AuD, is an assistant professor at the University of Miami Medical Center in Miami, FL.

**References**


The American Academy of Audiology Foundation is pleased to announce that distinguished researcher, Richard Salvi, PhD, will provide the Topics in Tinnitus Lecture at AudiologyNOW! 2014. His presentation, "Phantom Sound Tinnitus: Human Brain Imaging, Neural Plasticity, Animal Models, and Therapy" (.3 CEUs/ABA Tier 1), will be featured on Friday, March 28, 3:00–6:00 pm ET, at the conference in Orlando. In addition, the lecture will be Webcast live and on demand on www.eaudiology.org for those who are unable to attend the Florida meeting. A generous grant from Widex USA allows the Foundation to offer this exceptional educational session in all three formats, allowing audiologists from around the world to participate in Dr. Salvi’s lecture.

Dr. Salvi’s Topics in Tinnitus Lecture will cover the evolution of theory about phantom sound tinnitus. Originally, the neural generator responsible for tinnitus and hyperacusis was thought to reside in the cochlea; however, masking data and clinical studies suggest that it might be generated in the brain. Dr. Salvi will discuss his research that evaluated this hypothesis, using PET imaging techniques to locate regions in the human brain activated when tinnitus loudness changed in response to an oral facial movement (OFM), lateral eye gaze (GET), or lidocaine. He found that the patterns of brain neural activity evoked by OFM, GET, and lidocaine were different from those evoked by a real sound, which suggested that the neural generator(s) for tinnitus reside in the brain rather than the ear. He will also address ototoxicity and tinnitus, specifically how he developed a behavioral model in which rats were trained to “tell us” if they were experiencing tinnitus, as he sought to identify potential drugs to treat tinnitus. Finally, Dr. Salvi’s presentation will include a discussion about how the development of new brain imaging techniques and animal models has greatly advanced our understanding of the neural bases of tinnitus.

A SUNY distinguished professor in the Department of Communicative Disorders and Sciences at the University at Buffalo and the director for the Center for Hearing and
Deafness, Dr. Salvi received his PhD in experimental psychology from Syracuse University and later completed a postdoctoral degree in auditory neuroscience at the Upstate Medical Center in Syracuse. He has served on numerous national and international grant review panels and the editorial board of more than a dozen journals. He has also published nearly 400 scientific papers, research reports, and books related to noise-induced hearing loss, tinnitus, hyperacusis, ototoxicity, brain imaging, and age-related hearing loss.

Inaugurated in 2013, the Topics in Tinnitus Lecture series is supported with a multiyear grant from Widex USA. “We sincerely appreciate the generous support of Widex that makes this lecture series possible, both on-site in Orlando and online,” said Foundation board chair Angela Shoup, PhD, upon hearing that Dr. Salvi had accepted her invitation to speak. “With animal and human research interests spanning brain imaging, pharmacological treatment, and molecular biology of tinnitus, Dr. Salvi’s presentation is certain to be informative and thought-provoking. We thank our colleagues at Widex who have once again partnered with us to advance quality educational opportunities for audiologists, both here and abroad.”

For more information about the Topics in Tinnitus Lecture, visit www.audiologyfoundation.org.

Seven Students Awarded Foundation Scholarships

The AAA Foundation is pleased to announce the recipients of the 2013-2014 Empowering People Scholarships, Roger Ruth Memorial Scholarship, and Sadanand Singh Memorial Scholarship. The Foundation’s Educational Grants Review Committee (EGRC) carefully evaluated each application, and, as is often the case, multiple rounds of review were required due to the superior quality of the submissions. Indeed, scoring seems to get more difficult each year (a good problem to have!), and we applaud the accomplishments of all of our candidates.

Congratulations to the scholarship recipients, and best of luck in your academic endeavors!

Empowering People Scholarships ($5,000)
Awarded to students who show exceptional promise as clinical audiologists.

Amy Lewis
University of Tennessee

Monica Majewski
Gallaudet University

Maria Pomponio
Towson University

Sherry Rauh
Nova Southeastern University

Karen Steurer
University of Iowa

Roger Ruth Memorial Scholarship ($1,000)
Awarded to a student who demonstrates outstanding clinical skills and who shows promise in clinical research and service to the hearing health community.

Jessica Middaugh
Ohio State University

Sadanand Singh Memorial Scholarship ($1,000)
Awarded to a minority or international student who shows exceptional promise in audiology research.

Efoe Nyatepe-Coo
Northwestern University

The Foundation thanks the Oticon Hearing Foundation, the Singh family, and the members of the Academy who support the scholarship program with their annual gifts!
Participants Selected for Project Amazon Humanitarian Trip to Brazil

Julia Shih, AuD, of Love Hearing Services in Pasadena, California, and Cynthia Frey, a third-year AuD student at Gallaudet University, have been selected to travel to Parintins, Brazil, this November as part of the Project Amazon humanitarian project. Project Amazon is a collaboration between the Oticon Hearing Foundation and the AAA Foundation that enables volunteer audiologists to support sustainable hearing care to children and adults from more than 300 local communities that surround Parintins.

In addition to providing much-needed care, Shih and Frey will be blogging daily about their trip. Follow their journey in real time, as they encounter new sights, surroundings, cultures, and most importantly, patients; visit the Foundation website for more information.

As they say in Portuguese, boa sorte e boa viagem! (Good luck and good travel!)

A Discount, a Donation, and Some Serious Bling

From cochlea jewelry and silk screen ties to hearing loss awareness t-shirts and dog bandanas, AuDBling has something perfect for colleagues, family, and friends (even furry ones!). Thanks to owner Noël Crosby, AuD, you will receive five percent off your purchase, and five percent of the cost of your total order is donated to the Foundation to support student initiatives. To redeem this offer, simply visit www.audbling.com through December 31 and enter promo code “SAA2013” at checkout.

State Audiology Organizations: Funding Available to Attend Your Local Science Fair

When did you first learn about the audiology field? High school? College? Increase awareness about the profession among middle and high school students by volunteering to judge at your local science fair. It’s a great opportunity to meet science-minded students, encourage their intellectual curiosity, and show your passion for the profession. To facilitate nationwide involvement in this initiative, the AAA Foundation is offering state audiology organizations up to $300 to recognize students presenting science fair projects in hearing, balance, and sound. Grant applications are accepted on a rolling basis through March 15, 2014. For more information, visit www.audiologyfoundation.org.

Receive Travel Assistance for AudiologyNOW! 2014

If you are experiencing financial hardship (due to medical, family, professional, or other personal reasons) and cannot otherwise attend AudiologyNOW!, the AAA Foundation encourages you to apply for convention support through the Member Assistance Program (MAP). Selected recipients may receive lodging, registration, and/or a travel stipend to facilitate their participation at the convention on March 26–29, 2014, in Orlando. Applications are due January 8, 2014. For more information and to apply, visit www.audiologyfoundation.org.

Auction 4 Audiology: Orlando Preview Opens November 25

Score big savings and support the AAA Foundation with Auction 4 Audiology: Orlando Preview, open from November 25 to December 9. This is your chance to grab the best the city has to offer before AudiologyNOW! Treat yourself to entertainment and dining, or purchase a holiday gift for your favorite Orlando-dwelling friend, family member, or colleague. Proceeds benefit the AAA Foundation, so bid often at www.biddingforgood.com/auction4audiology.
Behind the Scenes with the SAA Board

Have you ever thought about dedicating your time and talents to the Student Academy of Audiology (SAA)? Read on to find some advice from your 2013–2014 SAA board!

Why did you decide to run for a position on the SAA board?

“I actually saw the ‘last call’ message for board applications during my first year, and narrowly missed the deadline! I was always involved in extracurricular activities as an undergraduate and was interested in learning more about audiology organizations. At that point, I had no idea what the SAA did, or what a board member’s responsibilities entailed, but I’m certainly glad that I applied!”

Andrea Green, SAA president, SAA Nominations Committee chair

What has been your most memorable experience on the SAA board?

“My most memorable experience so far was our Capitol Hill visit. I never imagined that I would get to talk with policymakers about the future of our profession and current legislation!”

Lauren Pasquesi, SAA Education Committee chair

What did you learn about SAA at the board meeting in Reston?

“At the meeting, I learned a lot about where our dues, donations, and fundraising efforts go. It was amazing to find out that ALL of our fundraising efforts come back to students. I also learned how amazing the Academy staff are and how they make SAA run on a daily basis.”

Reaghan Albert, SAA Fundraising Committee chair

Are you involved in other volunteer organizations? How do you find a balance with school, SAA, any other commitments, and your personal life?

“I am involved in several other community organizations and if there is one thing that I can say about balancing it all, it would be—time management, time management, and time management! I have found that dedicating at least a few hours a week to SAA really helps. I also try to maintain hobbies and volunteer opportunities that have nothing to do with audiology or schoolwork. This reminds me to slow down, which isn’t always easy for a Type-A personality like myself!”

Amanda Rodriguez, SAA conference cochair
What has been your greatest obstacle since taking on this new position, and what have you learned from it?

“Realistic expectations and time management. I can get a little ahead of myself in what I would like to accomplish when there are so many different opportunities for growth. By managing my expectations and setting timelines with my committee’s input, I have already grown tremendously.”

Becky Lewis, PhD Students Subcommittee cochair

Where do you see yourself in 10 years? How do you think serving on the SAA board will help prepare you for your professional career?

“I hope to work in a setting where I have the opportunity to supervise students. I have had some amazing supervisors and want the opportunity to give back! I also plan to volunteer my time on one of the many great Academy committees, which I believe my time on the board will well-equip me for.”

Randi Davis, SAA Media Committee chair

What advice do you have for students interested in running for the SAA board?

“When preparing to run, showcase your skills. Let your passions show. And remember, no matter the outcome of the election, please continue to look to be involved. There are many committees which do fabulous things each year.”

Jason Wigand, SAA vice president, SAA Chapter Relations Committee chair

“If you’re interested, you should absolutely do it. Go into it knowing that it will be a time commitment, but will be worth it. By serving on the board, you will gain friendships and experiences that are irreplaceable.”

Ashley Hughes, SAA Programs Subcommittee chair

How has your involvement in SAA enriched your AuD program experience?

“I have had the opportunity to meet and collaborate with students across the nation, and also see the great things that local SAA chapters are doing. It is interesting to discuss the differences across programs, and collaborate and learn from future colleagues that have different backgrounds.”

Sarah Crow, SAA Humanitarian Committee chair

Please check out the SAA Web site (www.studentacademyofaudiology.org) for application materials and important deadlines. Do you have questions about board member responsibilities? Contact Andrea Green at andreagreensaa@gmail.com.

### New Members of the Student Academy of Audiology

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Audiology Today | NovDec2013
We recently reached out to board certified audiologists to learn more about them and why they chose to become board certified. Sheri Gostomelsky, AuD, who has been practicing since 1977, shared her thoughts with us.

"Since I started, I have been employed in many settings, including private practice, hospital, school; both public and residential, industrial, and manufacturing," Dr. Gostomelsky said. "Unfortunately, not all of the clinical environments allowed me to spend enough time with patients, as they well deserve."

She chose to earn ABA board certification because she felt it would set her apart from others in the field in the eyes of potential patients and because of the type of commitment required to earn it.

"I want to be recognized as the best of the best and let my patients know that I am committed to constant improvement by setting the bar high," Dr. Gostomelsky explained. "Board certification allows me to do that because it requires commitments to continuing education that exceed state license requirements, with a personal commitment to ethics."

In 2001, Dr. Gostomelsky opened the Audiology Associates of Deerfield, which currently has two locations in a suburb north of Chicago, to create an environment where she could give patients more personalized care.

"Seeing one person at a time and treating him or her with the care and respect that is lacking in so many aspects of medical care is something that I aspire to as an audiologist; and I find it elevates me to a higher level," she continued. "It is a very personal business. We know their families and they know ours!"

"We have an active patient base of more than 2,000, which consists primarily of adults. Because of our exceptional care, we have a considerable number of patients who travel quite a distance to see us," she said.

Dr. Gostomelsky became interested in audiology as an undergraduate, when her college counselor talked to her about it. "My counselor thought that speech and hearing science would suit my intellect and personality," she said. "As an undergraduate, I had the opportunity to experience both speech pathology and audiology practices. The decision was an easy one for me."

A member of the Illinois Academy of Audiology, American Academy of Audiology, and Academy of Doctors of Audiology, Dr. Gostomelsky earned her board certification in 2002. Prior to that, she maintained her CCC-A through the American Board of Audiology.

Board Certification Shows High Skill Levels and Commitment to Excellence

By Torryn P. Brazell

“I was employed as a hospital audiologist for 17 years. During that time, supervision of graduate students required having your Cs,” Dr. Gostomelsky shared. “I have held a dispensing license in the state of Illinois since 1987, as well as a New York license. When board certification was introduced, I took that step.”

She chose to earn ABA certification because of the type of commitment required to earn it and because her belief that board certification sets her apart from others in the field.

“I am hoping that eventually there will be more sub-specialties in ABA certification in the future. That was one of the reasons I took the step to exceed the requirements of a practicing audiologist,” she said.

Having held both a license and certification, Dr. Gostomelsky explained the differences between the two.

“A license can be obtained by meeting minimum requirements and writing a check, but [board] certification is obtained by exceeding traditional standards,” she said. “There is an expectation to go beyond minimum requirements with board certification, and it recognizes exceptional performance.”

“ABA certification is voluntary and shows a commitment to the profession. A dispensing audiologist needs only a license and a minimum amount of continuing education,” she explained.

She sees this standard setting as a distinct advantage in patient care because she puts a high level of importance on keeping her standards “a notch above.”

“My patients are looking for exceptional treatment by the most qualified professional,” Dr. Gostomelsky explained, “and ABA certification helps me to demonstrate that professionalism and high quality to them.”

Torryn P. Brazell, MS, CAE, is the managing director for the American Board of Audiology.
Do you want increased professional respect, full-practice authority, and better compensation? Who doesn’t? Would it surprise you to know that this quest begins with ensuring uniformly excellent educational programs? If audiology desires an elevated professional status, AuD programs must be consistent and rigorous across every program in the country. The Accreditation Commission for Audiology Education (ACAE), the Academy-sanctioned commission specifically designed for accrediting AuD programs, has as a core objective the educational transformation needed to achieve these goals.

Currently, there is an unprecedented opportunity for nonphysician health-care professionals to move to full-practice authority within their scope of practice because of the Affordable Care Act (ACA). It’s a serious game changer in health care that has three basic premises:

1. The number of patients who receive health care will increase dramatically, and to handle that increase, the number of gatekeepers has to expand beyond physicians.

2. Health care has to be available to patients where they live and not just concentrated in urban areas.

3. Health-care costs need to be lowered, but not at the expense of quality care.

The good news! The case for audiologists with the AuD degree looks positive. The need for better access to care means greater opportunities for nonphysician health-care professionals to make their case for full-practice authority. To achieve quality at reduced cost, all health-care practitioners will need to be able to provide services to the fullest measure of their scope of practice. Audiologists are the logical point of entry for hearing and balance health care. There are close to 600 AuD graduates per year in the United States and approximately 2,400 students enrolled in AuD programs, with more enrolling every year. There is no question that removing the physician oversight requirement for services provided by AuD graduates within the scope of their practice would stop duplicative billing and lower hearing health-care costs at both the state and federal level.

Quality of care is the final hurdle and, in many ways, the most difficult to demonstrate for any given profession. This is why physician groups and their allies who seek to prevent nonphysicians from becoming managers of care aggressively and relentlessly attack the educational training component of the argument for full-practice authority. This game plan will also be used against audiologists’ advocacy efforts, which seek full-practice authority or any component of it, unless we can demonstrate that the academic rigor of our educational programs will stand up unequivocally to such scrutiny.

Perhaps the best predictor of quality care is the rigorous content and consistency in the education and training for a profession’s educational programs. The ACAE process uniquely promotes the academic education and clinical training needed to make the argument at both the state and federal levels that quality care will be provided within audiology’s scope of practice without physician oversight. Direct access legislation, currently advocated by the Academy, is consistent with ACAE’s mission as well as within appropriate scope of practice authority for audiology.

Unfortunately, legislation proposed (HR 2330) by the American Speech-Language-Hearing Association (ASHA), and supported by the American Academy of Otolaryngology–Head and Neck Surgery (AAO-HNS), actually increases physician oversight requirements for Medicare services provided by an audiologist. This legislation requires physician approval of a plan of care for treatment, along with periodic review and approval, and offers no “opt out” provision that many other health-care professionals enjoy. This type of legislation will stunt audiology’s professional growth and stature.

From a practical standpoint, ASHA’s legislation would likely result in Medicare patients seeking help for hearing loss having to first see their primary care physician (PCP), then an ENT, who will likely refer to an...
audiologist anyway for evaluation and to devise a plan of care. The audiologist will then have to go back to the ENT or PCP to obtain signed consent for the care plan. This complex system will add unnecessary time delays and cost to an already overburdened health-care system, while decreasing access to audiological care.

Even if the ASHA legislation does not pass, physician oversight of audiological services is the status quo and will remain so unless audiologists band together to change it.

I tell clients all the time that initiatives rarely fail because of a lack of available resources. Campaigns mostly fail because the commitment to do what it takes to win isn’t there. If audiologists want respect from health-care colleagues, and full-practice authority, not to mention better reimbursement and opportunities for professional independence, they need to get involved, figure out what’s needed, and commit the time and energy to make it happen. Failure to act is conceding defeat.

Current Academy president Bettie Borton, AuD, has made education at the AuD level a cornerstone of her presidency and has called on Academy members to join in the effort to adopt a single rigorous AuD-specific accreditation process that will ultimately facilitate audiologists’ ability to seek full practice authority in this time of change. Why? Because in her many years of private practice experience, she has come to understand the critical link between excellence in education and better professional practice.

Jeff Browne is the public member on the ACAE Board. With over 30 years of experience in the political campaign world at all levels, he has worked with the Academy, Academy of Doctors of Audiology (ADA), and ASHA on various issues, and his firm works with several health-care professional groups that want to achieve full-practice authority within their scope of practice. He is married to Tomi Browne, an audiologist and a founding Academy member.

Five Things You Can Do Right Now to Improve Your Future in Audiology

1. Write to Dr. Bettie Borton and support her courageous stand on educational excellence (www.audiology.org/about/leadership/boardofdirectors/pages/letmehearfromyou201308.aspx).

2. Contact the faculty and administration of the AuD program you graduated from and urge adoption of the ACAE accreditation process.

3. Contact current students at your alma mater and educate them about the need for their school to adopt ACAE accreditation.

4. Support Academy programs that further the profession. Contributions to the ACAE (an independent, nonprofit accreditation body dedicated to audiology) and the AAA, Inc. PAC, are a good start.

5. Get involved in legislative initiatives at the federal and state level that further the profession. Use the Legislative Action Center on the Academy’s Web site to send a letter in support of direct access to audiology services for Medicare beneficiaries (http://capwiz.com/audiology/home).
As the January 1, 2014, implementation date for major provisions of the Affordable Care Act (ACA) nears, the Academy has developed resources to assist audiologists in navigating the changing landscape.

The ACA was signed into law in March 2010 and reformed many aspects of health insurance in the United States, including:

- Individual mandate (requires U.S. citizens to carry health insurance).
- Creation of state health exchanges from which insurance may be purchased by individuals, separate exchanges created for small businesses to purchase from.
- Establishment of Essential Health Benefits (EHB), which must be included in plans offered in each state. EHBs are further defined state-by-state through the selection of benchmark plans.
- Requirement of companies with 50 or more employees to offer coverage.
- Expansion of Medicaid.

Effective January 1, 2014, non-grandfathered health plans are required to cover EHBs set forth in the act, which include items and services in the following ten benefit categories: ambulatory patient services; emergency services; hospitalization; maternity and newborn care; mental health and substance use disorder services, including behavioral health treatment; prescription drugs; rehabilitative and habilitative services and devices; laboratory services; preventive and wellness services and chronic disease management; pediatric services, including oral and vision care.
Subsequent regulations pertaining to the ACA allow for states to designate a health plan operating within the state to serve as the benchmark for EHBs. The benchmark plans represent the minimum benefits, which any nongrandfathered individual and small group health plans eligible for purchase in a state, including those available through the state exchange, must include. If a state requires benefits beyond those outlined in the ACA, for example, coverage of hearing aids for children, states must defray the costs of that coverage.

The Academy has developed a state-by-state analysis that summarizes audiology-related benefits in each of the state benchmark plans (www.audiology.org/advocacy/federal/congressionalissues/documents/statebenchmarkplans.pdf). Academy members are encouraged to call health plans directly to confirm audiology benefits, but this guide provides an overview of covered services within each state benchmark plan.

Many benchmark plans do not include services in all of the required benefit categories. In those instances, regulations require that the state identify supplemental coverage. For habilitative services, states may define the services to be included in that category, or if they choose not to make that distinction, plans must provide parity with rehabilitative services.

Another important policy ratified within the health-care reform bill and effective January 1, 2014, is the nondiscrimination in health-care provision. This section prohibits plans from discriminating against health-care providers acting within their scope of practice. The goal of this provision is to protect patient choice and access to covered health services from the full range of providers licensed and certified in their state. While some physician groups opposed the inclusion of this policy, the Academy and other groups fought diligently to ensure this provision remained intact in the final health-care reform bill and continue efforts to ensure its intent is maintained.

Most recently the Academy united with some of these groups to send a letter to the director of the U.S. Department of Health and Human Services (HHS) Health Reform Office to express concerns with guidance issued by various government agencies regarding this provision, which we feel is contrary to its purpose. Additionally, we joined forces on a letter of opposition regarding HR 2817, the Protect Patient Access to Quality Health Professionals Act of 2013, which would repeal the nondiscrimination provision altogether. This legislation, introduced by the U.S. House of Representatives in July 2013 by Congressman Andy Harris, MD (R-MD), was without any cosponsors at press time.

For more information, visit the Government Relations News section of the Academy’s Web site or search key words "health care reform" on the Academy Web site.

Melissa Sinden is the senior director of government relations for the American Academy of Audiology.

Note

1. Grandfathered plans are health plans that existed on March 23, 2010. These plans are required to provide the new benefits described in the health care reform bill but are exempt from many of the regulations. The plans are allowed to make routine changes without compromising their grandfathered status. Plans will lose their status if they significantly cut benefits or increase out-of-pocket spending for beneficiaries.
Academy Launches Specialty Audiology Communities

Pediatrics, Students, and Coding, Reimbursement, and Compliance!

These specialty communities will allow members with like interests to easily interact and communicate online. We have started with these three new specialty communities but will continue to add more as overall use and need increase on the community sites.

Pediatrics—Spearheaded by Eileen Rall, AuD, this beta test group of pediatric specialty audiologists helped us launch this new community. We have also invited ABA Pediatric Audiology Specialty Certification (PASC) certificants to join in this discussion as well. This community group is open to any Academy or Student Academy of Audiology (SAA) member interested in the topic of pediatrics.

Students—Any Academy and SAA member interested in student issues may join this community group. SAA staff, SAA board members, and the SAA national advisor will also be part of this group and will help guide conversations, share information, and answer questions.

Coding, Reimbursement, and Compliance—Any Academy or SAA member interested in this area may join this specialty community. The Academy’s Coding and Reimbursement Committee, the Academy’s Practice Compliance Committee, as well as applicable Academy staff, will be part of this specialty community to help guide conversations, share late-breaking information, answer questions, and share resources.

If you have not visited the Audiology Community, we encourage you to do so. Here’s a quick overview of some of the features:

- Enhanced discussion capabilities. Receive e-mails that are more structured and easier to read than a traditional Listserv or forum alert.
- Granular privacy controls. Have complete control over what information you share with members of the community and your contacts.
- Centralized subscription management. Manage your subscriptions to all discussions in one place. Choose to receive daily digests or real-time e-mails by group.
- Resource sharing. Access attachments posted to discussions in an archive, dedicated Resource Library. You can also add documents to share anytime you want.

New to the Audiology Community?

We encourage you to take 10 minutes and visit the Audiology Community and the NEW specialty communities now: http://community.audiology.org. To log in to the community site, use your Academy ID and e-mail address.

Follow these five quick steps to get started:

1. Accept the Terms of Use and make note of the rules of conduct, anti-trust issues, and basic etiquette.

2. Visit your profile page (link at top right of the screen) and take a few moments to complete as much of the information as possible. You’ll be able to add a photo and bio, as well as specify your certifications, educational background, honors and awards, and more. If you have a LinkedIn profile, you can easily import the information there, as well as your photo, by using the
“Update your information from LinkedIn” feature.

3. Adjust your privacy settings and customize your contact preferences by clicking “My Privacy Settings” from the menu on the left of the profile page.

4. Customize how you would like to receive updates on the discussions of which you are a part in “My Subscriptions,” located on the menu on the left of the Discussions page. You can opt to receive messages via e-mail in real time (each message as it is posted), as a daily digest, or no e-mails. If you prefer to receive messages in a Listserv format, which allows you to respond to messages directly via e-mail rather than through the online community, you can do so by selecting “Legacy.”

5. Visit the General Audiology Community or the Specialty Communities (Pediatrics, Students, and Coding, Reimbursement, and Compliance) by clicking “Communities/All Discussions.” This area (“Communities/View Libraries”) also includes a library feature that allows you to share resources with other members, including documents, videos, and audio files.

If you have any questions or concerns, please contact the Academy at communities@audiology.org.

In Memoriam: Craig W. Johnson

Craig W. Johnson, AuD, passed away on October 9, 2013, after a courageous battle against cancer. He will be deeply missed by his family, friends, and colleagues. Craig’s career spanned nearly four decades and he was a tireless advocate for his patients and his profession. Craig gave selflessly of his time and talents to advance critical professional objectives for audiology by serving on multiple state and national boards, committees, and task forces. He was a founding member of the Maryland Academy of Audiology (MAA) and served in numerous legislative and advocacy positions for the MAA as well as the American Academy of Audiology and the Academy of Doctors of Audiology. He was instrumental in shepherding advances in the areas of improved reimbursement, licensure and insurance coverage.

Of particular note was Craig’s intimate involvement with the realization of direct access to audiologists under the Federal Employees Health Benefits Program. He was the first private practitioner in the state of Maryland to offer comprehensive diagnostic and treatments services and he grew his solo practice to eight successful stand-alone centers for audioligic care. Craig’s dedication to his patients and his colleagues and his contributions to the profession will stand the test of time.
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Contact Marshall Boomer at The YGS Group at marshall.boomer@theygsgroup.com for more information or to place an ad.

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Contact Rachael Sifuentes at rsifuentes@audiology.org for additional information and pricing.

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