



## What Goes Around Comes Around: *The Next Generation of the OHC Standardization Exam*

*By: OHC Committee Chair: J. Andy Merkley, AuD CCC-A CPS/A & Executive Director: Kim J. Breitbach, CAE*

In the fall 2003 issue of *Update*, Gayle Rink announced that the content and administration of the *written component* of the 20-hour certification workshop would change and that the Council for Accreditation of Occupational Hearing Conservation (CAOHC) would pursue a more standardized method for administering the written exam. The objectives:

- Fairly evaluate all Occupational Hearing Conservationists (OHCs) in all CAOHC course offerings
- Enhance the credibility and the value of OHC certification
- Allow OHCs to learn through the reinforcement of course content in the written exam
- Support the Course Director's (CD) need to administer a test that effectively measured comprehension of key learning objectives

Rink also promised that "CAOHC will continue to monitor and refine the written exam component of the initial certification course in 2004 and beyond."

Continuing with those efforts, in 2009 CAOHC completed an extensive review of its COHC credentialing processes, following guidelines established by the International Organization for Standardization (ISO) and the American National Standards Institute (ANSI). In addition, a formal survey of over 20,000 hearing conservationists was administered and a formal OHC job task analysis was constructed. Each step of the process was methodical, structured, and guided by a credentialed professional testing organization. From these efforts, CAOHC has been able to align the process of training and credentialing OHCs with internationally established standards and best practices. As part of this

process, CAOHC developed a standardized written examination with an administrative process that:

- Defensible and has a solid psychometric foundation
- Assesses all core information for OHCs to complete job tasks identified in the job task analysis
- Assesses OHC candidates equally, regardless of where the education is received

CAOHC will implement the standardized written exam and exam process starting on June 1, 2014. The changes will apply to all CAOHC CDs.

The number of questions and time allotment to complete the exam remains the same course length for certification and recertification will remain 20 hours and 8 hours, respectively.

The new process is, however, more formal and raises the standard of learning. Prospective OHCs are still required to complete practical examinations according to the CD standards, but are evaluated for core knowledge through a standardized written examination based on key concepts or domains, identified in the job task analysis. Although practicum timelines will remain firm, CAOHC will suggest timelines for key didactic domains that should be viewed as flexible. This change will allow CDs to spend, as much time as they feel is necessary to cover all key areas.

Author Deepak Chopra once said, "All great changes are preceded by chaos." CAOHC is working hard to avoid chaos and make this change as seamless as possible by identifying and addressing issues found during a "soft launch" of the exam in late 2013. CAOHC will continue to monitor the examination process and address issues as they arise. CAOHC is also committed to developing and providing tools and resources to help OHCs and CDs enjoy continued success. As an example, please see the article in this UPDATE copy concerning the pending release of the *Hearing Conservation Manual*, 5<sup>th</sup> edition.

Although the new examination process represents significant change, it is the right thing to do at the right time. CDs involved in the soft launch, reported it to be no different from other certifications and quite easy to implement. Encouragingly, the current success rate on the examination is 94%.

A core CAOHC mission is to promote hearing loss prevention by enhancing the quality of occupational hearing loss prevention practices. Aligning the COHC credential with established ANSI and ISO standards is a step toward raising employer and regulator confidence in the COHC as a key member of the hearing conservation team.

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# Update

Published by the Council for Accreditation in Occupational Hearing Conservation, a not-for-profit organization dedicated to the establishment and maintenance of training standards for those who safeguard hearing in the workplace.

Articles should be submitted with a photograph of the author. E-mail: [info@caohc.org](mailto:info@caohc.org)

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## Message from the Chair

By: Bruce Kirchner, MD MPH CPS/A

It is a great honor to serve as the Chair of the CAOHC Council for the next two years. As the 13th Chair of the Council, I have served as the Council representative for the American College of Occupational and Environmental Medicine (ACOEM) for the past five years. CAOHC is now celebrating its 40th Anniversary, so I looked at the names of volunteers who have served previously Chair or Council Representative. What I discovered was a *Who's Who* of people who have established themselves as true leaders in the field of hearing conservation. I am humbled have my name added to this list.

There are so many great things happening at CAOHC. We currently have a Council comprised of a group of representatives from our sending organizations who are dedicated to fulfilling the mission of CAOHC, which is to support Course Directors (CDs), Occupational Hearing Conservationists (OHCs), and Professional Supervisors (PSs), as well as improve the quality of hearing loss prevention programs. Not only are our volunteers dedicated, but they also show commitment through their work products, often sacrificing much personal time to achieve our goals.

We all have a story about why we became interested in hearing conservation. I have one, too. Before OSHA 1910.95 was passed, I worked my college summers in a heavy industrial smelting operation. This was a hot, noisy, and really dirty job. The first day on the job, our plant safety person gave us what we needed: a half-face respirator, a hardhat, and work gloves. *No hearing protection.* What did I do? On some days I got inside furnaces and removed slag with a handheld jackhammer. I now know that the deadness and ringing I felt in my ears was due to temporary threshold shift and tinnitus. *No hearing protection!* One college summer I spent some time at ROTC summer camp. We fired just about every weapon an infantryman could use. *No hearing protection!!* Then, one day we went to the range to conduct rifle fire. The Range Control Staff Sergeant who had just returned from Vietnam came along the line and gave me two cigarette butts and told me to stick them in my ears. Finally, my first experience with *hearing protection!!!* Although, I do not know to what degree those cigarette filters protected my hearing, I will never forget what that Sergeant did to try to help me protect my hearing. It was at that time that I dedicated myself to become an ambassador for hearing conservation.

Hearing is such a precious gift we take for granted. I think this can be best portrayed by seeing the joy in those who hear for the first time when their cochlear implants have been turned on. If you have a few minutes, go to YouTube and do a search on "cochlear implant activation" and ... have a handkerchief on hand!

*Dr. Kirchner is the Global Medical Leader for Procter & Gamble's Household Care business, with responsibilities in assuring the occupational health of 30,000 employees in manufacturing and research. Additionally, he is the system owner for hearing conservation across the company. He retired from the U.S. Army in 1995 after 21 years of service in which he was involved in hearing conservation in field units, as well as industrial operations. Dr. Kirchner has a B.A. in English from the Virginia Military Institute, an M.D. from the University Of Pittsburgh School Of Medicine, and an MPH from the University Of Pittsburgh School Of Public Health. He is board certified in Internal Medicine, Occupational Medicine, and Preventive Medicine & Public Health. Dr. Kirchner is a Member Delegate to the National Hearing Conservation Association Executive Council. He is also a Fellow of the American College of Occupational and Environmental Medicine and was recently appointed to Chair of the Council for Accreditation in Occupational Hearing Conservation as well as a Council Member representing American College of Occupational and Environmental Medicine (ACOEM).*

– continued from page 1: *What Goes Around Comes Around...*

CAOHC OHC Committee Chair J. Andy Merkley, CD Committee Chair Tom Hutchison and Executive Director Kim Breitbach have been training CDs how to implement the new process. If you have not participated in or registered for a training session, contact [Kim Breitbach](#) in the CAOHC Administrative Office. We look forward to working with you soon.

### Opt-Out Option

If you wish to have your name removed from mail solicitations from vendors who have purchased the CAOHC database, please notify CAOHC Administrative Office at (414) 276-5338; or email [info@caohc.org](mailto:info@caohc.org).



## CAOHC *Hearing Conservation Manual*, 5<sup>th</sup> Edition

By: CD Committee Chair: Thomas L. Hutchison, AuD CCC-A CPS/A & CAOHC Manual Co-Editor: Theresa Y. Schulz, PhD LtCol USAF (ret.)

The Council for Accreditation in Occupational Hearing Conservation (CAOHC) is proud to announce this summer's publication of the fifth edition of the CAOHC *Hearing Conservation Manual*.

Since 1973, CAOHC has worked to enhance the quality of occupational hearing loss-prevention practices. Publication of the *Hearing Conservation Manual* is a critical component of these efforts. CAOHC Course Directors use the manual to teach Occupational Hearing Conservationists (OHCs). It is the authoritative resource on occupational hearing conservation program (HCP) issues.

During the 12 years since the fourth edition was published, unique approaches to problems have emerged, new technologies have developed, and laws and regulations have changed.

In June, CAOHC will implement a new examination and credentialing process for OHC certification. As explained in an accompanying article,

evaluation of the knowledge base of OHCs is based on key performance characteristics in the OHC "blueprint." As a commitment to providing appropriate resources for OHC instruction and monitoring the ever-changing hearing conservation landscape, we will introduce the fifth edition as the basic text for OHC instruction.

The basic fifth edition was a team effort. Experts in their respective fields in occupational hearing conservation wrote each chapter, which representatives from every CAOHC Council constituent group reviewed and edited. This edition is the basis for a planned advanced manual, which is aimed toward the advanced HCP practitioner. Chapters will be devoted to such subjects as fitness for duty, ototoxins and otoprotectants, and in-depth fit-testing.

Visit the CAOHC website and click the "[Volunteer Now](#)" button if you want to be involved with these or other CAOHC projects.

## UPDATE Call for Articles

### CAOHC Wants to *HEAR* from you!

CAOHC is currently accepting articles for 2014 *UPDATE*, our e-newsletter offered at no charge to the entire hearing conservation community. Each edition is posted on our new website, reaching over 22,000 occupational hearing conservationists. Writing for *UPDATE* is your chance to reach thousands of colleagues within the hearing conservation industry who are committed to occupational Hearing Conservation, just like you!

Articles that will be selected must complement CAOHC's mission and goals and be relevant. We are interested in hearing about innovative hearing loss prevention programs, new innovations in training employees to be hearing conservation compliant, your challenges and your successes.

In addition, *UPDATE* places the "spotlight" on an outstanding Occupational Hearing Conservationist, Course Director, or Professional Supervisor. If you know of someone in your company deserves the "spotlight" for their commitment to hearing conservation, please craft a brief testimonial (approximately 75-100 words or less) and include that person's name, your company name and a recent head-shot photo. Your "spotlight" candidate will be added to our next issue as well as posted to the CAOHC website.



Submit your article or your "spotlight" testimonial along with your contact information to Kim Breitbach at [kbreitbach@caohc.org](mailto:kbreitbach@caohc.org), or our *UPDATE* Editor, Dr. Antony Joseph, at [earsafety@yahoo.com](mailto:earsafety@yahoo.com). Also, please let us know what you would be interested in reading in future issues of *UPDATE*. You may send your comments or questions to Bianca Costanzo at [bcostanzo@caohc.org](mailto:bcostanzo@caohc.org).

Thank you again for your interest in *UPDATE*!



# Rewind

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OHC Corner

## Mobile Testing—On the Job Tips

By Helen Young, RN, COHN-S/CM  
Representative for the American Association of Occupational Health Nurses



Mobile hearing testing services have evolved into a multi-million dollar service annually. The ability of a contracted service to meet the hearing test requirements for a company is attractive to employers who have limited resources for operations and do not wish to employ a full time staff. Even though hearing tests are only part of a Hearing Conservation Program, employers often are anxious to fulfill the testing requirements of the program. The fear of federal and state penalties for not conducting hearing tests in a timely manner may play a part in steering the company into contracted testing. Occupational hearing conservationists (OHCs) must be prepared to serve as a vital link for both in-house and contracted services. There are advantages to each of the services; but I will limit my tips in this article to mobile testing. They are as follows:

1. Get a contract, with the company to be tested, written and signed. The contract should be specific and detailed. It is the responsibility of the company that contracts a mobile testing service to schedule the employees for testing in an orderly and timely manner. It is important that the contract have specific language requiring the employer to schedule the employees in this manner. A penalty for not maintaining the minimum number of subjects could also be considered. Mobile testing employee, Edward Esquivel, a CAOHC certified OHC in Texas stated, "The number one problem I have had is getting the employees into the van in an orderly and timely fashion. I am often kept waiting or have more than I can test at one time." This leads to frustration for the OHC and the company and eventually to lost money for the contractor and the employer.
2. Get a permit for parking the mobile unit in a place with low ambient noise levels and adequate lighting. It is very difficult to control noise levels inside the unit if you are parked near machinery emitting loud noises or vibrations. Every time the door opens to allow entrance into the unit the outside noise will affect the noise level in the unit.
3. Identify all equipment and arrangements that you will need from the employer. Always request at least two separate electrical outlets on separate and adequate electrical circuits for your equipment. This should be in the original contract to enable the employer to choose the proper place for your unit. It is a total waste of the mobile OHC's time to arrive on a second or third shift to find that the person who made the arrangements to park the mobile unit has gone home and forgotten to tell the security staff or the shift workers where you should park. Ask the employer to alert the security staff about the time of your entry. Always get the names and nighttime or cellular phone numbers of all of the responsible parties for all three shifts if you are doing shift employees. The last thing you want to do is wait several hours at the gate while security tries to find someone who will let you into the facility.
4. Always send or deliver the employee history forms in advance of your scheduled visit. Ask the employer to have the employee fill out the forms and bring them to you at their scheduled time. This enables the OHC to check the forms for completeness and to ask any additional questions that may be useful rather than having to take the history. This saves the OHC valuable time. It also allows an employee who may not be able to write well to get the assistance they may need for answering questions. Always get approval from an employer for the history form you plan to use. Some employers have their own preference of questions they want to include in the questionnaire. If the employee requires another language be sure to get the employer to use an interpreter or use multi-language forms for the history. Remind the company that each employee must have a fourteen-hour quiet time before testing.
5. Prepare your unit well before you leave for the contracted service. If you use a computer, as do many companies, you should prepare the company folder. If you have tested the company before, use last year's disk to establish the folder. The past information will have been merged into the computer's hard drive. Make certain you have the correct name, social security number, date of birth of each employee, and that these can be read legibly. Always check with employees to get any name changes that may have occurred from marriage or divorce. You are then set to have the computer calculate and compare the current year's test with last year's information. Mark your disks appropriately and check to make sure you have backup capability. You should always be set for manual testing if your equipment does not work properly.
6. First-time testing will be your baseline tests. This may not be the employee's baseline test if another mobile company has tested him or her previously. If you have a need to retest the employee related to a possible hearing loss you will need to have the employer furnish any past testing on the involved employee for the audiologist to review. One of the most frequent mistakes made in workplace testing is the lack of knowledge related to baseline tests. Most employers will be happy to send records to the audiologist if they explain the need to the employer. Retesting must occur within thirty days if your audiologist or physician suspects hearing loss.

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To celebrate CAOHC's 40<sup>th</sup> Anniversary, we are presenting a special section called *Rewind*. This section will appear within our social media outlets and—online newsletter, *Update*. *Rewind* will feature articles from previous issues of *Update* that contain information relevant for today's readers. As a follow-up to each article, a discussion thread will be started that invites readers to comment on the featured *Rewind* article.

# Rewind

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## OHC Corner - Testing

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- The final tip regards education. Each employee must be given an explanation of noise levels, how those noise levels can cause hearing loss, and what they can do to avoid hearing loss. This is usually written in the contract for the OHC to do. Have at least four types of hearing protection available for demonstration. Involve the employee in the proper fit of the earplugs. If an employee learns something he/she did not know they are likely to tell their coworkers. This will benefit employees in their work area. Remember, you may be the person who motivates these employees to save their hearing!

While an OSHA/MSHA hearing conservation program does not require an otoscopic exam prior to the audiometric test, it is an important part of testing. OHC's are taught to perform this essential part of the exam. You should be able to see basic signs of wax buildup, infection, swelling, or discharge to the external auditory meatus, which may indicate a medical condition. The OHC may delay testing if it is painful to the employee when earphone cushions are placed on the affected ear or if there is drainage that might infect another employee. Always use caution in the use of equipment that is inserted into the external ear. Follow all safety guidelines taught in certification classes. Always use disposable speculum-tip covers. For further guidelines refer to page 66 of CAOHC's fourth edition of the *Hearing Conservation Manual* by Alice Suter.

In the end, mobile testing can be challenging to an OHC. Equipment on any testing contact is limited to what you take with you for use. You are unable to walk to the professional supervisor's office to get advice. You must be well-trained, confident and able to make independent decisions based on knowledge and training. Always have a number where you can reach the professional supervisor (audiologist or physician) if the need arises. An OHC is not trained to make medical diagnosis or work alone. Follow the CAOHC training manual and always have it available for reference. You'll find ordering information on the CAOHC homepage at [www.caohc.org](http://www.caohc.org) or phone our office at 414/276-5338. [Additional guidance on selecting a mobile testing provider can be found in Practical Guideline #3 from the National Hearing Conservation Association (NHCA): "Mobile testing and selecting a provider" which can be found at: <http://www.hearingconservation.org/pix/pamphlets/Pamphlet3.jpg>]

Helen Young is the Manager of the BP Dedicated Health Unit of Aetna. She can be reached by email at: [youngh@aetna.com](mailto:youngh@aetna.com)

## HIPAA's Privacy Rule

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as part of such services as a pre-placement physical, fitness for duty physical, or wellness program - written authorization (i.e., signed permission) must be obtained from the tested individual in order to subsequently release the OSHA - or MSHA-required information to the employer for OSHA or MSHA purposes. This is so because HIPAA does not provide for personally identifiable health information collected for one purpose to be released later to the employer for fulfilling other employer obligations without the tested individual's knowledge and written permission / authorization. It would also be important to extract *only* the health information required to meet the employer's specific OSHA / MSHA informational mandates from the larger health record to meet HIPAA's "minimum necessary" rule. So, as one can see, it is important for the OHC to understand the distinction between times when it is appropriate for the OHC to provide the tested employee with a written notification versus times when only an authorization signed by the tested employee will suffice.

Unless the OHC owns and operates a solo practice, the responsibility to determine whether HIPAA compliance is needed probably falls to a management decision-maker other than the OHC. However, if the OHC's practice must align itself with HIPAA, the OHC should always seek a clear answer (relative to each audiometric testing session) as to whether written notification or written authorization is warranted based on the purpose of the testing as understood by the tested individual. It is worthwhile to note that nothing in the Rule prohibits an employer from conditioning employment on an individual providing an authorization for the disclosure of protected health information. So, if the employer can provide the OHC with evidence of having such an authorization for each employee to be tested, the OHC's responsibility for providing notification or obtaining authorization would be negated. Finally, since audiometric records are often solicited with respect to workers' compensation programs, it is useful for the OHC to know that disclosures of protected health information for workers' compensation purposes are excluded from HIPAA (to the extent necessary to comply with workers' compensation laws) per the security and privacy provisions of HIPAA's Title 45, Part 164, Section 164.512(l).

The bottom line in cases where HIPAA compliance is required:

- Always know the purpose for which the audiometric testing is being performed
- Always confirm that the individual being tested understands that purpose
- Limit the information provided to the employer to that which is specifically required for addressing the stated purpose, and
- Either provide the tested individual with a written notification (if testing is being performed for regulatory purposes) or obtain the tested individual's written and signed authorization (if not already evidenced by the employer).

**HIPAA's Privacy Rule, indeed, need not be overwhelming. It's actually just a super-sized dose of The Golden Rule as it relates to the protection of individually identifiable health information.**

NOTE: HIPAA regulatory text may be viewed and/or printed at <http://www.cms.hhs.gov/hipaa/>

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To celebrate CAOHC's 40<sup>th</sup> Anniversary, we are presenting a special section called *Rewind*. This section will appear within our social media outlets and—online newsletter, *Update*. *Rewind* will feature articles from previous issues of *Update* that contain information relevant for today's readers. As a follow-up to each article, a discussion thread will be started that invites readers to comment on the featured *Rewind* article.

## PS/CD Spotlight, Dr. Catherine Conely:

By: Bianca Costanzo, CAOHC Marketing Manager

**Bianca Costanzo:** How long have you been a CAOHC-certified Course Director (CD), and what motivates you to maintain this certification and perform the duties of a CD?

**Dr. Conely:** I have been a Course Director for five years now. I fell into this title of Course Director by chance, and enjoy it immensely. I work for a large medical group that employs multiple Occupational Hearing Conservationists (OHCs). The organization was looking for cost saving methods on certifying and recertifying these individuals, and asked if I would be interested in getting my Course Director certification for this purpose. I thought, “why not?” and here I am! I love it! And to top it off, I am sorry I didn’t do it sooner.

**Bianca:** Can you tell us about one of your favorite segments of the course and why you enjoy teaching it?

**Dr. Conely:** I love it all! I can’t say that there is any one segment I enjoy more than the next. I have found that I love to teach, and I get even more excited as see the individuals in my class that love to learn! I feel like I filled a void in my career as an Audiologist.

**Bianca:** Do you have a trade tip you would be willing to share with our new CDs regarding course preparation and/or execution?

**Dr. Conely:** The hardest part is developing your presentations. Use the resources you have been given, whether it is a mentor or a website. Remember, no matter what, you are always going to be tweaking things along the way. I have been instructing now for almost four years, and I still find myself jotting down notes as I go along on slides that I want to adapt/adjust, things I maybe didn’t include that are relevant and things that I have repeated too many times... and need to be revised. The manipulation of your course is never ending if you ask me, and always a grand adventure.

**Bianca:** What do you recommend should be done by a CAOHC Professional Supervisor periodically (e.g., every two years) to assess the proficiency of an Occupational Hearing Conservationist in order to determine if an OHC has maintained competence?

**Dr. Conely:** The one thing that I think would be truly beneficial is making sure that your OHCs know how to perform manual testing. I am always amazed at how easily individuals forget that skill. None of us plan on having our computerized systems fail, but they can and they do... I don’t think having to reschedule is a great option when we should all have the skill to perform manual testing.

**Bianca:** What are your thoughts on converting to the new CAOHC OHC standardized exam?

**Dr. Conely:** I can proudly say that I was one of the first Course Directors to administer the new exams. For me, since I have been teaching for only a short period of time, it was an easy transition. It has saved me the work of creating exams and grading exams. My students received responses in a short period of time and they were pleased. Change is never easy, but it is almost always for the good! The feedback received on the performance of my students was refreshing and enlightening. I am glad for the change and hope that others see the benefits as well.

*Armed with a Master’s degree from the University of Wisconsin Stevens Point and a Doctor of Audiology degree from Arizona School of Health Sciences, Dr. Catherine Conely has become a licensed and certified audiologist who has practiced for 17 years, spending the past 10 years at the Aurora Sheboygan Clinic in Wisconsin. She has special interest in occupational audiology and hearing conservation.*



## CAOHC Course Directors:

CAOHC is moving forward with implementation of the Standardized Exam. Effective June 1, 2014, all CDs will need to comply with the new Standardized Exam process.

To date 20 fellow Course Directors have already implemented the new process and their results were better than originally anticipated. In addition, 80 CDs have already gone through the training and will begin to use the new process before the June 1, implementation date.

CAOHC will conduct webinars over the next month to explain the new policies and procedures and answer any questions CDs may have regarding the process and transition.

All Course Directors must go through the training. Register for upcoming Training Courses by clicking on the desired link: ➡



Tuesday, May 6, 2014  
10:00am – 11:30am Central time

Tuesday, May 13, 2014  
10:00am – 11:30am Central time

Thursday, May 22, 2014  
10:00am – 11:30am Central time



## PS/CD Spotlight, Dr. Jorge Morales-Camino:

By: Antony Joseph, AuD PhD CPS/A

**Dr. Joseph:** What do you recommend should be done by a PS to examine the proficiency and competency of an Occupational Hearing Conservationist (OHC) in order to feel confident that the OHC is qualified to properly fulfill their duties?

**Dr. Morales:** At least once every 12 to 24 months, it is recommended to review a random sampling of your OHC's records. Once in a while, quiz your OHC about standard procedures, check to ensure that their work is thorough, and verify that the hearing conservation database, calibration data, and other saved data are managed satisfactorily. In other words, we need to feel confident that OHCs are delivering good care and making proper decisions. In addition, ensure that your OHC is informing workers about Standard Threshold Shift (STS) when indicated, and is forwarding referrals to the PS in a timely way. If STS occurs, OHCs should share this observation with Industrial Hygiene and Safety personnel (IH&S), and, at that time, request relevant noise-exposure information on affected workers whenever they communicate with IH&S. Advanced OHCs should be calculating STS rates annually for their tested population, as this demonstrates good use of available audiometric database information. It's important for the PS to conduct oversight of the OHC, because who else is qualified to do this?

**Dr. Joseph:** You're right. Every PS is accountable for oversight, but, given the limited number of certified Professional Supervisors, direct support often comes infrequently. I'm curious, how do you gain access to noise measurement data for employees referred to you for work relatedness determination?

**Dr. Morales:** Usually, a physician/nurse is responsible for the HCP, but sometimes they are not fully engaged with the program. I administer audits from time-to-time for Hearing Conservation Programs (HCP) in our manufacturing sites, spending as much time as deemed necessary helping the PS, OHC and IH&S understand how to interpret noise measurement reports. We emphasize a focus on prevention for our PS and OHC professionals. The PS is that critical person who can accumulate important information about noise exposure and hearing

effects for each case. They can also find updated information about hearing protection and referral sources. As soon as the characteristics, such as the intensity and duration, of an exposure are understood, the PS should assist their purchasing department with ordering a correct inventory of hearing protection devices for exposed workers. Historical noise exposure information can be obtained for reporting purposes more easily when a PS has a good relationship with IH&S personnel.

**Dr. Joseph:** Do you find that it is easy to determine if an employee has been exposed to potential damaging noise or (ototoxic) chemicals in the workplace? Why?

**Dr. Morales:** No. This is by no means easy because some sites don't have a complete inventory of chemicals being used internally. On the other hand, site physicians and nurses, most of the time, are not aware of which chemicals are classified as ototoxic. In our OHC courses, we have been emphasizing awareness of ototoxic chemicals. We also work with our site nurses and physicians on proper identification of chemical toxins and how to resource updated information chemical toxicity. We have strongly recommended inclusion of workers exposed to ototoxic chemicals, in the hearing conservation program. I am happy when OHCs take the time to verify noise exposure levels of their employees and more impressed when they go the extra step to determine whether ototoxic chemicals are part of their surveillance program.

Dr. Morales was interviewed at his office in Mexico City. He hosted a large Professional Supervisor Course in March 2014, serving as faculty on that course, which included over 40 physicians from Mexico and other parts of South America. His associate faculty for that course included Dr. Bruce Kirchner (Chair, CAOHC Council, representing ACOEM), Dr. James Crawford (representing AAO-HNS), and Dr. Antony Joseph (representing AAA). Remarkably, Dr. Morales was the first person to arrange an International OHC Course, and International PS course, and has been responsible for the certification of hundreds of OHCs and PS course attendees. He has two personal priorities that are clearly evident when you spend time with him: his family, and effective delivery of occupational health services.

*A strong advocate for Hearing Conservation, Dr. Jorge Morales-Camino, an occupational medicine physician responsible for numerous programs across South Latin America, is a certified Course Director (CD) and Professional Supervisor (PS). Although his specialty is Occupational Medicine, Dr. Morales holds a PhD in Occupational Health Sciences and a Master's degree in Toxicology. He serves on the Medical Faculty at National University of Mexico, and is well known for his leadership and expertise in Occupational Health and Hearing Conservation Programs. A sampling of his leadership includes Vice President of the Mexican Board of Certification on Occupational Medicine, and twice board member of the International Commission of Occupational Health. Dr. Morales is a Fellow of the American College of Occupational and Environmental Medicine.*





## Better Hearing and Speech Month

By: Pamela G. duPont, MS CCC-A CPS/A

For the past two years I have had the pleasure of representing the American Speech Language and Hearing Association (ASHA) on the CAOHC Council. One of my tasks is to act as a liaison between ASHA and CAOHC. Therefore, I want to showcase that the Month of May is “Better Hearing and Speech Month” (BHSM) sponsored by ASHA. For all of us involved in hearing loss prevention, this is a great opportunity to reach out and do creative things to teach the world about hearing and how to prevent hearing loss. As an example of outreach and creativity, I will share an experience from last year’s BHSM.

I was approached by my friends at the Hearing Health Foundation (HHF) in New York City. The mission of the HHF is: “To prevent and cure hearing loss and tinnitus through groundbreaking research.” My company has been a “Partner for Hearing Health Member” for several years.

The HHF asked me to bring my company’s mobile hearing test van to New York City to provide hearing screenings and education for a group of third through sixth graders at the Speyer Legacy School. I was reminded that most schools in New York City no longer provide hearing tests. We planned to have a one hour education session in the classroom and then have the children come outside to the mobile van in small groups for the hearing tests. Parents were required to sign a permission slip to allow their child to participate in receiving a hearing test.

I was very excited about this project and was eager to help. However, I have limited experience in testing children because my whole career has been focused on Veterans or adult industrial employees. Therefore, I was not sure how the children would respond to the training program.

This was going to be a brand new experience for me and my company. Many thoughts streamed through my mind, one concern was how to teach and educate children rather than adults. Knowing that creative ideas catch the attention of many, especially children; I turned to the Dangerous Decibels® website to explore options. Based on the ideas found from Dangerous Decibels® I compiled a short PowerPoint presentation. If time was allotted, I would have conducted the entire Dangerous Decibels® Program; there are so many wonderful interactive hands-on tools that educate children.

To demonstrate how sound energy moves, ping-pong balls were my go-to teaching tools. Attaching colorful strings to ping-pong balls and touching the ping-pong balls with a tuning fork was a great demonstration on how sound moves. Hint: Provide enough ping-pong balls for all the children as they will be eager to take a turn in this popular demonstration. A second demonstration, which I found on the Dangerous Decibels® website, was placing a tuning fork in a tub of water and watching the water move. Within minutes of starting the education session, the children were hooked and we were having a blast! After the education session was finished, we brought the children outside in small groups to my mobile hearing test van. The children were enthusiastic and listened carefully to the instructions. A unique form was used to record the test results, which the school sent home to the parents for their awareness. As a result of this volunteer screening program we were able to identify hearing issues that would call for medical and audiological follow-up.

The program was considered a great success.

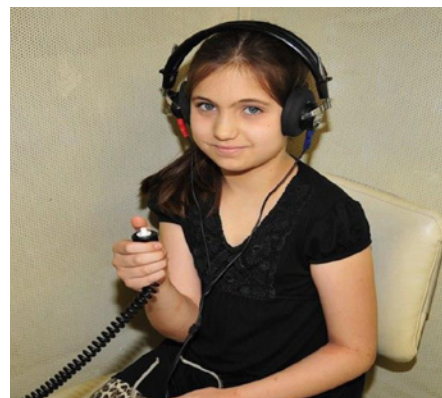
There are many opportunities to make a contribution and provide outreach for Better Hearing and Speech Month:

- Contact the local schools in your area about providing education for the students. There are many resources and tools that are appropriate for different grade levels, i.e. National Hearing Conservation Association.
- Occupational Hearing Conservationists should consider conducting a “Hearing Fair” for their companies to provide free hearing tests and educational materials for the family members of their employees.
- Reach out to your local Lions Club or Rotary Club and provide a similar Hearing Fair for their members.
- Write an informational article about hearing conservation for your local newspaper.

The possibilities are as wide as your imagination and creativity. Make a difference and take part in Better Hearing and Speech Month this May. Share your ideas and experiences with CAOHC. You can share through [Facebook](#), [Twitter](#) or [LinkedIn](#). Or, better yet, write an article for the next issue of Update! You can also go to the BHSM section of ASHA’s website for additional resources and ideas.



*Photo Courtesy of  
Hearing Health  
Foundation Free  
Hearing Screenings at  
Speyer Legacy School,  
NYC May 2, 2013*



*Photo Courtesy of  
Hearing Health  
Foundation Free  
Hearing Screenings at  
Speyer Legacy School,  
NYC May 2, 2013*





## Taking Noise-Induced Hearing Loss & Tinnitus Prevention into the Classroom

By: Ted Madison, MA CCC-A; 3M Company, Saint Paul MN & Deanna K. Meinke, PhD CCC-A, University of Northern Colorado, Greeley, CO

If we hope to change the attitudes of adults regarding the harmful health effects of noise and the benefits of hearing protection, we have to begin by engaging children. That was the objective of a conference of audiologists, classroom teachers, researchers, occupational health & safety professionals, and public health educators from around the world who met in Saint Paul, MN, October 15-18, 2013. Attendees shared information and ideas on how best to protect children from the harmful effects of exposure to loud music, noise and other hazardous sounds.

Dangerous Decibels® partnered with 3M Company to sponsor a four-day series of conferences, community events and training workshops. The series featured a two-day Innovations Conference, a two-day Dangerous Decibels educator workshop, and a free public event aimed at helping kids and their parents/teachers to raise awareness about the risk of noise-induced hearing loss and tinnitus faced by school-age children in an increasingly noisy world.

The “Innovations in the prevention of noise-induced hearing loss and tinnitus in kids” conference included over 40 speakers including youth from a local high school and from New Zealand via live teleconference. The first day of the conference focused on updates regarding the physiological basis for noise-induced hearing loss, noise exposure risks for youth, hearing protection devices, and intervention strategies. The second day focused on a review of programs and initiatives actively engaged in hearing loss prevention efforts targeting youth, program evaluation and the role of social media from the youth perspective. Fourteen additional poster presentations were also delivered, including presenters from Israel and Brazil. The first day concluded with an evening dinner co-sponsored by the National Hearing Conservation Association. The two-day Dangerous Decibels educator workshop was the largest ever, with 66 educators completing certification. These educators left the conference with an educator kit and supplies that equips them to deliver the program in their home communities immediately following the workshop. This will enable them to effectively change knowledge, attitudes and behaviors of youth with regard to hearing health risks.

The conference and workshops were intended to help achieve the goal of reducing the incidence and prevalence of noise-induced hearing loss and tinnitus through education. The primary focus of Dangerous Decibels® is to change knowledge, attitudes and behaviors about hearing loss prevention. Children in grades K-12 are the primary audience. Public health strategies indicate that you must start education early and repeat often in order to change behaviors. The conference also facilitated the exchange of resources from the various groups in an effort to inform and encourage mutually beneficial collaborative efforts. Many programs were not aware of each other’s efforts and this forum allowed each group to showcase their initiatives and learn from each other. It is anticipated that the programs will find synergistic opportunities to advance their initiatives and re-energize their individual efforts.

A highlight of the week was the “How Loud is Your Music –Jolene Family Reunion and U-Build-It Jolene Workshop.” Twenty teams of youth, parents and other adults spent an evening modifying fashion

mannequins with artificial ears connected to sound level meters so they can be used to measure the output of personal music player earphones in educational outreach activities. Known as “Jolene”, these mannequins were outfitted with eye-catching costumes and hair styles to more easily get the attention of tweens and teens in schools, at health fairs and other community events in order to raise awareness about how to listen to music safely. To learn more about “Jolene” or download the “Jolene Cookbook” visit <http://www.dangerousdecibels.org/jolene/>. Parents, teachers and youth also attended a short presentation on the potential risks to hearing from personal music players, earphone selection considerations and safe-listening strategies. These participants conversed as a group regarding questions, concerns and actions to be taken as adults and music player listeners. At the same time, many attendees had their individual earplug fitting tested to measure the amount of attenuation they were achieving and be trained or re-fit to achieve optimal protection using the EAR-Fit test system.

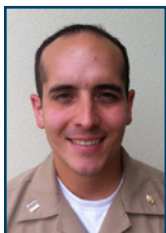
If you missed the conference and were unable to attend, presentations will be available online in the near future. Watch the Dangerous Decibels website ([www.dangerousdecibels.org](http://www.dangerousdecibels.org)) and 3M Linked-In social media sites (<http://www.linkedin.com/groups/3M-Hearing-Conservation-Community-4340015>) for access details when they become available.



### Innovations in Noise-Induced Hearing Loss & Tinnitus Prevention in Kids



A line up of artfully decorated ‘Jolene’ mannequins created at the October 2013 event titled “How Loud is Your Music –Jolene Family Reunion and U-Build-It Jolene Workshop” in Saint Paul MN.



## Asymmetric Hearing Loss and the Hearing Conservation Program

By: Seth L. Garcia, AuD CCC-A

One role of the Professional Supervisor (PS) is to make appropriate medical referrals when symptoms suggest possible otologic disease. Asymmetric hearing loss (AHL) is a common symptom in many forms of such disease. When a patient is found to have AHL with no signs or symptoms of a middle ear disorder, clinicians generally refer the patient for Magnetic Resonance Imaging (MRI) to rule out a retrocochlear type of hearing loss (Jiang et al., 2011). The most recurrent form of retrocochlear hearing loss (RHL) is caused by an acoustic neuroma (AN), which is a benign tumour of the balance or hearing nerves (Cueva, 2004). While potentially life-threatening, this type of tumor is known to be relatively rare, with Stangerup et al. (2010) reporting an annual incidence rate of 8 cases per million in the United States.

Asymmetric hearing loss is a common symptom in cases of both retrocochlear and noise induced hearing loss. One study reported AHL to be present in approximately 86% of research subjects with found tumors (Welling et al., 1990). On the other hand, as much as 80% of those with a history of noise exposure have been reported to display hearing loss that is unilateral or asymmetrical (Simpson et al., 1993). This commonality should lead clinicians to examine whether they are over-referring to rule out the presence of a rare otologic disease based

on symptoms commonly observed in noise-exposed patients. Jiang and associates (2011) evaluated AHL data and discovered that 98% of AHL patients referred for MRI scans were negative for RHL. While indifference to every case of AHL is ill-advised and unethical, over-referral must be avoided because it does not support the national goal to reduce burgeoning healthcare costs. Whatever referral method is employed, the high prevalence of AHL among noise-exposed patients should be considered, in conjunction with the importance of accurate and timely discovery of a potentially-serious otologic disease. A literature review revealed that the use of asymmetry calculations, diagnostic testing, and review of audiometric configuration are best practices that should be used by Professional Supervisors to make appropriate referral decisions.

### Asymmetry Calculations

Ample research has been published over the past few decades to identify how much hearing asymmetry is clinically significant and worthy of referral. Recommended calculations suggest methods based on measuring varying degrees of asymmetry across different pure tone thresholds. Many of these combine asymmetry calculations with



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– continued from previous page: *Asymmetric Hearing Loss and the Hearing Conservation Program*

other symptoms frequently present in patients with diagnosed acoustic neuroma, such as tinnitus and vertigo. A study by Zapala et al. (2013) synthesized all of the asymmetry calculation methods published since 1990, in an effort to identify which protocol was most effective at identifying clinically-significant cases. Their analysis indicated that referral methods utilizing a pure-tone average asymmetry calculation were most effective for properly identifying AN, while limiting false positives.

### Diagnostic Hearing Testing

Appropriate medical referrals can be made following a routine diagnostic or neuro-diagnostic audiological evaluation. The auditory brainstem response (ABR) measures brain activity in response to auditory stimuli, which is recorded and compared to established normative data. While traditional ABR is relatively effective in detecting large tumors, smaller lesions stand a reasonable chance of being missed; therefore, delaying identification past the point when surgical intervention has the best chance of success (Cueva, 2004). Other useful clinical tests include speech testing, tympanometry, and otoacoustic emissions.

### Audiogram Configuration

Some hearing-related pathologies carry a signature audiogram configuration unique to its medical diagnosis. For example, in the case of noise-induced hearing loss, the tell-tale configuration is a bilateral symmetric notch at 4000Hz. Attempts to identify a specific audiogram attributable to RHL have been unsuccessful, although the configurations most commonly found in studied subjects is a unilateral or asymmetric high frequency hearing loss (Gimsing, 2010; Suzuki et al., 2010). Reliance on configuration of the audiogram may serve as a trigger for taking a closer look at a patient, but should not be the only basis for referral, as many hearing related pathologies defy conventional wisdom and traditional clinical findings.

### Conclusion

It is imperative that hearing conservationists remain alert to the early warning signs of otologic disease, especially within the routine

audiogram. However, initiating medical referrals, particularly for high-cost MRI scans, should be made using a thoughtful rationale. While it is unlikely that a one-size-fits-all method will be ever be adopted, continued research on AHL in noise exposed patients is necessary to allow clinicians to advocate for medical intervention when necessary, while remaining good stewards of medical resources.

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*Lieutenant Seth Garcia is an Active Duty Navy occupational audiologist. He earned his Doctor of Audiology degree in 2008 from the University of Washington, and is currently assigned to Naval Hospital Guam, where he serves as the Department Head of Audiology.*





## CPO Update: American Academy of Audiology

By: Antony Joseph, AuD PhD CPS/A

From March 26-29, the American Academy of Audiology held its annual conference, known as AudiologyNOW! 2014, in Orlando, Florida; home of Olive Garden, Red Lobster, and the famous international highlight, Walt Disney World. Although the weather was very cooperative outside, there was much to take in at the site of the conference inside the Orange County Convention Center. The keynote speaker at General Assembly, Mark Thompson, best-selling author and Tony-Nominated Broadway producer, discussed real-time solutions for today's leadership challenges, a vibrant and thought-provoking presentation. Academy President, Dr. Bettie Borton, and President-Elect, Dr. Erin Miller, electrified the crowd when they announced a special guest appearance by the World-Champion Seattle Seahawks' star running back, Derrick Coleman (#40). After a roaring applause, Coleman briefly shared the obstacles that must be overcome by hearing-impaired athletes. The touching story of this professional football player was very up-lifting, and magnified the importance of delivering patient-centered health services. Derrick Coleman made almost everyone in the audience feel a sense of pride about the critical services they provide to individuals in the hearing-impaired workforce.

There were numerous standing-room only presentations, including the Academy Research Conference (ARC), which is an annual one-day

translational research presentation, launched in 2009. The ARCs are designed to enhance an understanding of the latest research in areas of critical need, and, this year, featured a slate of prominent speakers who discussed cutting-edge research on, "Hearing Aids and the Brain."

A number of Learning Modules, Labs, and Featured Sessions on tinnitus diagnostics, treatment, and rehabilitation were presented, a must for clinicians in hearing conservation, given the incidence of tinnitus and noise-induced hearing injury. In recognition of Academy honorees, research grant recipients, and philanthropic supporters of the American Academy of Audiology, an Honors and Awards Banquet was held on March 27. Of note, Dr. Deanna Meinke introduced the winner of the Academy's Distinguished Achievement Award, Dr. William Hal Martin, who was applauded for "forging a new frontier in public health as co-director of Dangerous Decibels." Congratulations to Dr. Martin for this well-deserved distinction!

The next Academy conference is in San Antonio, TX from March 25-28, 2015.

For more information, please refer to the following links:

<http://www.audiology.org/Pages/default.aspx>

<http://www.audiology.org/development/meetings/Pages/default.aspx>

## Upcoming Webinars: 2014 CAOHC/National Hearing Conservation Association (NHCA) Webinar Series

### Plugging the Holes in Hearing Conservation Programs: Promoting Prevention and Overcoming Obstacles

All Webinars are scheduled to begin at the following times:

9:00 a.m. PST | 10:00 A.m. MST | 11:00 a.m. CST | 12:00 p.m. EST

There will be an opportunity for questions at the end of each session.

Thursday, May 25, 2014

#### **"Assessing Hearing Protector Attenuation on Individual Ears"**

*Presenters: David Byrne, MS, PhD  
Research Audiologist, National Institute for  
Occupational Safety and Health*

*Christa L. Themann, MA, CCC-A  
Research Audiologist, National Institute for  
Occupational Safety and Health*

Thursday, June 19, 2014

#### **"Audiometric Monitoring: Infection Control and Otoscopy"**

*Presenter: A.U. Bankaitis, Ph.D., FAAA -  
Oaktree Products, Inc.*

Thursday, July 17, 2014

#### **"A Shot of Prevention: Firearms and Hearing Protection"**

*Presenter: Deanna Meinke, Ph.D. - University of  
Northern Colorado*

Thursday, August 21, 2014

#### **"Economics of Hearing Conservation Program and Noise Control"**

*Presenter: Dennis P. Driscoll, P.E., Brd. Cert.,  
I.N.C.E. - Associates in Acoustics, Inc.*

Thursday, September 18, 2014

#### **"Advocating to Reduce the Ill-Effects of Noise Exposure"**

*Presenter: Peter Rabinowitz, M.D., M.P.H.  
- Associate Professor, Env. and Occ. Health  
Sciences  
Washington University*

To Register: Please visit [CAOHC.org](http://CAOHC.org)

## Leadership

The CAOHC leadership otherwise known as the Council consists of two representatives from each of the following Component Professional Organizations (CPO).

- **American Association of Occupational Health Nurses (AAOHN)**  
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*CAOHC Council Past Chair*  
Elaine Brown, RN BS COHN-S/CM COHC
- **American Academy of Audiology (AAA)**  
Laurie L. Wells, AuD FAAA CPS/A  
*CAOHC Council Vice Chair-Education*  
Antony Joseph, AuD PhD CPS/A
- **American Academy of Otolaryngology - Head & Neck Surgery (AAO-HNS)**  
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