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# UPDATE



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The Newsletter of the Council for Accreditation in Occupational Hearing Conservation

## The NRRs, They May be a Changin'

By E. H. Berger, MS  
Representative for the American Industrial Hygiene Association

The Noise Reduction Ratings (NRRs) that are emblazoned on all hearing protection devices that we buy and recommend are governed by a 1979 Hearing Protector Labeling Regulation promulgated under the auspices of the Environmental Protection Agency (EPA, 1979). You all know the NRR as the decibel value on hearing protector labels that has become so influential in many companies' choice of hearing protection devices (HPDs). The NRR was intended to be a simplified guide to consumers and professionals that would accurately indicate the amount of noise reduction they might anticipate receiving from an HPD. Higher numbers were supposed to denote greater effectiveness. It seemed a fine idea at the time. History has demonstrated otherwise (Berger, 1993 and 1999).

That elderly rule has many shortcomings, not the least of which is the fact that labeled NRRs bear little resemblance to what groups of users can expect to obtain in actual hearing conservation programs. Unfortunately the EPA's Noise Office has been essentially out of business since shortly after the regulation was promulgated and thus has been unable to consider revising and updating that regulation. Much has been learned in the intervening time frame, and it appears that the rule is about to be revisited. In a surprising move, EPA announced in March that a workshop would be held to present and review data leading to a new proposed rule on hearing protector labeling.

At the outset, you might ask why the EPA is even in the hearing protector labeling business. After all, the Occupational Safety and Health Administration (OSHA) or perhaps the Mine Safety and Health Administration (MSHA) are the government regulatory agencies with which you typically deal for matters of hearing conservation. Although they regulate noise exposures and hearing conservation in the occupational realm, it is the EPA that was empowered by the Congressional Noise Control Act of 1972 to label noise reducing and noise producing devices. It was not until the late 1970s that EPA actually created regulations under this act, and the only noise-reducing devices they ever labeled were HPDs. Shortly thereafter the Noise Office of EPA was defunded and their staff rapidly dwindled to less than one. Less than one you ask? Well, Mr. Ken Feith, the original director of the Noise Office and the man responsible for the original labeling regulation continued with the EPA in the

other capacities, but devoted only a portion of his time to the hearing protector regulation.

Now, some 24 years later it has become possible for Mr. Feith to consider updating the regulation. Many in the professional community are surprised, excited, and perhaps pleased at this possibility, since for a number of years numerous problems in the existing regulation have been documented in the literature. Perhaps the most prominent group to discuss the issues was the National Hearing Conservation Association (NHCA) Task Force on Hearing Protector Effectiveness, chaired by Dr. Larry Royster. They recommended a number of changes to the EPA label and accompanying information, not the least of which was a change in the basic test procedure from the outdated and withdrawn ANSI standard, S3.19 1974 to Method B of the current standard, S12.6-1997 (Berger and Royster, 1996; Royster, Royster, 1995; ANSI, 1997). Method B is of course the procedure that is intended to provide a more useful indication of the field performance of hearing protectors than does the overly optimistic S3.19 procedure (Berger et al., 1998).

On March 27 and 28, 2003, the EPA held a two-day workshop at their headquarters in Washington, DC, to air the issues and obtain recommendations from the stakeholders in the hearing conservation community. The hastily arranged meeting was nevertheless reasonably well attended with approximately 50 professionals in present, representing the American National Standards Institute (ANSI), professional organizations such as ASHA and CAOHC, the U. S. Military,

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Ken Feith of the EPA addressing the Hearing Protector Labeling Workshop, while John Franks from NIOSH looks on.

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## CAOHC Approved OHC Courses

When you are registering for a recertification course (or if your fellow staff member is registering for the first time at a certification course), please confirm with the registrar that "this is a CAOHC approved" course. Only certified Course Directors, who have received a course approval certificate from the CAOHC Executive office, can conduct an occupational hearing conservation course that leads to CAOHC certification. Course Directors must display this certificate of approval in view of their students. If you don't see it, please ask your Course Director.

If you are uncertain whether the course you are planning to attend is certified by CAOHC, please contact Chris Whiting at the CAOHC office at 414/276-5338 or e-mail [info@caohc.org](mailto:info@caohc.org)



## Chair's Message

By Theresa Y. Schulz, PhD  
Representative of the Military Audiology Association

"Opportunity is missed by most people because it is dressed in overalls and looks like work." **Thomas A. Edison (1847 - 1931)**. Mr Edison was right in a way. One way toward opportunity is through hard work. But there are other opportunities that we miss just because we're not looking for them! I have had some excellent opportunities in hearing conservation that have paid off in a big way. My whole military career has evolved through what I consider a series of opportunities. If you look for opportunities they show up in some unexpected places. Let me give you some examples.

Have you considered talking to teachers you know about working with them to educate their students about hearing conservation? This is an excellent opportunity to influence a future generation that knows the value of good hearing and wants to protect it. (It can be great fun as well.)

Have you thought about writing an article for the UPDATE to share tips, ideas, funny stories and maybe some of the opportunities that you've had to prevent noise-induced hearing loss? This is an excellent way to learn from each other. Contact the CAOHC office regarding your ideas for an UPDATE article ([info@caohc.org](mailto:info@caohc.org)).

Do you carry earplugs around with you? There are numerous times when I've provided hearing protection on airplanes, at loud music events etc. I even give them to those folks you see out cutting grass, weed-eating and grass-blowing all over town! Not only will you help protect the hearing of the folks you give the earplugs to, they'll tell people that some stranger came up and gave them earplugs and the story to go on to people you'll never encounter in person.

A great way to start a conversation with your friends or even complete strangers is to ask them what their favorite sound is. I've found this always opens an opportunity to discuss hearing conservation in a way that is meaningful to that person and leads to very interesting discussion.

If you think about it you can make opportunities to prevent noise-induced hearing loss not only on the job as a hearing conservationist but every where you go.

As Francis Bacon (1561-1626) noted, "A wise man will **make** more opportunities than he finds." And that applies particularly to every man and woman serving as OHCs in America today.

## Fall 2003 Course Director Workshop

The Council will conduct the fall Course Director Workshop on Friday, October 3, 2003 in Rosemont, Illinois at the Sheraton Gateway Suites O'Hare. This workshop is a requirement for Course Director certification upon application approval by the CAOHC Screening Committee.

Course Directors may also choose the workshop method for recertification. All questions may be directed to Barbara Lechner, Executive Director, at 414/276-5338. Application forms are available online at [www.caohc.org](http://www.caohc.org) as well as the workshop registration form.

The next CD workshop will be held in the Spring 2004 at the Marriott Airport, Philadelphia, Pennsylvania.

## Spring 2003 Semi-Annual Council Meeting

The Council met on March 13, 2003 in Atlanta, Georgia at the Embassy Suites Airport Hotel. The various CAOHC committees reported activities that have been planned and/or completed since the last meeting, received an update from the Executive office staff about the certification process and other business matters, and discussed pertinent issues relating to hearing conservation.



## HIPAA's Privacy Rule and the Certified Occupational Hearing Conservationist

By Gayle S. Rink, RN, MS, COHN-S  
Representative for the American Association of Occupational Health Nurses

Don't let HIPAA overwhelm you! HIPAA – the Health Insurance Portability and Accountability Act–went into effect April 14, 2003 and admittedly contains a lot of complex topics and terminology. However, the answers to questions about how this legislation affects your responsibility to protect personally identifiable occupational hearing testing information are well within your reach.

What OHCs really need to know is “Do I need to comply with HIPAA?” and, if so, “How?” Since occupational hearing conservationists (OHCs) work in a variety of business organizations, there unfortunately is no uniform applicability of this law to every OHC's practice. Therefore, the goals of this article are (A) to direct each OHC to the information needed for determining whether HIPAA applies to their particular work scenario and (B), if adherence is found to be needed, to describe how HIPAA applies to the one work scenario in which most occupational hearing conservationists find themselves – performing and documenting the results of pure-tone air-conduction audiometry at the request of an employer for the purpose of complying with OSHA's or MSHA's Noise Standards.

A. The important *initial* question for the OHC is then: “**Am I (or the business unit within which I work) required to comply with HIPAA?**” To end up with the correct answer to that *initial* question, each OHC must determine whether they (or, actually, the business unit within which they work) are considered by HIPAA to be a “covered entity.” There are three categories of covered entities: health plans (typically known as insurance companies), health care clearinghouses (typically known as billing companies), and health care providers (the latter being the category within which most OHCs are expected to find themselves). Table I (see page 11) provides HIPAA's basic definitions for these covered-entity categories.

Within the typical OHC's health care provider category, however, not all business units are required to comply with HIPAA – but rather, just those business units that conduct certain financial and administrative transactions *electronically*. To understand what “transactions” require HIPAA compliance for health care providers, the OHC needs only to check the list of covered transactions by using the “Decision Tools” or “Covered Entity Flowcharts” at the following web address: <http://www.cms.hhs.gov/hipaa/hipaa2/support/tools/decisionsupport/default.asp>. **Remember that the listed transactions mandate HIPAA compliance for health care providers only if the transactions are transmitted by the health care provider (or another entity on its behalf) in electronic form.** (Table I also provides HIPAA's definition of “electronic form.”)

Obviously, if the answer to that most basic question is “no,” concerns about all HIPAA's provisions may be dismissed. As OHCs, however, whether required by HIPAA or not, it is

certainly each OHC's moral and ethical obligation to protect the health information entrusted to him/her with the same degree of respect he/she would expect from other health care professionals who have access to his/her health information. It is also critical to note that, apart from the HIPAA principles discussed in this article, there are also legal responsibilities beyond HIPAA (e.g., ADA) that must be considered with respect to safeguarding the confidentiality of personal health information.

B. If you answered “yes” to question “A” above, the next question to be answered is: “What must I do to comply with HIPAA's Privacy Rule?” For the inquiring business at large, management is responsible (among other things) for:

1. Establishing a privacy policy,
2. Publishing a notice of privacy practices for clients patients, and
3. Developing an acknowledgement form for use when a client's/patient's signature is needed.

For the OHC within the larger practice, the answer to this follow-up question rests in the process and purpose for which the OHC's audiometric testing is being performed. As mentioned above, the mostly likely *purpose* for OHCs to be involved in the performance of audiometric testing relates to fulfilling the requirements of OSHA's and/or MSHA's noise standards through a *process* that involves being requested to do so by an employer. From this specific “purpose and process” perspective, HIPAA legislation is fortunately quite explicit in paragraph 45 CFR 164.512(b) as to what must occur to ensure compliance with the Act. This paragraph deals specifically with disclosures of individually identifiable health information for public health activities such as OSHA- or MSHA-required medical surveillance.

In short, if the OHC (or the business unit within which the OHC works) qualifies as a covered health care provider, the OHC may disclose or report all the audiometric findings required by OSHA or MSHA to the tested individual's employer without obtaining previous written *authorization* to do so from the tested individual. **However**, (a) the information reported must be limited to that which is specifically required by the respective regulatory agency and (b) the tested individual must be notified in writing at or before the testing session that the resulting data will be furnished to the individual's employer. HIPAA does allow the notification mandate to alternatively be met by posting the notification at the tested individual's worksite (if the testing service is provided there), rather than providing a written notification to each person tested.

If, rather than the data being generated originally and/or solely for the purpose of OSHA or MSHA compliance, the needed hearing threshold data happens to have been generated

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## 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 contactor 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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## Twenty-Five “Most Active” Course Directors for 2002 Announced

The CAOHC Council is pleased to announce the twenty-five most active Course Directors for 2002. A total of 2,394 new and recertifying Occupational Hearing Conservationists were taught by these 25 Course Directors. This represents 60% of ALL the students who certified or recertified in 2002. Many of these Course Directors were in CAOHC’s Top 25 last year. We welcome the newcomers to this list, too. Congratulations to all!

1. Timothy A. Swisher (Hearing Safety - Pittsburgh, PA)
2. John H. Elmore (Precision Hearing Conservation - Helotes (Houston), TX )
3. Melette L. Meloy (Sound Solutions - Dallas, GA)
4. Robert C. Rhodes (Occupational Marketing, Inc. - Houston, TX)
5. Thomas D. Thunder (Acoustic Associates, Ltd. - Palatine, IL)
6. William K. Wolfe (ETC - Roswell, GA)
7. Kathryn M. Deppensmith (Occupational Marketing, Inc. - Houston, TX)
8. Kirsten R. McCall (Center for Hearing Health - San Ramon, CA)
9. George R. Cook, Jr. (Workplace Hearing, LLC - Greensboro, NC)
10. Mary M. McDaniel (Pacific Hearing Conservation, Inc. - Seattle, WA)
11. Melissa B. Lyon (Gunter Audiological Services - Marion, IN)
12. Georgia W. Holmes (Deep South Center -AUM Speech & Hearing Clinic - Montgomery, AL)
13. Charles E. Fankhauser (MEDI - Benicia, CA)
14. Pamela J. Gordon (Gordon Hearing Conservation, Inc - Danvers, MA)
15. Michael Seidemann (Audiological Associates, Inc. – Kenner, LA)
16. Dana Oviatt (Audiology Services - Syracuse, NY)
17. Ellen Kelly (Center for Speech & Hearing Sciences, Inc., East Brunswick, NJ)
18. Roger M. Angelelli (Audiometric Baseline Consulting - Bethel Park, PA)
19. Mark Cheple (Associated Hearing & Audiology -West St. Paul, MN)
20. Laura Kauth (Audiology Consultants - Davenport, IA)
21. Andrew P. Stewart (E.I. Inc - Durham, NC)
22. Thomas W. Norris (The Hearing Center - Omaha, NE)
23. Jane Prince (Arkansas Audiomedical, Inc. – Jonesboro, AR)
24. Diane Brewer (George Washington University – Washington, DC)
25. Charles Ferrell (University of Tennessee – Knoxville, TN)

Congratulations

### More Changes on the CAOHC Website

We have provided you with a new easier way to find OHC Course Listings on the CAOHC website. This new search method provides you with the capability to search for a certification or recertification course by city, state, country, date, or by course director name. Go to the third menu selection on the left of the homepage and select “Courses for Technicians (OHCs).” You may then use any of the selection choices mentioned above.

We’ve also added archived **UPDATE newsletters** (12 months and older) as a full issue (when possible) – not just selected articles. Go to “Publications and Teaching Tools” on the left menu selection and select Update Newsletter and then click on the issue of your choice. *These are available as PDFs only.*

[www.caohc.org](http://www.caohc.org)

**NRRs**

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researchers, the National Institute of Occupational Safety and Health (NIOSH), and many of the principal hearing protector manufacturers. The first half day of the meeting consisted of a welcome by Mr. Feith and invited lectures by Alice Suter (author of the CAOHC Manual and architect of the OSHA Hearing Conservation Amendment), John Franks and Bill Murphy from NIOSH, John Casali from Virginia Tech University, and Elliott Berger from Aearo Company, representing the ANSI working group that he chairs, S12/WG11, *Hearing Protector Attenuation and Performance*.

The morning's papers dealt with an overview of the problem, evaluation of the advantages of Method-B testing, statistical analyses of test results from laboratory-based hearing protector measurements and comments on the variability of test data, examination of issues related to labeling electronic and specialty hearing protectors, and suggestions for a new number rating scheme that would be easier and more useful for hearing conservationists and consumers alike. In the afternoon, the Air Force, six hearing protector manufacturers, and the hearing protector manufacturers' trade association (ISEA, the International Safety Equipment Association), presented their viewpoints on the issue. The second day was devoted to morning and afternoon brainstorming sessions in smaller groups, dealing with issues related to hearing protector labeling, developing rating procedures, and testing electronic and specialty devices.

An incredibly wide variety of ideas were put on the table and debated as EPA and NIOSH looked on. The intent was to capture public comments for analysis and review as Mr. Feith works to craft a revised regulation that we were led to believe will definitely appear, although the time frame was uncertain. Following the publication of the newly proposed rule, a period of public comment is expected to be announced, lasting an estimated 60-90 days, after which a final rule should be promulgated. The only hint at time frames that was provided is that the goal is to issue the completed rule by the end of the current Presidential administration.

The new rule could have an important impact on your hearing conservation programs. If indeed the labeling requirement is changed to require testing according to the new Method-B procedure and the recommendations of the NHCA Task Force, you might see numbers on HPD packaging that are more meaningful and could be applied with greater confidence. Stay tuned to the *Update* and the CAOHC website for announcements of the proposed rule, and opportunities for you to respond to this pending hearing conservation related regulation. Additionally you can view the docket and comment directly to the EPA by visiting [www.epa.gov/edocket/](http://www.epa.gov/edocket/) and looking for Docket Number: OAR-2003-0024.

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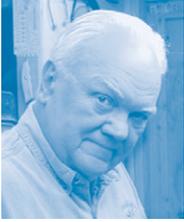
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## Fall 2003 Long Range Planning & Council Meeting

The CAOHC Council will hold a long range planning session on Wednesday, October 1, 2003 and their semi-annual Council meeting on Thursday, October 2, 2003 in Rosemont, Illinois at the Sheraton Gateway Suites Hotel O'Hare. The Council is comprised of two representatives from each of the Component Professional Organizations assisting CAOHC in meeting its mission (*see back cover for these representatives and their organizations*). The Council will spend a day planning future goals for CAOHC. They will meet the following day to report on the status of committee projects, discuss tactics for carrying out future tasks, and to review the fiscal activities of CAOHC.

## Classified Ad

"Noise Destroys Your Hearing", released in January of 2003, is the second in a series of hearing conservation training films focusing on the components of an effective hearing conservation program. Free preview is available. Run time of 6.5 minutes. Visit [www.knproduction.com](http://www.knproduction.com) and click on "sales" or call 1-877-773-4698 toll free for information.



By David M. Lipscomb, PhD  
President Correct Service, Inc., Stanwood, WA

## The Impact of NIHL Upon Quality of Life

Have you ever been surprised upon hearing the bitter complaints offered by persons who have sustained a noise-induced hearing impairment? After all, many of these persons have normal-appearing hearing thresholds in the audiometric frequencies up to about 3000 Hz. So, why the mysterious jump in functional disability with what appears to be sort of frequency-limited high-tone hearing impairment? It is not unusual to overhear hearing conservationists, audiologists, and physicians indicate that the high-frequency impairment (HFI) might reduce one's appreciation of high-fidelity stereo systems, bird songs, and other aesthetic sounds inhabiting the upper registers, but why the complaints? Are these folks overstating or reacting?

### Effects of Noise-induced Hearing Impairment on the Individual

In most cases, complaints offered by noise-injured persons are valid and hearing health professionals will do well to listen to these persons. The complaints and problems listed below are indications that the auditory mechanism has sustained a severe blow and experienced much more loss of comprehensive function than the pure-tone audiogram might indicate. The litany that follows incorporates the most typical difficulties encountered as expressed by persons with noise-induced hearing impairment:

- Difficulty receiving and understanding communications at work—sometimes posing a safety or work efficiency problem
- Feeling stupid because they cannot quickly understand and respond to people in a group situation
- Tinnitus, either occasional or constant in one or both ears—often distracting and possibly interfering with sleep
- Difficulty hearing and understanding speech when the talker is more than 5 or 10 feet away
- Difficulty hearing and understanding speech of women and children due to the higher frequency character of their voices
- Difficulty hearing and understanding speech when there is competing speech or noise (e.g., group listening situations or conversation on a street corner, etc.)
- Difficulty hearing in large or reverberant spaces such as church, meeting halls, etc.
- Feeling the need to turn the volume up on radio and television sets—often aggravating others in the same room
- Requiring the use of a hearing aid—sometimes with problematic results

### The Speech-in-Noise Problem

Of all the above-cited auditory problems, hearing and understanding speech in the presence of competing sounds is the most commonly expressed problem. And here's why:

#### 1. Redundancy of the hearing mechanism function.

It is a happy fact that there is such redundancy. This means that some damage to the mechanism does not shut it down in a digital sense (either on or off). Even though the hearing sense has been degraded by pathology, persons beset with the injury are not relegated to being 'off the air.' In fact, hearing impairment must be nearly total in order for a person to be unable to utilize auditory channels.

#### 2. Redundancy of speech.

Classical studies concerning speech function conducted decades ago demonstrate that there is far more information in the speech signal than the normally-hearing person actually needs. For example, one can filter out all speech frequencies above 1,500 Hz and the *normally functioning* ear can still perceive the speech information with perfect or near-perfect accuracy. Also, filtering out all the speech information below 1,500 Hz, and the *normally functioning* auditory mechanism can still gain nearly perfect speech intelligibility. Not so, however, with the injured ear when the damage is sensory (cochlear) or neural (along the nerve pathways).

#### 3. The speech-in-noise phenomenon.

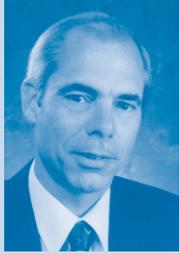
In an ideal listening situation such as presenting a quality speech signal, no competing noise and proper amplification, persons with noise-induced hearing impairment are able to understand speech quite well. Recall that a large segment of the noise-injured population scores well on conventional speech audiometry (speech discrimination testing). In a quiet environment, these individuals regularly achieve speech discrimination scores in the 90% range. So, one might ask—why the bitter complaints?

In the ideal listening experience, even the damaged ear receives abundant speech information such that the ear accomplishes good discernment of the speech signal. However, if the speech signal is degraded by using interfering noise (e.g. +5 dB signal-to-noise ratio), filtering the speech signal, or using difficult-to-hear stimuli, the performance of the noise-injured ear will plummet to surprisingly poor levels. It is not uncommon to note that a person with 96% speech discrimination in quiet will score no better than 70% with competing noise inserted into the listening condition. It is for the above reason, that one should always use speech-in-noise testing to fully assess the injury of noise-exposed persons during a thorough clinical evaluation.

#### The Physiological Reason

Numerous histology studies have established that the scope of sensory cell damage due to injurious sound overexposure is far greater than the pure-tone audiogram would indicate. These investigations in which both human and animal inner-ear sensory cell tissue was examined after injurious

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## CAOHC Hearing Conservation Manual 4<sup>th</sup> Edition

Authored by: Alice Suter, PhD

Reviewed by: Tom Jaeger, MA

Almost a decade has passed since publication of the Council for Accreditation in Occupational Hearing Conservation's (CAOHC) third edition of the *Hearing Conservation Manual* with minimal changes in the Occupational Safety and Health Administration's (OSHA) requirements or advancements in research. That said, Alice Suter has used her insight, expertise and close circle of professional colleagues to author an updated and expanded fourth edition of the *Hearing Conservation Manual*.

When the first *Hearing Conservation Manual* was published by CAOHC in 1978, it was recognized as a valuable reference tool for the audiometric technician. Each subsequent edition has been an improvement over the last, incorporating changes in the OSHA regulations, developments in research and insight into hearing conservation program administration. The CAOHC *Manual* is now recognized as a leading text and resource for the occupational hearing conservationist (OHC), hearing conservation program manager, occupational nurse or physician, and occupational audiologist.

At first glance, a comparison of the third and fourth editions shows almost identical chapter layout and format. However, a closer look identifies a number of major additions to the text that are incorporated in each chapter. They include changes and interpretation of the 1998 National Institute for Occupational Safety and Health's (NIOSH) *Criteria Document*, the 1999 Mine Safety and Health Administration's (MSHA) Noise Regulation, and OSHA's Noise Regulation. In addition, most chapters include revised Quiz Questions, an updated Recommended Reading list and a new listing of Internet Websites.

There are also major improvements to three chapters: Chapter IV, "Standards and Regulations," now includes a table comparing the requirements/recommendations of OSHA, MSHA and NIOSH (borrowed from the American Industrial Hygiene Association's *Noise Manual*). It also includes updated information on OSHA recordkeeping requirements, the Americans with Disability Act, state OSHA plans, the Construction Noise Regulation, plus several pages of detail on the MSHA Noise Regulation.

Chapter VII, "Audiometric Testing," has updated examples of audiometric test equipment, computer systems and databases, test booths and bioacoustic simulators. Photos of normal and abnormal eardrums have been added along with an expanded section on microprocessor audiometers (while self-recording audiometry had been deleted). Chapter X, "Hearing Protection,"

includes updated pictures of hearing protectors, suggestions for prohibiting the use of headset radios at work, and expansion of the information on flat attenuation protectors, NIOSH recommendations and noise reduction ratings.

However, the most significant changes, those that make it worth purchasing this fourth edition (even though you may already own the third) are the addition of several appendices.

These include OSHA Interpretation and Compliance Letters, the MSHA Noise Regulation, an updated listing of Workers' Compensation Hearing Loss Statutes in the US and Canada, and two new ANSI standards.

My overall comparative assessment of the third vs. fourth editions of the CAOHC *Hearing Conservation Manual* is that it is an improved text and greatly enhanced resource. The pictures and graphics are higher quality than in previous editions. The index is greatly expanded and infinitely improved. Finally, the table comparing OSHA, MSHA and NIOSH regulations/guidelines, plus the addition of the ANSI documents and OSHA Compliance Letters to the appendices, are invaluable tools to anyone involved in occupational hearing conservation and hearing loss prevention. The CAOHC *Hearing Conservation Manual* is an essential text for the OHC instructor and student, plus any health and safety professional responsible for an occupational hearing conservation program.

*Tom Jaeger is a longstanding member of NHCA who recently retired as industrial audiologist for Kodak. He currently serves as a consultant with Hearing Conservation Services in Rochester, NY.*

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**See page 11 of this issue for a manual order form, or go to the CAOHC website at [www.caohc.org](http://www.caohc.org) and click on the manual box on the homepage.**



**OHC Corner - Testing***continued from page 4*

7. 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>]

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**HIPAA's Privacy Rule***continued from page 3*

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/>

*continued on page 11*

**UPCOMING OHC CERTIFICATION AND RECERTIFICATION COURSES\* 2003**

\*The listed dates indicate day one of the scheduled classes; certification courses are 20 hours in length; recertification classes are 8 hours.

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for the most current list of courses contact the CAOHC office at 414/276-5338.**

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**Impact of NIHL**

*continued from page 7*

noise exposure offer strong indications that noise-related injury is far more wide-ranging than affecting only the high-frequency regions.

Different areas of the cochlea receive and translate varying acoustical signals in a manner that is characteristic to the region stimulated and the frequency involved. Lower frequencies, for example have a broad effect in the cochlea whereas higher frequencies are narrow in their effect. Thus, low-frequency perception is more difficult to 'lose' than are higher frequencies. Hence, the pure-tone audiogram shows effects limited to the upper frequencies, although there is often more extensive damage in the regions of the cochlea that serve the lower frequencies.

**Conclusion**

The mammalian auditory mechanism and the central nervous system is astonishingly complex in design and function. While this poses problems for us who desire to understand this sensory modality, we should celebrate the complexity. For without such complexity, we would be forced to communicate in a series of squawks, squeaks, grunts and whistles.

Having a working knowledge of the injury pattern caused by noise overexposure will be useful in comprehending the experiences of those who have been injured by high-level sound. The professional in the hearing health community is encouraged to attempt to 'visualize' the structure and injury pattern within the cochlea in the wake of sound-related injury. Then, and only then will it be possible to more fully understand and appreciate the extent to which the injured person experiences a sense of loss.



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### HIPAA's Privacy Rule *continued from page 9*

## Table 1: Basic HIPAA Definitions

#### Health plan:

a private individual or group plan, or combination thereof, that provides, or pays for the cost of, medical care; one of the listed government-funded health plans.

#### Health care clearinghouse:

a business or agency that processes, or facilitates the processing of, health information from nonstandard format or content into standard format or content, or from standard format or content into nonstandard format or content.

#### Health care provider:

a person, business, or agency that furnishes, bills, or receives payment for, health care in the normal course of business.

#### Health care:

care, services, or supplies related to the health of an individual, which includes (but is not limited to) the following: (a) preventive, diagnostic, rehabilitative, maintenance, or palliative care, and counseling, service, assessment, or procedure with respect to the physical or mental condition, or functional status, of an individual or that affects the structure or function of the body; and (b) sale or dispensing of a drug, device, equipment, or other item in accordance with a prescription.

#### Electronic form:

Using electronic media (as defined at 45 CFR 162.103) including transmissions over the Internet (wide-open), Extranet (using Internet technology to link a business with information only accessible to collaborating parties), leased lines, dial-up lines, and private networks, and those transmissions that are physically moved from one location to another using magnetic tape, disk, or CD media.

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