



UPDATE

The Newsletter of the Council for Accreditation in Occupational Hearing Conservation

VOLUME 10 • ISSUE 3 • FALL 1999

Chair's Message

by Susan Cooper Megerson, MA CCC-A

CAOHC Chair, Representative of the American Speech-Language-Hearing Association



It's hard to believe that two years have passed since I assumed the position of Council Chair. It has been my privilege to

serve with an extremely talented and dedicated group of volunteers and staff. Due to the input from many Course Directors and OHCs and the tireless contributions of CAOHC's Executive Committee, Committee Chairs, Council members and Executive staff, we have accomplished a great deal. I would like to thank this team of extraordinary individuals for their distinguished efforts toward improving Occupational Hearing Conservation Programs. Be assured that CAOHC's "next generation" of officers and committee chairs are equally committed to CAOHC's mission and goals.

Much of the material in our previous issues of UPDATE has

focused on topics germane to your Occupational Hearing Conservation Program. We hope that you have found CAOHC to be a beneficial source of assistance with your daily practice of preserving hearing in the workplace. This month, however, we ask you to consider broadening your reach. As a trained hearing conservation professional, you have the opportunity to spread your knowledge to those who typically do not have access to information on noise and hearing conservation. Why not consider serving as a resource and providing training for the general public?

Hold a training class for your local neighborhood, civic or religious group. Many people are still uninformed about the hazardous effects of noise and strategies for protecting their hearing.

Participate in National Noise Awareness Day (see our Spring 1999 UPDATE and the CAOHC Website for facts on this effort to increase public awareness).

Provide information for those whose hearing is critical to their hobby or livelihood, such as singers, bird-

watchers, hunters, or music-lovers (see the enclosed reprint of NHCA's public information brochure entitled "Hearing Loss Prevention for Musicians").

Spend some time with kids! How often have you found that young people entering your workforce have little or no knowledge of noise and hearing protection? (See the article on page 8 regarding the "Crank it Down" program for grade school children).

In order to assist you in promoting good practices of hearing conservation on the job, and now beyond the walls of your workplace, CAOHC routinely provides listings of references and training materials available through various government and private sources. Please read on for Merrie Healy's most recent summary of available resources.

It has been my pleasure serving you. Best wishes for much continued success with your efforts to conserve hearing!

Hearing Conservation: Internet Information & Training Resources

by Merrie L. Healy, RN MPH

CAOHC Representative of the National Safety Council

Anyone who has responsibility for an occupational hearing conservation program is aware of the need to obtain up-to-date information and training materials. In an effort to support that, this article will provide a summary of resources. Bearing in mind that not all persons have Internet access, addresses and phone numbers will be provided whenever possible. *(The inclusion of the following organizations and resources are not meant to be an endorsement by CAOHC.)*

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611 E. Wells Street
Milwaukee, WI 53202-3816
Phone (414) 276-5338
Fax (414) 276-3349
E-mail: info@caohc.org

- **Executive Director**
Janet L. Haynes
- **Assistant Executive Director**
Barbara Lechner
- **Administrative Assistant**
Chris Whiting

- **Publications Committee:**
Chair & Contributing Editor
Merrie Healy, RN MPH

Elliott Berger, MS INCE Brd. Cert.
Susan Megerson, MA CCC-A
Stephen Roth, PE
Peter Weber, MD

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OHC Certification

CAOHC Certification is valid 5 years from the date of the original 20 hour course. Recertification through an 8 hour course must be made by the expiration date of your CAOHC issued certificate. Your application must be filed with the CAOHC office to be valid. Contact CAOHC staff to verify certification or to locate an approved CAOHC course by calling 414/276-5338...or locate courses at CAOHC's website: www.caohc.org.

If you wish to have your name removed from mail solicitations from vendors who have purchased the CAOHC database, please notify CAOHC staff via fax at 414/276-3349; or e-mail to info@caohc.org.

New Appointment to CAOHC Council



The CAOHC Council is pleased to announce that Paul J. Brownson, MD will represent the American College of Occupational and Environmental Medicine (ACOEM) on the Council effective July 1999. Dr. Brownson replaces Dr. Alex Sanchez as the ACOEM representative.

Dr. Brownson is the Corporate Medical Coordinator for The Dow Chemical Company in Indianapolis, Indiana, and has been employed by Dow since 1975. He is a graduate of the University of Michigan Medical School and School of Engineering. Dr. Brownson serves as a member of the

ACOEM Noise Committee and participates in several organizations, among them are the National Hearing Conservation Association and Acoustical Society of America.

He will be attending his first Council meeting in Atlanta, Georgia on November 9, 1999. The CAOHC Council welcomes Dr. Brownson as the ACOEM representative and looks forward to working with him on CAOHC projects and objectives.

Letters to the Editor

Dear UPDATE Editor:

"In your last CAOHC UPDATE, Vol. 10, Issue 2, there is some confusing information. In the *OHC Corner* feature, it states that Standard Threshold Shift (STS) should be recorded on the OSHA 200 Log. An STS is generally considered to be a 10 dB change; I believe OSHA requires recording of a 25dB change. Please clarify."

John Justin, OHC

Dear John:

You are correct. The statement regarding STS in our last issue is confusing. In June 1991, OSHA's Directorate of Compliance Programs issued a memorandum instructing regional offices to cite companies for failure to record work-related shifts in hearing of 25 dB or more at 2000, 3000, and 4000 Hz. Several state-run programs later issued more stringent policies, including California, Michigan, North Carolina, Oregon, South Carolina, Tennessee, and Washington. For further information on this often confusing topic, please see "Noise in Washington over Hearing Loss Recordability" by Susan Megerson, UPDATE, Vol 6, Issue 1, April 1995 (or view on our website at www.caohc.org). Thank you for being a discerning reader of the UPDATE and bringing this to our attention.

Dear UPDATE Editor:

"I would like to respond to the article "Professional Supervisor Course Held at AOHHC" by Michael Holthouser, MD (UPDATE, Vol. 2, Issue 1, Summer 1999). I take exception with Dr. Holthouser's statement that Hearing Conservation Programs (HCP) must have a "designated professional supervisor" (an audiologist or physician). My reading of 29 CFR 1910.95 indicates that an audiologist, otolaryngologist or physician must be responsible for the audiometric portion of a HCP. However, I find no mention in 1910.95 that an HCP must be supervised by one of these professionals. CAOHC needs to clarify this issue and explicitly define what it means by "professional supervision."

Edward W. Korabic, PhD CCC-A
FAAA
CAOHC Course Director

Dear Dr. Korabic:

CAOHC regrets any misunderstanding which may have resulted from Dr. Holthouser's summary of a CAOHC-sponsored workshop at the American Occupational Health Conference. You are correct that CAOHC's use of the term "professional supervisor" refers to the audiologist or physician involved with managing the audiometric portion

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The Role That the Occupational Hearing Conservationist Plays in Determining the Work-Relatedness of Hearing Loss

Michael G. Holthouser, MD MPH

CAOHC Representative of the American College of Occupational & Environmental Medicine

The determination of whether a hearing loss is work-related or not is made by the professional supervisor of a hearing conservation program. However, this determination can be greatly facilitated by the occupational hearing conservationist. The reliability and amount of supporting information and the quality of the audiometric data to be reviewed by the professional supervisor in the process of making this determination can be influenced to a great extent by the OHC.

Being sure that baseline audiograms are obtained as soon as possible after employment and assuring that they are obtained after at least 14 hours of no exposure to noise above 85 dBA is fundamental in getting the most accurate pre-exposure audiometric baseline thresholds for new employees. In addition to this, I suggest asking about activities that are relevant to noise exposure within the 14 hour "quiet period", including: transportation to work, recreational activities, work activities, use of hearing protection to attenuate workplace noise to below 85 dBA, and knowledge of any medications that may have been used during the required 14 hour period preceding the test. I would not accept as a baseline audiogram one that did not satisfy the requirement that there was really a 14 hour "quiet period" preceding the examination. The initial baseline examination is one of the most important audiometric examinations as it serves as the primary reference examination for future comparisons and for disability determinations.

Also, during the pre-placement medical screening process, when hearing loss is not usually an issue, I advise obtaining a thorough otological

history. Obtaining unbiased otological history is more difficult once hearing loss becomes an issue. This information is critical for the professional supervisor in determining work-relatedness of hearing loss. Forms for the otological history are available from many sources. One form that I like is contained in Chapter 12, of "Medical-Legal Evaluation of Hearing Loss," by Robert A. Dobie, M.D. Other good otologic history forms can be found in Appendix VIII of the "Council for Accreditation in Occupational Hearing Conservation (CAOHC) Hearing Conservation Manual," 3rd Edition by Alice Suter. If hearing loss develops at a later time, a subsequent or interval otologic history should be obtained. This should be compared with the pre-placement otologic history to look for discrepancies and new developments. Since these histories contain medical information they must be managed like other medical records under OSHA requirements.

To complement the otologic history and audiometric testing, good pre-placement and pre-audiometric testing otoscopy are important information elements. Knowing about pre-existing conditions is important in determining whether and what kind of hearing protection would be advisable, whether reasonable accommodation might be needed, whether referral to the employee's primary care or other physician may be indicated and whether any observed medical abnormality is a new finding or a pre-existing condition. This information must also be maintained in the employee's medical record.

The OSHA Occupational Noise Exposure Standard requires that only the 500, 1000, 2000, 3000, 4000 and 6000 Hz frequencies be tested. Many otologists and audiologists also

recommend the addition of the 8000 Hz frequency in audiometric testing. Although not always, the 8000 Hz threshold is frequently useful in determining whether high frequency neurosensory hearing loss is due to noise or other causes such as presbycusis. The cost is minimal for the information obtained in testing the additional 8000 Hz frequency.

The OSHA Standard also permits an "age correction" to be made to the most recent audiogram for the 1000-6000 Hz frequencies to correct for the effects of aging. Using the "age correction" option for the purposes of OSHA recording is a common practice because it helps to keep OSHA-recordables down. There are some drawbacks, however. If the primary focus of the hearing conservation program is indeed on conserving hearing and not merely reducing OSHA Form 200 recordability, the process of finding temporary threshold shifts and lower level losses in hearing is made less sensitive by "age correction". "Age correction" should never be used in audiograms being considered for the medical referral process since it assumes that all ears are "average" and it essentially pre-diagnoses presbycusis before the professional supervisor or referral otologist or audiologist has had the opportunity to properly evaluate the case.

According to the OSHA Standard, certain information must be included with the audiogram (I suggest on the audiogram form, for simplicity): the name and job classification of the employee tested, the date of the test, the examiner's name, the date of the last acoustic or exhaustive calibration,

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OHC Corner*continued from page 3*

the employee's most recent noise exposure assessment and the background noise levels in the audio test rooms. This is all very important information for the professional supervisor as he or she works through the process of determining accuracy, validity, reliability of the audiograms in question and the work-relatedness of measured hearing loss. Regrettably, however, this information is often not included with many audiograms that I am asked to evaluate. This is not surprising when one considers the recordkeeping requirements of the OSHA Occupational Noise Exposure Standard. For example, OSHA requires that noise exposure information be kept for only two years and audiometric testing reports for only the duration of employment. If these records are disposed of, as permitted by OSHA, and since noise induced hearing loss often occurs over a significant number of years, much critical information will be unavailable at a later date when work-relatedness is often being determined. Not knowing what the employee's noise exposures were 5, 10 or 15 years ago, or in which job an individual worked within a given facility, makes determining work-relatedness of hearing loss very difficult. OSHA holds employers responsible for providing a safe and healthy workplace as evidenced by compliance with established regulations. The burden of proof about noise exposure levels, for example, lies with the employer not the employee who has a neurosensory hearing loss. Without noise exposure and other key information, the professional supervisor should give the employee the benefit of the doubt and decide in his or her favor, i.e., work-related hearing loss rather than declaring it a medical or sociocusis caused loss, unless he or she had solid information to the contrary. I recommend recording and keeping this information in an

organized form for the same length of time as other medical records under OSHA Standards, i.e., employment plus 30 years. Having this information when the questions arise can make the OHC a real hero in their company and to the professional supervisor.

If abnormalities are discovered through the otologic history, the otoscopic inspection or the audiometric testing and analysis performed by the OHC, the professional supervisor then determines what the problem is and whether or not it is work-related. External specialty consultation is often indicated for hearing losses meeting the American Academy of Otolaryngology/Head and Neck Surgery Referral Criteria; for those employees with medical problems that may affect hearing and about which the professional supervisor is unsure; for continuing hearing loss that cannot be explained on the basis of history, exposure or otoscopy; and for medical pathologies of the ear that are caused or aggravated by wearing hearing protection. To keep things in proper perspective, these are rare cases in most hearing conservation programs, but not handling them correctly can cause very serious consequences for employees and employers.

Developing a referral network, usually with the help of the professional supervisor, and key referral process tools like form letters can save much time and be very helpful in the referral process. For instance: having pre-established referral otolaryngologists/otologists and audiologists with whom you have an understanding about costs and fees, (including how non-work-related medical work-ups are to be billed; who should receive the final and interim reports; how records should be managed; who will pay the bill and to whom to send it; which specific questions the professional supervisor would like to have addressed; what additional information is included for the referral specialist's review and how follow-up issues should be handled can really streamline the process and assure that what is needed from the referral is actually obtained the first time around. Doing this important piece of staff work well

will also be greatly appreciated by the health care provider to whom the employee is sent. Be sure that you have a signed authorization from the employee to release medical information selected by the professional supervisor to be sent to the referral otologist or audiologist as you would for any other medical information being released to a third party. Keeping employees informed, in writing, about how the process works in your program avoids later confusion.

Making the determination of work-relatedness can be difficult under the best of circumstances. Having accurate, valid and reliable audiometric information is very important, but so is having accurate information about ear pathology and the otologic history. Maintaining hearing conservation program records to meet the spirit, as well as the letter of the law, provides significant dividends for all involved. Putting all this information together into a seamless package, under the direction of the professional supervisor, results in a reliable and effective process that hopefully will help to conserve employee hearing.

Address Updating New on the CAOHC Website!

For your convenience, you may now update your mailing name, address, company name, phone number, fax number, etc. via CAOHC's website address at www.caohc.org. Click on the button entitled "ADDRESS UPDATE". Your mailing changes will be forwarded directly to our office e-mail system.

For those of you without internet access, please see page 2 for CAOHC's address, phone, or fax number when forwarding address changes to the CAOHC office.

<http://www.caohc.org>

Not Just for Rockers

While rock musicians get their share of the blame for playing too loud, significant exposure to noise can occur in many other musical settings.

Symphony musicians, who in many cases put in long hours of rehearsal, may be exposed to sound levels that exceed OSHA permissible limits. Research has found sound levels exceeding 100 dBA average, based on location and acoustical properties of the rehearsal

and performance venues.

The high power of professional public address systems makes no entertainer, crew, or concert goer immune to the effects of noise.

How Did This Happen to Me?

The part of the hearing system that converts sound waves (a physical effect) into nerve impulses for your brain to handle (electrical signal) is called the cochlea. The actual conversion takes place when fluid, excited by sound waves conducted through the ear, puts the hair cells inside your cochlea into motion.

The hair cells in your ear act like the grass in your lawn — walk on them a little, and they recover. Walk on them too much, and the damage is permanent. Repeated and excessive exposure to noise is like walking on the grass too much. Dead hair cells won't let you hear; they won't grow back, and you can't re-seed your ear.

Keep Hearing that Rock and Roll

Musicians say it's all in the feeling — the raw surge of power from the sound that makes you feel at one with the music and the crowd. The down side is that too many decibels can result in permanent damage to your ears. Your local audiologist or hearing health professional can suggest ways of enjoying the loud sensation of the music while playing at a less damaging level.

Musicians are in the business of sound, but many are at risk of damaging their ability to do the work they love due to noise-induced hearing loss. Ted Nugent, Pete Townsend, Lars Ulrich, and countless others are living testimony to the damage that high sound levels can do to unprotected ears.

This guide is intended to help musicians protect themselves from the effects of excessive exposure to sound by providing information and education about noise and hearing.

For more information, contact:



National Hearing Conservation Association
9101 E. Kenyon Ave., Ste. 3000, Denver, CO 80237
303-224-9022 (V), 303-770-1812 (F)

nhca@gwami.com (E-mail)
<http://www.hearingconservation.org> (Internet)



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A practical guide to:

Hearing Loss Prevention for Musicians



National Hearing Conservation Association

*The mission of the
National Hearing Conservation Association
is to prevent hearing loss due to noise
and other environmental factors
in all sectors of society.*



How Loud is Too Loud?

The human hearing mechanism is amazingly sensitive. Along with the ability to hear a pin drop (literally!), it can accommodate extreme sound pressures like gunshots and explosions.

Damage starts to occur with extended exposures to sound levels of around 85 dBA. The higher the sound level, the greater the risk of damage; the longer the time of exposure, the greater the risk.

You only get one set of ears — treat them right!

How can you tell when the sound around you, be it industrial, musical, or otherwise, is reaching the point where it is dangerous to your hearing? Here are a couple of clues to help figure out if the noise is too much for your ears.

Tinnitus or ringing in the ears is a sign of potential damage. If you hear a ringing or a rushing sound in your ears after playing, it was too loud.

Temporary Threshold Shift — after exposure to loud noise, you may lose some hearing, then recover after a rest period in quiet. If, after exposure to noise, conversation sounds muffled or unclear, it's likely that you overloaded your hearing system.

Raise your voice — if you must strain your voice to be heard at a distance of about three feet, sound levels are likely approaching the dangerous range.

How to be Loud and Safe

■ **Turn down.** Let the PA carry the load; keep stage volume at a minimum to protect your hearing.

■ **Monitor your monitors.** Using custom earmold (or in-the-ear) monitors can help reduce levels on stage.

A Quick Hearing Test
Pick a quiet place to park your car on the way into a concert, rehearsal hall or club. Set the volume on your radio so it is just barely audible. Then, without adjusting the volume, see if you can hear the radio after the show or rehearsal. If not, you are experiencing a **temporary threshold shift** — which with repeated exposures, may become permanent.

■ **Protect your ears.** Commonly available industrial earplugs may not be well suited for musical applications due to their strong reduction of treble frequencies. Several manufacturers provide musician's plugs (like ER-15, ER-25, and the vented/filtered type), designed to protect relatively equally at all frequencies, making the music sound natural. Each plug has a different effect, and each may be suitable for different musicians in different situations. Contact your audiologist or hearing health professional for more details.

■ **Equipment positioning.** Position speaker cabinets so that your ears do not get the full force of the acoustical energy. If custom earphone monitors are not available, position side fills and floor wedge monitors as far away as practical.

■ **Save it for the gig.** The time you spend in rehearsal adds to your total noise dose. Rehearse at moderate volume levels. Talk to the drummer about using smaller or softer tip sticks for rehearsal.

On the Gig and Off

Your ears can't tell the difference between the sound you expose yourself to in rehearsal and performance from the noise involved with the rest of your day. Total cumulative noise dose is the final word on how your hearing will last over time.

Typical Sound Levels

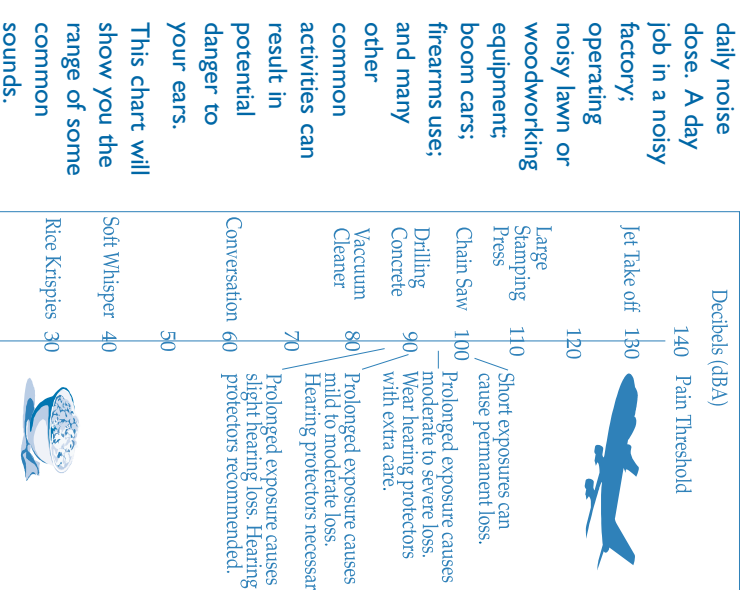


Chart courtesy of E-A-R/A/EARO Company.

Audiometric Testing—Review the Basics

Myrna M. Stephens, PhD

CAOHC Representative of American Speech-Language-Hearing Association

Recently the CAOHC office has received inquiries as to the correct procedure for audiometric testing. OHCs are instructed in accordance with the CAOHC *Hearing Conservation Manual* by Alice Suter, 3rd Edition based on ANSI S3.21-1978 (located on page 136 of the manual. A copy of the standard may be ordered via the internet at www.cssinfo.com/asa/s3.html).

The CAOHC manual outlines the accepted procedures for threshold determination as described below (or see pages 52-54 of the manual). *NOTE: within the standard there are choices in those instances when a change in procedure does not significantly affect test results. Specifically, two options are given for the familiarization procedure, and the order of frequencies may be altered slightly.

“Administering the Pure Tone Test”

...Although it is not essential, it is a good idea to begin the test in the better ear. Rather than look at the previous audiogram, which may bias the results, it is best to ask the employee which is his or her better ear.

The OHC should start by familiarizing the employee with a test tone at 1000 Hz, presented at an easily audible level, such as 30 or 40 dB. If there is no response, the tone should be presented again at 50 dB, and if there still is no response, the hearing level dial should be raised in 10 dB steps until the employee responds.

Once an initial response has been established, the OHC may begin the determination of threshold. The level of the first presentation should be 10 dB below the level of the response during the familiarization procedure. The level of each succeeding presentation depends on whether or not the employee responded to the one below. After a response, the hearing

level dial is decreased by 10 dB, and if the employee fails to respond, the level is increased in 5 dB steps until a response occurs. Then move down 10 dB and up 5 dB, “bracketing” the employee’s threshold. Hearing threshold level is defined as the lowest hearing level where the subject hears at least 50 percent of the tones, with a minimum of two out of three responses required at a single level.

The duration of each tone presentation should be 1 to 2 seconds, and the interval between tones should never be shorter than the duration of the tone itself. The OHC must be careful to vary the silent interval between tones so that the employee does not pick up a rhythmic pattern and give “false” responses to tones that are not actually perceived. Needless to say, the OHC should never give the employee overt cues during or after presenting the tones.

According to ANSI standard S3.21 (reprinted as Appendix V in this manual), the order of frequencies should be 1000 Hz first, then 2000, 3000, 4000, 6000, and 8000 Hz (if this frequency is to be included), after that a retest of 1000 Hz, and finally 500 Hz. If the retest of 1000 Hz shows a difference of more than 5 dB, the lower threshold may be accepted and at least one other test frequency should be retested. If the difference at 1000 Hz is significant (more than 10 dB), the entire audiogram should be repeated.

Many hearing conservation professionals advocate (and many manufacturers of computerized audiometers use) a slightly different testing order: 1000, 5000, 1000 Hz, followed by the higher frequencies. This order enables the tester to detect differences between the first and second tests of 1000 Hz more quickly and therefore to determine the necessity of re-instructing the employee and repeating the test. The extent to which the OHC departs from the ANSI standard’s recommended procedure should be the decision of the OHC’s professional supervisor.

Each time a threshold is determined, the OHC should record it on an audiogram form. If symbols are used, an “X” represents the left ear’s threshold and an “O” represents the right ear.”

Because annual audiograms are compared to the baseline it is important that testing be conducted in a standardized fashion to eliminate threshold shifts due to test artifact. For more information, contact your Course Director or the professional supervisor of your audiometric program.

Course Director Workshop Scheduled or Fall 1999

The Fall Course Director Workshop is scheduled for Monday, November 8, 1999 at the Hilton Hotel Airport~Atlanta, Georgia. If you are interested in becoming a Course Director and meet the qualifications described in the “Course Director Certification and Recertification Requirements” brochure and have your application approved by the Screening Committee, you must then complete a one-day Course Director workshop.

You may contact the Executive staff at 414/276-5338 for more information, or access the CAOHC web page at <http://www.caohc.org>

Course Directors presently certified who wish to recertify via the workshop method may also attend.

Seeking Employment

CAOHC certified technician looking for an opportunity in the L.A., California area. Currently enrolled in university studies Health Sciences. Contact CAOHC office for resume.

Hearing Conservation Education Now Reaching Thousands of Children

*Submitted by Dorie Watkins, CAOHC Course Director
Pleasanton, CA*

In an article titled *Our Children are at Risk of Noise Trauma*, [NHCA website "Crank it Down"], author Kris English, PhD writes, "Our society is a noisy one, and the noise is ubiquitous - in the shopping mall, on the road, in the classroom -- to the point where we become unaware of its presence. Yet, the presence and intensity of noise has become so excessive that approximately 10 million persons in our country now live with Noise Induced Hearing Loss (NIHL) [National Institutes of Health, 1990]. Except in the case of head injury or accidental acoustic blast, NIHL is always preventable. Unfortunately, children usually are not aware that excessive noise levels can be considered an environmental pollutant and a hazard to their hearing health."

You might be interested to note the following statistics:

- The incidence of NIHL among 8th graders has tripled in the last 10 years (Montgomery & Fujikama, 1992)
- NIHL has been detected in children as young as nine years old (Peppard & Peppard, 1992).
- Children's toys such as toy guitars have been found to produce noise levels of 120dB (Shoemaker, 1996).
- Approximately 1% of the school age population may have NIHL. (Blair & Benson, 1996) One percent translates into more than 400,000 children.

Is there something I can do about this? Yes! Certified Occupational Hearing Conservationists (COHC) and

Course Directors (CD) can be instrumental in educating young people. Age-appropriate information can be provided to children at an early age to help students recognize the presence of high noise levels, understand the consequences of excessive exposure to high noise levels, and most importantly, learn to change their own behaviors in order to prevent NIHL"

What resources are available to me?

The CRANK IT DOWN! hearing conservation education program and newsletter were designed to educate grade school age children and to inform and assist educators regarding the prevention of childhood hearing loss due to excessive noise exposure.

Where do I buy the CRANK IT DOWN! program?

You don't buy the program. Thanks to a grant provided by the Hedco Foundation along with ongoing support from the SERTOMA Club and the National Hearing Conservation Association, a loaner library has been established. The program packet includes the lesson plans and scripts for each activity, the Know Noise® video, the Unfair Hearing Test audio cassette and the E•A•R Audio Cassette #1 as well as forms and master handout tips that ensure the success of the program. This program was designed to be easy to teach. No fancy equipment is required - items easily found around the house such as uncooked spaghetti, playdough, stereo headset and audio cassette player. Learning the curricula is easy and the training is fun!

Regardless of whether you create your own program, or use portions of the CRANK IT DOWN! program, it is recommended that the program be simple, repetitive, interesting and fun. Programs typically should include: 1) basic anatomy

of auditory pathway; 2) the nature of sound, including sound levels of normal conversation, the threshold of pain and specific activities; 3) the effects of excessive noise levels on the hair cells of the inner ear, as well as the psychological and physiological effects of noise; and 4) procedures to protect one's hearing.

My desire is that you will catch the passion of how important it is to save the hearing of our future adults and then share that passion by becoming involved in the education of our youth regarding the harmful effects of excessive noise exposure.

How do I get started?

Simply contact the National Hearing Conservation Association Executive office at 303/224-9022

Letters to the Editor

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of the HCP. Although the term "professional supervisor" is not mentioned in the body of the standard, 29 CFR 1910.95, the qualifications and duties of this individual are well-defined in the preamble to the hearing conservation amendment and support documents from OSHA. For more detailed information on this topic, please see "Who is Your Professional Supervisor" by Barbara Panhorst, EdD RN in the UPDATE, Vol. 8, Issue 2, Summer 1997, and "Developing a Curriculum for Supervising Professionals in Hearing Conservation Programs" by Alex Sanchez, Jr., MD, UPDATE, Volume 9, Issue 2, Summer 1998 (or view on our website at www.caohc.org). Thank you for clarifying this issue for our readers.

Internet Information

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CAOHC Website Links:

(www.caohc.org/related-websites.html)

The CAOHC website (www.caohc.org) provides information that includes a definition of CAOHC; lists the Component Professional Organizations (CPO); and provides directions on certification for occupational hearing conservationists and course directors. Resource information provides a sampling of past UPDATE newsletters and ordering of the Hearing Conservation Manual. A new section, supplementary course director educational materials, has been added. Links to related websites provide additional resource access. This article begins with a summary of those website links:

Acoustical Society of America (ASA)

2 Huntington Quadrangle
Melville, NY 11747-4502
516/576-2360
FAX: 516/576-2377
www.asa@aip.org

The website offers a "Listen to Sounds" program; and an available compact disc of auditory demonstrations.

Hearing Education Awareness for Rockers (HEAR)

P.O. Box 460847
San Francisco, CA 94146
415/773-9590
FAX: 415/552-4296
www.hearnet.com

Educational and information materials include "Can't Hear You Knocking" (VHS video); and sign songs. Devices and gizmos include audio materials such as a CD self-hearing test and "Tinnitus Away!" (cassette). Posters and hearing protection ordering information is also available.

League for Hard of Hearing (LHH)

71 W. 23rd Street
New York, NY 10010-4162
917/305-7700
FAX: 917/305-7888
TTY: 917/305-7999
www.llh.org

This is the organization that sponsors a national "Noise Awareness Day" (see UPDATE, Spring 1999 article). A packet of information regarding the impact of noise on hearing in a fun, easy format is available to promote this event.

National Hearing Conservation Association (NHCA)

9101 Kenyon Avenue, Suite #3000
Denver, CO 80237
303/224-9022
FAX: 303/770-1812
www.hearingconservation.org

This organization offers educational materials such as posters and slides.

National Institute for Occupational Safety & Health (NIOSH)

Hubert H. Humphrey Building
200 Independence Ave. S.W.
Room 715H
Washington, DC 20201 1-800-356-4674
www.cdc.gov/niosh/homepage.html

National Institute on Deafness & Other Communication Disorders (NIDCD)

National Institute of Health
31 Center Drive, MSC 2320
Bethesda, MD 20892-2320
www.nih.gov/nidcd

The following documents are available from NIDCD and NIOSH:

NIOSH Criteria Document

NIDCD Fact Sheet on Noise-Induced Hearing Loss

NIOSH: Preventing Hearing Loss - A Practical Guide (Note: this document describes the elements of an effective Hearing Loss Prevention Program; and, has an appendix that lists vendors with educational materials, specifying video titles).

NIDCD book mark "How Loud is Loud" (English/Spanish)

NIDCD Book mark "Ten Ways to Recognize Hearing Loss" (English/Spanish)

NIDCD Directory of Information Resources for Human Communication Disorders

Combined Health Information Database (CHID)

<http://chid.nih.gov>

A search using "hearing conservation" elicited 153 citations.

Noise Pollution Clearinghouse (NPC)

P.O. Box 1137
Montpelier, VT 05601-1137
1-888-8332
www.nonoise.org

This site has a library of resources.

Occupational Safety & Health Administration (OSHA)

U.S Department of Labor
200 Constitution Avenue N.W.
Room N-3647
Washington, DC 20210
202/219-8151
FAX: 202/219-5986
www.osha.gov

OSHA provides regulatory information related to compliance with the hearing conservation standard (29 CFR 1910.95). A search using "hearing conservation" resulted in 184 citations. Program and services include consultation and education programs. OSHA also links other government and safety and health internet sites.

FYI: Other Hearing Conservation Resources

Audiology Forum: Video Otoscopy
www.li.net/~sullivan/ears.htm

This site offers a multitude of educational, informational articles and visual materials which can be used as teaching aids.

Internet Information

continued from page 9

Navy Audiology Society Home Page

www-nmcp.med.navy.mil/audio/nashome.html

This site offers PowerPoint presentations for hearing conservation programs..

Military Audiology Association

www.military/audiology.org

The Auditory Readiness Information Center offers a slide presentation educational package.

Safe at Work

517/349-5205

www.safe-at-work.com

This site provides information about sound exposure monitoring and control, and the hearing loss prevention process. Be sure to check the "REFERENCE" section. A slide presentation "Hearing Loss Prevention as a Business Process" includes speaker notes.

National Safety Council

1121 Spring Lake Drive

Itasca, IL 60143-3201

630/285-1121

FAX: 630/285-1315

www.nsc.org

The NSC library is a source of safety and health information. Literature searches by topic are free for members. Nonmembers are assessed a fee for services.

Aearo Company

Berger, EH (1979-1993) E-A-R Log Series of Technical Monographs on Hearing and Hearing Protection, Nos. 1-20. Contact Customer Service at 1-800-225-9038.

Film and videotape information: Contact Elliott Berger (317/692-3031)

Noise & Hearing Conservation-References for Good Practice: Standards, Regulations, and Recommended References Pertaining to Noise, Vibration, and Noise-Induced Hearing Loss (AIHA and NHCA),

This document was prepared by the American Industrial Hygiene Association (AIHA) and the National Hearing Conservation Association (NHCA). It cites over 200 references organized in the following sections: Overview; Hearing Conservation Program Administration Guidelines; Quick References; Professional Organizations, Publications, and Home Pages; TLVs; Guidelines, Position Statements, and Criteria Documents; National and International Standards; Databases and Programs; Handbooks, Textbooks and Review Articles; U.S. Government Regulations and Reports; and Other Regulations and Reports.

The first three sections are available on the NHCA website (previously

mentioned in this article). The entire document is free to NHCA members and can be purchased by non-members for \$50.

Information Please!!

Those of you "in the trenches" involved with training and education have probably found some very useful resources and tools. CAOHC requests that you share information about such materials for publication in a future UPDATE. We often learn best from each other! Information can be sent to:

UPDATE Editor

Council for Accreditation in
Occupational Health Conservation
611 E. Wells Street
Milwaukee, WI 53202
Phone: 414/276-5338
FAX: 414/276-3349
E-Mail: info@caohc.org

CHARGE IT!

Students who have successfully completed a CAOHC certification or recertification course may now use their Mastercard or Visa credit card for CAOHC certification or recertification fees, or to order the CAOHC manual. Simply include your charge card number and expiration date on the application form, or the manual order form if you are purchasing the *Hearing Conservation Manual*. You may also phone in your credit card number by contacting Chris Whiting at the CAOHC office: 414/276-5338. (You may also continue to use a check, cash or money order for these fees.)

We are working on adding this feature to the CAOHC website along with on-line forms. More information on this will appear in the Winter 1999 edition of the UPDATE.

COUNCIL MEETING& COURSE DIRECTOR WORKSHOP— SPRING 2000

The Spring 2000 Council meeting has been scheduled for Thursday, April 13, 2000 in Philadelphia, Pennsylvania at the Embassy Suites Hotel, Philadelphia International Airport.

This meeting will be followed on Friday, April 14, 2000 with a Course Director Workshop. This workshop is for applicants completing the requirements to become certified as a Course Director or CDs wishing to recertify via the workshop method. Contact Barbara Lechner at 414/276-5338 on how to become a Course Director or reference the CAOHC website at www.caohc.org.

Upcoming OHC Certification and Recertification Courses*

Approved as of September 1999

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

Date	City	Course Director	Phone	Date	City	Course Director	Phone
1999							
9/15	Ft.Hood, TX	Johnson, Maj Jennifer	(Army)	11/10	Indianapolis, IN	Lyon, Melissa	765/662-1702
10/4	Walnut Creek, CA	Fankhauser, Charles	707/746-6334	11/10	Indianapolis, IN	Jerome, James	317/841-1065
10/4	Hanover, MD	Moreland, Rebecca	410/646-2121	11/10	Toledo, OH	Greenberg, Herbert	561/750-2100
10/4	Portland, OR	Attack, Rod	503/614-8465	11/10	Pittsburgh, PA	Swisher, Timothy	412/367-8690
10/5	Iwaku,	Gullickson, Kimberly	(Navy)	11/11	Cleveland, OH	Snyderwine, Carol	216/692-7466
10/6	St.Paul, MN	Cary, Carolyn	651/736-2089	11/15	Chicago, IL	Deppensmith, Kathryn	713/869-6664
10/6	Owensboro, KY	Etienne, Joseph	502/926-0418	11/16	Chapel Hill, NC	Stewart, Andy	919/967-2228
10/6	Lindenwold, NJ	Stepkin, Richard	609/435-7200	11/16	Richmond, VA	Russell, Charles	610/667-1711
10/6	Los Angeles, CA	Deppensmith, Kathryn	713/869-6664	11/17	Dallas, TX	Harris, Dean	970/586-0702
10/6	St.Louis, MO	Elmore, John	800/357-5759	11/17	Ontario, CA	McCall, Kirsten	800/334-5478 (NR)
10/6	Atlanta, GA	Wolfe, William	770/475-2055	11/17	Chapel Hill, NC	Stewart, Andy	919/967-2228
10/11	South Padre, TX	Rhodes, Robert	713/869-6664	11/17	Cleveland, OH	Wolfe, William	770/475-2055
10/11	Omaha, NE	Norris, Thomas	402/391-3982	11/17	Houston, TX	Elmore, John	800/357-5759
10/12	Ft.Sam Houston, TX	Byrne, Col.Clyde	(Army)	11/17	Portland, OR	Fairchild, Michael	503/232-1646
10/13	Buffalo, NY	Swisher, Timothy	412/367-8690	11/18	Bethel Park, PA	Angelelli, Roger	412/831-0430
10/13	Houston, TX	Meloy, Melette	205/444-9797	11/30	Greenville, SC	Guryan, Stephen	864/235-9689
10/13	Brookfield, WI	Korabic, Edward	414/288-3428	12/1	Bellevue, WA	McDaniel, Mary	425/746-0735 (NR)
10/13	Detroit, MI	Simpson, Thomas	313/577-6754	12/1	Atlanta, GA	Wolfe, William	770/475-2055
10/13	Boca Raton, FL	Greenberg, Herbert	561/750-2100	12/1	Des Moines, IA	Garrett, Barbara	319/369-7569
10/13	Denver, CO	Harris, Dean	970/586-0702	12/1	Houston, TX	Meloy, Melette	205/444-9797
10/14	Detroit, MI	Rhodes, Robert	713/869-6664	12/1	Piscataway, NJ	Kelly, Ellen	732/238-1664
10/18	Liberty, MO	Ratliff-Hober, Linda	800/664-8401	12/1	Kenner, LA	Seidemann, Michael	504/443-5670
10/18	Palm Beach, FL	Elmore, John	800/357-5759	12/2	Nashville, TN	Deppensmith, Kathryn	713/869-6664 12/4
10/19	Torrance, CA	McCall, Kirsten	800/334-5478	12/4	Portland, OR	Attack, Rodney	503/614-8465
10/19	Oakbrook Terrace, IL	Thunder, Thomas	847/359-1068	12/6	Bremerton, WA	Johnson, Lt. Christopher	(Navy)
10/19	Atlanta, GA	Russell, Charles	610/667-1711	12/6	Portland, OR	Attack, Rodney	503/614-8465
10/19	Charlotte, NC	Newman, Valerie	704/525-0999	12/7	Oakbrook Terrace, IL	Thunder, Thomas	847/359-1068
10/20	Rochester, NY	Rhodes, Robert	713/869-6664	12/7	Philadelphia, PA	Chiarello, Joseph	610/667-1711
10/20	Charlotte, NC	Newman, Valerie	704/525-0999	12/7	Kansas City, MO	Bloyer, Cindy	816/471-3900
10/20	Shelton, CT	Sochrin, Phyllis	203/735-4327	12/7	Greensboro, NC	Juarez, Omar	336/665-1818
10/20	Torrance, CA	McCall, Kirsten	800/334-5478	12/8	Oakbrook Terrace, IL	Thunder, Thomas	847/359-1068
10/20	Oakbrook Terrace, IL	Thunder, Thomas	847/359-1068	12/8	Marlbrough, MA	Gordon, Pamela	781/891-9124
10/21	Minneapolis, MN	Deppensmith, Kathryn	713/869-6664	12/8	Piscataway, NJ	Kelly, Ellen	732/238-1664
10/25	Beaufort, SC	Faulkner Gischia, Carol	(Navy)	12/8	Boca Raton, FL	Greenberg, Herbert	561/750-2100
10/25	New Orleans, LA	Rhodes, Robert	713/869-6664	12/8	Tampa, FL	Rhodes, Robert	713/869-6664
10/27	Tampa, FL	Abrams, Harvey	727/398-9395	12/8	Birmingham, AL	Meloy, Melette	205/444-9797
11/1	Worcester, MA	Hengen, Garth	508/832-8484	12/8	Greensboro, NC	Juarez, Omar	336/665-1818
11/2	Atlanta, GA	Moore, A.Gregg	770/953-4699	12/9	Houston, TX	Elmore, John	800/357-5759
11/2	St.Louis, MO	Bellamy, McKenna	314/968-4710	12/10	Brooks AFB, TX	Waldo, Tressie	(Air Force)
11/3	Atlanta, GA	Moore, A.Gregg	770/953-4699	12/13	Liberty, MO	Ratliff-Hober, Linda	800/664-8401
11/3	Birmingham, AL	Meloy, Melette	205/444-9797	12/13	Baton Rouge, LA	Rhodes, Robert	713/869-6664
11/3	Somerset, NJ	Rhodes, Robert	713/869-6664	12/13	Normal, IL	Pollock, Gail	309/266-9949
11/3	St.Louis, MO	Deppensmith, Kathryn	713/869-6664	2000			
11/3	Salt Lake City, UT	Cronin, Pamela	801/566-8304	1/10	Ft.Sam Houston, TX	Byrne, Col.Clyde	(Army)
11/3	Little Rock, AR	Prince, Jane	870/972-1166	1/11	So.Charleston, WV	Harris, Gary	304/766-6555
11/3	Fairfield, ME	Giroux, Anne	207/873-3277	1/28	Ft.Hood, TX	Johnson, Maj Jennifer	(Army)
11/3	Springfield, MA	Hengen, Garth	508/832-8484	3/2	Montgomery, AL	Smith, Curtis	334/887-6302
11/8	Liberty, MO	Ratliff-Hober, Linda	800/664-8401	4/14	Ft.Hood, TX	Johnson, Maj Jennifer	(Army)
11/8	Colorado Springs, CO	Elmore, John	800/357-5759	4/26	Worcester, MA	Hengen, Garth	508/832-8484
11/8	Phoenix, AZ	Deppensmith, Kathryn	713/869-6664	5/3	Concord, NH	Hengen, Garth	508/832-8484
11/8	Hillside, IL	Stukas, Natalie	630/241-0990	5/8	Ft.Sam Houston, TX	Bryne, Col.Clyde	(Army)
11/9	Indianapolis, IN	Jerome, James	317/841-1065	6/7	Rochester, NY	Hengen, Garth	508/832-8484
11/9	Houston, PA	Thompson, Tami	816/471-3900	6/30	Ft.Hood, TX	Johnson, Maj Jennifer	(Army)
11/10	Houston, TX	Rhodes, Robert	713/869-6664	8/3	Montgomery, AL	Smith, Curtis	334/887-6302
11/10	Ft. Hood, TX	Johnson, Maj. Jennifer	(Army)				

Please contact the CAOHC office at 414/276-5338 for additional course availability. Publication dates may have precluded some course dates.



Council for Accreditation in
Occupational Hearing Conservation
611 East Wells Street Milwaukee, WI 53202-3816

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