



UPDATE

The Newsletter of the Council for Accreditation in Occupational Hearing Conservation

VOLUME 10 • ISSUE 4 • WINTER 1999-2000

Chair's Message

by Peter Weber, MD

CAOHC Chair, Representative of the American Academy of Otolaryngology Head and Neck Surgery



Greetings!
It is with great pleasure that I would like to introduce myself as the new Chair of

CAOHC. I am an otolaryngologist (ENT) who specializes in otology and neurotology (surgery and diseases of the ear, vestibular system and brain). I joined the CAOHC Council in the Fall of 1996 and have served on various committees and participated as a speaker at the Professional Supervisor's course presented by CAOHC at the American Occupational Health Conference in New Orleans last year. I have a special interest in noise-induced hearing loss and look forward to serving you, the Certified Occupational Hearing Conservationist (COHC).

This quarter's newsletter focuses on three significant topics: noise pollution, airbags, and recordability. Amazingly, another featured article describes how the color of your eyes may or may not afford more/less protection from noise. It seems the color of your eyes may correlate with the amount of melanin in the cochlea. (see page 2)

I believe that you will find the article on airbags to be most interesting. Airbags were introduced in order to help save lives and cut down on injuries in traffic accidents, and although they have saved many people, it has not been as many as originally hoped. Indeed, there are other complications with airbag deployment, especially in

the otolaryngologic arena. The most common and most sensational complications are those deaths of children or small adults sitting too close to the passenger airbag. The deployment of the airbag also creates a rather loud noise. This noise has been reported to cause tinnitus, either temporary or permanent, as well as sensorineural hearing loss. In fact, I have treated two such patients with these complaints, as well as one other patient who developed a temporal bone fracture with total hearing loss, total loss of balance on one side and facial paralysis. This occurred as her head was turned and the airbag hit her flush in the ear. Thus, although airbags can increase our chances of survival in a major collision, it should be noted that there are other complications associated with them. I think you will find it interesting to learn about these in the accompanying article. (see page 4)

As you know, we also stress the need to avoid any type of noise pollution. When we are going to be exposed to loud noises, we need to be sure that we are wearing noise protection in the form of earmuffs or foam earplugs. As many of you know, we support Noise Awareness Day. (see page 9) We use this day to specifically try to educate our patients and the public on the dangers of noise exposure. It is felt that the constant exposure to noise will lead to an earlier progression of age-related hearing loss as well. The article on noise pollution will highlight some of the areas that we should be especially attuned to.

Finally, we will be discussing the essentials of recordability and documentation of our records. (see

page 6) I hope that you find this issue of the UPDATE to be interesting and useful. Again, I want to thank you for the opportunity to serve as the Chair of CAOHC. Please know that I am always available to you, should you have any questions.

Noise Is All Around

by Les Blomberg

Executive Director, Noise Pollution Clearinghouse (NPC)

Editor's Note: As professionals involved in occupational hearing conservation programs our focus is often on noise that is hazardous to hearing, especially noise in the workplace. But noise is everywhere and as such it can have an even broader impact on our lives. Your awareness of these issues will enrich your understanding of the noise problem and perhaps provide you additional ideas and insight to assist in your efforts to educate and motivate your noise-exposed workforce.

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UPDATE

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

Articles should be submitted, with a black and white photograph of the author. The *UPDATE* is available to individuals not certified by CAOHC at an annual subscription rate of \$15. Payment must accompany request:

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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.

Two New Representatives Appointed to CAOHC Council

Effective at the close of the Council meeting in Atlanta, Georgia on November 9, 1999, two new representatives joined the CAOHC Council.

Robert A. Goldenberg, MD will represent the American Academy of Otolaryngology-Head & Neck Surgery and replaces Robert A. Dobie, MD (see page 5 for CAOHC's salute to Dobie for his 10 years of service on the CAOHC Council). Goldenberg is currently affiliated with Ear, Nose & Throat Associates of Dayton and Professor & Chairman - Department of Otolaryngology, Wright State University School of Medicine, Dayton, OH.

Beth A. Cooper, PE, INCE Bd. Cert. will represent the Institute for Noise Control Engineering (INCE). She replaces Stephen I. Roth who was one of the first representatives on the Council for INCE and goes on to be President of that organization in 2000. Cooper is Manager of Acoustical Testing and Design Support Services in the Engineering Design and Analysis Division of the NASA John H. Glenn Research Center at Lewis Field, Ohio. She is also a CAOHC OHC and instructor in CAOHC courses.



Eye Contact: linking eye color and hearing loss

by Julia Doswell Royster, PhD and Larry H. Royster, PhD

Unlikely as it sounds, eye color may be related to noise-induced hearing loss. This idea, first postulated in the '60s, is based on the hypothesis that melanin in the inner ear helps protect it from toxic noise damage.

The amount of melanin in one's cochlea is thought to correlate with that in the eye's iris. However, only a few older studies linked the relationship between eye color and hearing loss. Recent developments in the understanding of melanin have led researchers to revisit the possibility of this connection.

Melanins are produced by cells called melanocytes. The levels of melanin they create in the tissues of the eyes and skin affect color. Eumelanin, one type of melanin, protects skin by neutralizing free oxygen radicals which form after

exposure to ultraviolet rays. It also correlates with skin color and is abundant in black skin, while levels vary in the many shades of Caucasian skin.

Another type, pheomelanin, may actually *create* (rather than protect against) free oxygen radicals after exposure to ultraviolet rays. Black skin has little, if any, of this potentially harmful melanin. Although redheads are thought to produce more of it, pheomelanin has not been correlated with skin color among Caucasians, where content varies widely.

The cochlea also contains melanocytes, and it appears that they play an important role in cochlear

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OHC Corner



Illustration provided courtesy of
E•A•R Hearing Protection
Products

Hearing loss continues to plague our nation's workforce. According to OSHA estimates, "at least 1 million workers in the manufacturing industries alone have sustained job-related hearing loss." (Suter) When you consider all types of employment, more than 9 million workers are exposed to potentially hazardous noise levels. (CAOHC *Hearing Conservation Manual, 3rd Edition, Suter*) All too often as OHCs we spend more time on meeting the technical requirements of the OSHA standard rather than on actual hearing loss prevention measures.

For approximately 8 years I have been in an administrative role in hearing conservation as well as a hands-on provider of audiometric testing. I've worked in a free-standing clinic where my only interaction with the employee was at the annual test, and I've worked at several industrial sites as the on-site provider with frequent opportunity to interact with employees. While maintaining a comprehensive hearing conservation program that meets all the requirements of the OSHA standard is essential, I believe my biggest challenge as a health care provider is how to convince employees that they need to protect their hearing in the work environment as well as in their personal endeavors. Because hearing loss is so subtle, and there is no

Prevention vs. Conservation

By Linda S. Frye, MPH RN COHN-S

CAOHC Representative of the American Association of Occupational Health Nurses

associated physical pain, getting employees to take prevention seriously is difficult. On a personal note, I have a sincere commitment to prevention because my husband experienced significant hearing loss associated with work in the construction industry years before I had the benefit of the training made available to me as a Certified Occupational Hearing Conservationist (COHC). Hearing loss does impact ones' quality of life and unfortunately it is irreversible!

Prevention of hearing loss is so important that it was named as one of the risk reduction objectives of HEALTHY PEOPLE 2000/U.S. Department of Health & Human Services. It is also one of 21 priority research areas for the National Occupational Research Agenda (NORA - a division of Research & Science of the Center for Disease Control) which was launched in 1996. As part of the Disease and Injury category of NORA, hearing loss is one of eight areas being studied in an effort to improve the well-being of significant numbers of workers and their families. "Hearing loss is the most common occupational disease in the United States, and unfortunately it is often considered a normal consequence of employment." (NORA)

The following are among the problems identified by NORA as being associated with occupational hearing loss:

- 1) Reduced quality of life due to social isolation.
- 2) Impaired communication with family members, the public, and coworkers.
- 3) Diminished ability to monitor the work environment.
- 4) Lost productivity and increase in accidents on the job.

NORA is also interested in research related to other factors which may impact hearing loss in the work environment

such as solvents, metals, asphyxiant and heat.

Research is a key component in the future of hearing conservation. Yet, without people like you and me and the employees in the workforce, the researchers will have no laboratory. I encourage you to participate at some level with the research that is going on in the area of hearing conservation. For further information on HEALTHY PEOPLE 2010 (the follow-up to HEALTHY PEOPLE 2000), or NORA, try the following web sites:

Healthy People 2010:
<http://www.health.gov/healthypeople/>

NORA: <http://www.cdc.gov/niosh/norhmpg.html>

References: *Hearing Conservation Manual, 3rd Edition, by Alice H. Suter, 1993 CAOHC. NORA US Dept. Of Health & Human Services, April 1996.*

* Note from the author: In future issues of the OHC Corner we will be looking at ways to address the training needs of our employees and how we on the front line can fill a critical role in addressing health promotion objectives as they relate to hearing conservation. Our job as Occupational Hearing Conservationists is to educate employees during their annual training, and at any other opportunity, in such a way that really connects hearing conservation education in a meaningful way to that person. If you have an effective training method that you would like to share with other OHCs via this publication, please send in your "story" to the CAOHC office at Fax: 414/276-3349 or e-mail to: info@caohc.org (If you wish your "story" to be anonymous, we will be happy to accommodate.)

Bang goes your hearing! Otologic injuries from the noise of airbag deployment

by Janet Garman, RN



On a fateful day in 1992, I was a passenger in a car in which the driver's airbag

deployed with a noise blast so loud it changed my life forever. Airbags can deploy with sound levels as high as 170 decibels. Bang went my hearing, career, and the active, joyful lifestyle my family and I shared. I had instant, severe, intrusive tinnitus, ear pain, and muffled hearing. The muffling lasted the rest of the day. When it cleared, I started to develop a painful sensitivity to everyday sounds a condition called hyperacusis. Hyperacusis is usually caused by a sudden, short blast of loud sound. I must wear ear plugs plus a hearing protective headset just to grocery shop and withstand the sound of the public address system. I still cannot attend movies, sporting events, or parties with music. Last year I could not even attend our son's wedding.

The severe tinnitus remains and is greatly exacerbated by sound. It is tantamount to being on "house arrest". I held a registered nursing license and a realtor's license, neither of which I can use now. During these past seven years, I have devoted my time to investigating the airbag-hearing damage connection. The revelations were shocking. The situation is egregious.

My injury was not an isolated incident. Many other cases of hearing damage from airbag deployment noise are surfacing. These injuries include hearing loss, tinnitus, vertigo, eardrum perforation, perilymph fistula, and hyperacusis. I found over 70 cases that have been studied. The following doctors have written about these cases: Dr. W. McFeely, Jr. of the Michigan Ear Institute, Dr. K.

Yaremchuk of the American Academy of Otolaryngology, Dr. J. Saunders of the University of Oklahoma Health Sciences Center, Dr. G. Buckley of London, Dr. Hohmann of Switzerland, and Dr. J. Vernon of Portland, OR.

Army researcher Dr. Richard Price's mathematical model indicates that anywhere from 1 to greater than 50 percent of the population could be at risk [if the airbag deploys] depending on various factors, i.e. if the windows were up or down, if the ear is facing the airbag and if the deployment is expected or unexpected.

Hearing damage due to airbags is vastly under-reported. There has been no systematic method for collecting such data. Doctors do not report it to the National Highway Traffic Safety Administration (NHTSA), nor do most patients know to do so. ER doctors are not looking for hearing damage when airbags have caused such visible injuries as eyeball rupture, facial burns and disfigurement, broken necks, bones and even death. Many physicians do not recognize the dangers and do not make the hearing connection. And people can have high-frequency loss without realizing they have it, simply thinking others are mumbling. Hearing damage being cumulative, this type of blast can place the patient in an advanced position on the damage continuum even speeding the aging factor in hearing loss. When otologic patient histories are taken, it is helpful if the patient is asked if they have ever had exposure to airbag deployment.

Although it is clear that airbag deployments can cause hearing problems, many dismiss this because they feel that the lives saved outweigh such problems. However, my research has uncovered many disturbing facts. Perhaps most important is the prevailing wisdom that airbags have saved thousands of lives. In fact, NHTSA has no list of names of lives saved and there are no real crash investigations to support these claims. Internationally recognized safety expert,

Dr. Leonard Evans, wrote in *The Washington Times* on June 8, 1997: "The mandate requiring airbags was supported by government claims that they would save OVER 90,000 lives per decade. The current (far too optimistic) claim is that they have saved 1,700 lives from 1986 to 1996, less than 2 percent of the original claims."

Unfortunately, even the second generation depowered airbags have not eliminated the problem. There has already been a death of a belted, 5'6" tall, 146-pound man from a second-generation airbag.

Another regrettable aspect of the situation is that it is not easy to have an airbag deactivated. Most dealers and mechanics will not do it. And unless you do the mechanical work yourself, you must request authorization from NHTSA, fill out their form, and then search for a place that will do it. Because of the difficulty in doing this, and because of the inaccuracy of the information that NHTSA's website provides, only about 9,000 switches have been installed even though approximately 67,000 authorizations have been issued.

The airbag situation presents interesting issues and citizens deserve a simpler choice. Those desiring airbags as optional rather than mandatory equipment, should contact their congressional representatives.

For further information, e-mail Janet Garman: jgar@gateway.net, or contact:

Airbag Options, Inc.
1-877-4-A-SWITCH
www.airbag.net

Airbag Systems, Inc.
1-800-205-0628
www.airbagsystems.com/

New Executive Committee Named to CAOHC Council



*Megerson presenting
the gravel to incoming
Council Chair Weber*

The Council for Accreditation in Occupational Hearing Conservation elected a new Executive Committee effective November 10, 1999 at the Fall meeting in Atlanta, GA. These new officers will have a two year term to fall 2001.

The Executive Committee is headed by the Chair, Peter Weber, MD, FACS. Weber represents the American Academy of Otolaryngology-Head & Neck Surgery. He has been a member of the CAOHC Council since 1996 and is Associate Professor & Director for the Center for Hearing and Balance Disorders, Medical University of South Carolina, Charleston, SC. Weber succeeds Susan Megerson, MA CCC-A.

Other Executive Committee members include Vice-Chair, Theresa Schulz, PhD MA CCC-A. Schulz represents the Military Audiology Association and has been a member of the CAOHC Council since 1997. She is currently Department of Defense Executive Manager for Joint Service Hearing Conservation at Aberdeen Proving Ground, Maryland. Schulz is also a CAOHC Course Director. Secretary-Treasurer, Merrie Healy, RN MPH is a representative of the National Safety Council and has been on the Council since 1996. She is Vice President/Senior Consultant of Employment Risk Services Marsh, Inc. of Minneapolis, MN.

Susan Megerson, MA CCC-A will continue her service on the Executive Committee as Immediate Past Chair. Megerson is currently Senior Vice-President of US Health Works Preventive Services Division and has been a member of the CAOHC Council since 1991.



*Danielson presenting a
commemorative plaque
to Megerson for her
term as Chair in
1998 and 1999*

Dobie Completes 10 Year Service on Council

Robert A. Dobie, MD, representative of the American Academy of Otolaryngology-Head & Neck Surgery, has completed ten years of service on the CAOHC Council. Dr. Dobie has brought his knowledge to several CAOHC committees, provided instruction at Course Director workshops, and was a principal in the research & development of a course curriculum for the training of professional supervisors of the audiometric portion of a hearing conservation program.

He most recently has served as Secretary-Treasurer on the Executive Committee of CAOHC. On behalf of all of the OHCs, CDs, Council members and executive staff, our heartfelt thanks to Dr. Dobie for his professional expertise and commitment to furthering the education of health care providers working to prevent hearing loss in industry!

Best Wishes in your future endeavors.



*Robert Dobie
Receiving 10 year service
thank you*

CourseDirector Workshop Scheduled for Spring 2000

The Spring Course Director Workshop will be held in Philadelphia, PA on Friday, April 14, 2000, at the Airport Hilton Hotel. 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 Barbara Lechner at the CAOHC office at 414/276-5338 for more information, or access the CAOHC website at <http://www.caohc.org>

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

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



<http://www.caohc.org>

OSHA RECORDKEEPING "AN UPDATE"

by Sandra C. MacLean, MA CCC-A F-AAA
CAOHC Course Director

Many of us have been keeping a keen ear on Washington, DC for any news of the long-anticipated Recordkeeping Rule.

Since a memorandum was released from OSHA in June 1991 there has been much debate and confusion with regard to recordability of hearing loss on the OSHA 200 Log. The 1991 memo, directed at regional administrators, indicated that OSHA would issue citations to employers for failing to record work-related shifts of hearing of an average of 25 dB or more at 2000, 3000 and 4000 Hz in either ear on the OSHA 200 log. The memo also referred its reader to the **upcoming** revision of the recordkeeping regulations. It has been over eight years and the latest word out of Washington, D.C. is that the proposed changes to the OSHA recordkeeping system have been once again delayed.

The following is an excerpt from the Assistant Secretary of Labor of Occupational Safety and Health, Jeffress' speech before the Voluntary Protection Programs Participation Association (VPPPA) Conference. In this speech, presented on September 14, 1999, he announced the intent to delay the effective date of the revised recordkeeping rule until January 2001. The rule will still be published by the end of 1999 according to Regional OSHA sources.

... "Also this year, we will issue our final recordkeeping rule. We had hoped to publish it sooner so that we could have the new forms in place in January 2000. We're not going to meet that deadline.

It's critical to the success of the new system for people to have the training and support they need to help them learn the differences. OSHA has promised to provide that. And we will do it. But to do it right, we need—and employers and state OSHA programs need—more than a couple of months to gear up."

Secretary Jeffress goes on to say, "So, I expect that the new rule will not go into effect this coming January, but January 2001. That will give you time to make the necessary changes to your systems. I think you will be pleased with the changes we've made. The new rule will offer clearer definitions of work-relatedness, a better explanation of what constitutes light duty and a much improved and simpler recordkeeping form. I encourage VPPPA to consider offering recordkeeping training—as other trade and professional organizations will be doing—as part of its services to members and prospective members."

The full text of this speech is available on OSHA's website http://www.osha-slc.gov/OshDoc/Speech_data/SP19990914.html

Editor's Note: CAOHC will publish any new information, as it becomes available from OSHA, in upcoming issues of the UPDATE newsletter.

CAOHC COUNCIL HOLDS SEMI-ANNUAL MEETING

Your CAOHC Council is comprised of two representatives each from eight professional organizations that share a common desire to prevent hearing loss in the workplace. (For your information, these representatives are listed on the outside back cover of this newsletter.) These representatives bring their special expertise to our semi-annual Council meetings and they each serve on multiple committees to discuss & decide policy, review Course Director applications, monitor quality of OHC courses, conduct CD workshops, write and edit this newsletter, and many other tasks throughout the year.

The Council held their second meeting of 1999 in Atlanta, Georgia on November 9, 1999. The various committees report activities that have been planned and/or completed since the last meeting, receive an update from the CAOHC office staff about the certification process and other business matters, and Council discusses any issues that might need resolution or review. (See related articles on page 2 and 5 about Council members).

The Council conducted a shortened meeting because a Long Range Planning Session was held immediately following. Some interesting ideas and plans for the future were brought forward from the OHC Survey results (compiled in 1998)

and the Course Director Survey results (compiled in 1999) and from Council members. These ideas will now be referred to committees for discussion and further development.

Watch for upcoming UPDATE newsletters for more information on CAOHC's Long Range Plan for the new millennium!



Noise Is All Around

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The tally sheet on environmental noise in our lives does not look promising. Those noises that we are all too familiar with have increased dramatically since 1960: Car traffic is up 162 percent, airline traffic up 438 percent, truck traffic up 483 percent, and air cargo traffic up 2,156 percent.

Added to this are the new noises that only a technological society can boast: thrillcraft (jet skis), leaf blowers, weed whackers, boom boxes, and car alarms not to mention the increasing decibel level of movie trailers that announce coming attractions in theaters.

And the good news? Most hotel doormen don't use whistles anymore.

Noise comes from the Latin word *nausea*, originally meaning seasickness. Which is not surprising, because noise makes us sick. Noise can raise blood pressure, change blood chemistry, and make us anxious, tired, and distracted. In addition, noise also affects whole communities. Noise diminishes our sense of civility, numbs compassion, and breeds aggression and hostility.

Noise disturbs our sense of place. Noise ranks higher than crime, traffic, and public services as a cause of popular dissatisfaction in neighborhoods, according to the U.S. Census. It is one of the reasons people continue to flock to suburbs in search of peace and quiet. There we huddle among the setbacks, cul-de-sacs, sound walls, and berms erected to deaden sound. These designs are not always successful. What they are successful at, however, is further isolating neighbor from neighbor.

Noise is rapidly becoming our most pervasive pollutant. Approximately 138 million Americans live in areas noisier than the EPA recommends. Moreover, the number of places where we can find peace is diminishing. Today, because of airplane and helicopter overflights, natural quiet is preserved in only seven percent of the Grand Canyon National park - and nowhere

in Hawaii's Volcanoes National Park. In Yellowstone National Park the most distinctive wintertime sound is not the exploding of geysers or the bugling of elk, but the drone of 2,000 snowmobiles.

To some, noise is simply the price we pay for living in a modern, industrialized economy. But it doesn't have to be. Noise standards in Europe are significantly lower than in the United States, which no longer updates, writes, or enforces most federal noise regulations. The EPA office of Noise Abatement and Control was shut down by Ronald Reagan nearly two decades ago.



*Illustration provided courtesy of
E•A•R Hearing Protection Products*

Laws, technology, politeness, and concern for one's neighbors could solve most noise problems. Instead of replacing motorcycle mufflers with "straight pipes" to make them louder we should be replacing them with better mufflers to make them quieter. Mufflers do not even come as standard equipment on many small aircraft and most small watercraft. Lawn equipment need not be so loud as to pose a hearing threat to the operator and a nuisance to neighbors. Ultimately, environmental noise stems from a lack of manners and a breach of

civility. Good neighbors keep their noise to themselves; bad neighbors do not.

As noise becomes increasingly pervasive, communities are starting to fight back. They are recognizing that the outdoors is a public commons and that although everyone is entitled to its use, we should strive to design rules to allow for as many possible uses simultaneously and limit those that degrade others' use of the outdoors. Making as much noise as one wants is neither a human right nor a property right. We can exercise our property rights only to the extent that we do not diminish the rights of others. Your right to swing your fist ends at my nose. Your right to make noise ends at my ear. Friends of quiet liken their battle to the 25-year-old one against secondhand smoke. Over almost three decades it has become routine for states and cities to decide that your right to smoke ends at the air I breathe.

Communities are strengthening their ordinances and increasing enforcement. Citations are now common in many major cities for "boom cars" (described by Time Magazine as rock concerts on wheels) that are audible more than 50 feet from a vehicle. And outside of urban areas, thrillcraft are being banned from parks, lakes, and waterways across the country. "Business," according to Eric Zwierling, Director of the Rutgers Noise Technical Assistance Center, "is booming." Zwierling is busy traveling the country helping cities write better noise ordinances. In yet another sign of the success of quiet preservationists, ECHO, the leaf blower manufacturer, has had to hire someone to fight municipal leaf blower bans.

The effort to quiet neighborhoods, however, is only beginning. While communities have the right to regulate late-night parties or muffler-less

Eye Contact

continued from page 2



can hear normally. However, individuals who have no melanocytes (due to genetic mutations) are hearing-impaired. After exposure to noise, cochlear melanocytes produce more melanin.

Recent research clearly indicates that the ear's defense against free oxygen radicals is related to susceptibility to noise-induced hearing loss (NIHL). Therefore, it is plausible that ears which produce more eumelanin, with its ability to protect against free radicals, may be better able to resist noise damage. Conversely, greater amounts of phaeomelanin might increase susceptibility.

Factors related to NIHL susceptibility were explored during a meeting of the Acoustical Society of America last fall. Presenter Julia Royster reported data Larry Royster had collected 20 years earlier from a

textile plant in North Carolina. The data were gleaned from the work of factory nurse Carolyn Carroll, who coded eye color when she gave employees annual hearing evaluations.

In analyzing this information, employees were placed in subgroups by gender and race, since it is well established that black Americans have better hearing than whites of the same age, and females have better hearing than males.

Among white employees, eye color was unrelated to age-corrected hearing level; an eye color effect was evident for black employees. Among 348 black workers, 11 males and 10 females had light eyes, the groups of special interest in the figures.

Light-eye blacks showed significantly poorer high-frequency hearing than dark-eyed counterparts. Results indicate that the role of melanin, particularly phaeomelanin and eumelanin in the cochlea, deserves further study as we strive to understand how noise damages the ear.

In practical terms, however, people with dark skin and/or eyes should not

consider themselves less vulnerable in the presence of hazardous noise. Earplugs, not eye color, are the best defense against noise damage!

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Noise Is All Around

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motorcycles, they still do not have the right to regulate low-flying or late-night aircraft or early-morning trains, even if these generate noise many times louder than a neighbor's stereo. When it comes to transportation, mobility still takes precedence over community.

That too is beginning to change. People are realizing that we are creating acoustical slums out of our inner cities. And after 50 years of fleeing the cities for the peace of the suburbs, many are realizing that they have brought the noise with them. With fewer places to flee, there is renewed interest in improving the quality of life where we live now. But that means quieting motorcycles, cars, trucks, planes, trains, and the host of modern conveniences that were meant to make our lives "better" but have had the unintended consequence of diminishing our overall quality of life.

The Noise Pollution Clearinghouse (NPC) is leading the effort to quiet our neighborhoods. The mission of NPC is to create more livable cities and more natural rural and wilderness areas by reducing noise at the source. The primary resource of NPC is a 50 megabyte Online Library (www.nonoise.org) used by 400 people each day. Within the library are articles about noise and its effects, a law library containing local, state, and federal regulations, and resources for quieting specific noise sources. For more information, you can contact NPC toll free at (888) 200-8332.

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.

We are working on adding this feature to the CAOHC website along with on-line forms. (We also accept check or money order for these fees)

"Take Control of Noise" on International Noise Awareness Day Wednesday, April 12, 2000.

Exposure to noise is one of the leading causes of hearing loss in 28 million people in the United States and the figures are rising. Hearing loss affects more of the population than does cancer, heart disease and AIDS combined. It is also the third most common health ailment, after arthritis and high blood pressure.

"Noise poses a serious threat to hearing, health, learning and behavior," says Nancy Nadler, Director of the Noise Center of the League for the Hard of Hearing. This year the League for the Hard of Hearing will sponsor the fifth annual **International Noise Awareness Day**, spearheading a special effort to inform the public to the necessity of creating a quiet home, school, work and recreational environment.

Noise is far more than just a threat to our ears. Continuous exposure to noise, documented research has found, is correlated with physiological changes in blood pressure, sleep, digestion and other stress-related disorders. Volumes of literature exist documenting the harmful effects of noise. "It is essential," Nadler said, "that we take seriously this relationship between noise and hearing and health. We need to take necessary steps to reduce noise in our lives both in and out of the workplace before we risk creating a generation which suffers from the stress-related disorders and health impacts associated with noise."

Among the many activities planned during **International Noise Awareness Day, Wednesday, April 12**, sponsored by the League for the Hard of Hearing, the public will be asked to observe the **Quiet Diet** - one minute of quiet, regardless of their location, from 2:15 P.M. to 2:16 P.M.

Other Activities planned include:

Free Hearing Screenings - Private audiologists and speech and

hearing clinics will help to celebrate International Noise Awareness Day by providing free hearing screenings to the public. (Check www.lhh.org/noise for locations)

Dissemination of Hearing Protection - Hearing protection will be distributed on International Noise Awareness Day at hearing screenings, town meetings, various places of business and college campuses. Hearing protection was generously donated by E-A-R/Aearo Company.

Town meetings to "sound off on noise" - Town meetings will be scheduled in various communities on International Noise Awareness Day to provide a forum for community residents to voice their concerns about noise. Local police departments, representatives from the Department of Environmental Protection and local politicians will be invited to attend these meetings.

Publicity - Participants in International Noise Awareness Day will hold press conferences in their local areas. Press releases and public service announcements on television and radio stations will involve the media and help to promote the important message that noise hurts.

City/State Proclamations - Mayoral and Gubernatorial Proclamations in celebration of International Noise Awareness Day will be obtained.

Develop Your Own Anti-Noise Group and speak out about the harmful effects of noise in your community. Analyze (or develop) your local noise code and follow the Noise Center's steps in handling a noise complaint.

Letter Writing Campaign - Participate in the Noise Center's Letter Writing Campaign to re-establish the Environmental Protection Agency's Office of Noise Abatement & Control.

For a packet of information, posters and suggestions on how you can participate in **International Noise**

Awareness Day, contact Nancy Nadler, Director of the Noise Center at the League for the Hard of Hearing via email: noisectr@aol.com or the address below.

Noise Center, League for the Hard of Hearing, 71 West 23rd Street, New York, NY 10010. You may also phone the League at 1/888-NOISE-88, or you may access their website at www.lhh.org/noise

MINE SAFETY

HEALTH ADMINISTRATION ANNOUNCES NEW HEALTH STANDARDS

New regulations for the mining industry have been approved effective September 13, 2000 and will be enforced beginning October 2000. CAOHC will have an article in an upcoming issue of the UPDATE. In the meantime, if you would like to obtain more information, contact your local MSHA district office or the Health Division for Coal Mine Safety and Health at 703/235-1358 or Health Division for Metal and Non-metal Mine Safety and Health at 703/235-8307. Information is available on the MSHA website at www.msha.gov under "Statutory and Regulatory Information", choose the section entitled "Final Rules."

CORRECTION

In the Fall 1999 UPDATE newsletter, page 10 the Military Audiology Association website was incorrect.

The correct website address is:
<http://www.militaryaudiology.org>



**Council for
Accreditation
in Occupational
Hearing
Conservation**

Council for Accreditation in Occupational Hearing Conservation

Hearing Conservation Manual, 3rd Edition

About the Manual . . .

The manual has been completely rewritten, revised and updated with additional information on the OHC's mission, training, and role, and includes a separate chapter on federal and state regulations. This revised version also has more detailed chapters on audiometric equipment and procedures for audiometric testings, plus the sections on sound and noise measurement are more "reader friendly." The appendices that contain new checklists and samples of forms used by experienced hearing conservationists.

About the Author . . .

Alice Suter, PhD has been extremely influential in noise criteria development, regulation, and public policy, first at the Environmental Protection Agency's Office of Noise Abatement, and later at OSHA. As Senior Scientist and Manager of the Noise Standard at OSHA, she was principal author of the Hearing Conservation Amendment. She is now a consultant in industrial audiology and community noise. Among her clients have been the World Health Organization, the Administrative Conference of the U.S., and various private companies, individuals, citizens groups, and government agencies on the federal, state, and local level.

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Upcoming OHC Certification and Recertification Courses*

Approved as of December 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	State	Course Director	Phone	Date	City	State	Course Director	Phone
1/10	Bethesda	MD	Cook, Lynn	(Navy)	6/5	Portland	OR	Atack, Rodney	503/614-8465
1/10	Ft.Sam Houston	TX	Byrne, Col.Clyde		6/6	Oakbrook Terrace	IL	Thunder, Thomas	847/359-1068
1/11	Los Angeles	CA	McCall, Kirsten	310/314-9957	6/7	Boca Raton	FL	Greenberg, Herbert	561/750-2100
1/11	Greensboro	NC	Juarez, Omar	336/665-1818	6/7	Rochester	NY	Hengen, Garth	508/832-8484
1/11	Brooks AFB	TX	Edris, Maj. Robert	(Air Force)	6/7	Houston	TX	Elmore, John	800/357-5759
1/12	Greeley	CO	Meinke, Deanna	970/346-1065	6/13	Los Angeles	CA	McCall, Kirsten	310/314-9957
1/12	Corpus Christi	TX	Elmore, John	800/357-5759	6/14	Salt Lake City	UT	Cronin, Pamela	801/566-8304
1/12	Brookfield	WI	Korabic, Edward	414/288-3428	6/15	Brooks AFB	TX	Edris, Maj Robert	(Air Force)
1/18	Erie	PA	Nutter, J.Christopher	814/453-4716	6/17	Chicago	IL	Elmore, John	800/357-5759
1/19	Boise	ID	Bowman, Rick	208/376-3591	6/19	Brooks AFB	TX	Edris, Maj. Robert	(Air Force)
1/19	Portland	OR	Fairchild, Michael	503/232-1646	6/20	Indianapolis	IN	Jerome, James	317/841-1065
1/19	Dallas	TX	Harris, Dean	970/586-0702	6/21	Charlotte	NC	Newman, Valerie	336/665-1818
1/22	Dallas	TX	Elmore, John	800/357-5759	6/21	Amherst	NY	Nelson, David	716/633-7210
1/25	Bethesda	MD	Cook, Lynn	(Navy)	6/30	Ft.Hood	TX	Johnson, Maj Jennifer	(Army)
1/25	Kansas City	MO	Bloyer, Cindy	816/471-3900	7/11	Greensboro	NC	Juarez, Omar	336/665-1818
1/25	Charlotte	NC	Newman, Valerie	336/665-1818	7/11	Seattle	WA	McCall, Kirsten	310/314-9957
1/26	Daytona Beach	FL	Elmore, John	800/357-5759	7/12	FL.Lauderdale	FL	Elmore, John	800/357-5759
1/26	Amherst	NY	Nelson, David	716/633-7210	7/12	Brookfield	WI	Hase, Meredy	262/547-2227
1/28	Ft.Hood	TX	Johnson, Maj Jennifer	(Army)	7/18	Kansas City	MO	Bloyer, Cindy	816/471-3900
1/31	Rio Piedras	PR	Beauchamp, Angel	787/751-5609	7/19	Portland	OR	Fairchild, Michael	503/232-1646
2/1	St.Louis	MO	Bellamy, McKenna	314/968-4710	7/19	Dallas	TX	Harris, Dean	970/586-0702
2/2	So.Charleston	WV	Harris, Gary	304/766-6555	7/19	San Antonio	TX	Elmore, John	800/357-5759
2/7	Portland	OR	Atack, Rodney	503/614-8465	7/21	Brooks AFB	TX	Edris, Maj. Robert	(Air Force)
2/8	Los Angeles	CA	McCall, Kirsten	310/314-9957	7/27	New Orleans	LA	Elmore, John	800/357-5759
2/8	Atlanta	GA	Moore, A.Gregg	770/933-9236	8/2	Greeley	CO	Kastner-Wells, Laurie	970/454-1110
2/8	Indianapolis	IN	Jerome, James	317/841-1065	8/2	Chapel Hill	NC	Stewart, Andy	919/493-4471
2/9	Boca Raton	FL	Greenberg, Herbert	561/750-2100	8/2	Williamsburg	VA	Elmore, John	800/357-5759
2/9	Chapel Hill	NC	Stewart, Andy	919/493-4471	8/3	Montgomery	AL	Smith, Curtis	334/887-6302
2/9	Albuquerque	NM	Elmore, John	800/357-5759	8/3	Brooks AFB	TX	Edris, Maj Robert	(Air Force)
2/14	Bethesda	MD	Cook, Lynn	(Navy)	8/7	Portland	OR	Atack, Rodney	503/614-8465
2/19	Denver	CO	Elmore, John	800/357-5759	8/8	Brooks AFB	TX	Edris, Maj Robert	(Air Force)
2/21	Omaha	NE	Norris, Thomas	402/391-3982	8/14	Oakbrook Terrace	IL	Thunder, Thomas	847/359-1068
2/22	Oakbrook Terrace	IL	Thunder, Thomas	847/359-1068	8/15	Los Angeles	CA	McCall, Kirsten	310/314-9957
2/29	Houston	TX	Bloyer, Cindy	816/471-3900	8/16	Boca Raton	FL	Greenberg, Herbert	561/750-2100
3/2	Montgomery	AL	Smith, Curtis	334/887-6302	8/16	Oakbrook Terrace	IL	Thunder, Thomas	847/359-1068
3/3	Brooks AFB	TX	Edris, Maj Robert	(Air Force)	8/21	Cincinnati	OH	Elmore, John	800/357-5759
3/7	Greensboro	NC	Juarez, Omar	336/665-1818	8/22	Atlanta	GA	Moore, A.Gregg	770/933-9236
3/8	Iowa City	IA	Stephens, Myrna	319/355-7712	8/24	Louisville	KY	Elmore, John	800/357-5759
3/8	Iowa City	IA	Stephens, Myrna	319/355-7712	8/28	Knoxville	TN	Elmore, John	800/357-5759
3/13	Lexington	KY	Green, William	606/323-5840	9/6	Brooks AFB	TX	Edris, Maj Robert	(Air Force)
3/13	Louisville	KY	Elmore, John	800/357-5759	9/11	Lexington	KY	Green, William	606/323-5840
3/14	Los Angeles	CA	McCall, Kirsten	310/314-9957	9/12	San Francisco	CA	McCall, Kirsten	310/314-9957
3/15	Portland	OR	Dolan, Thomas	503/725-3264	9/12	Indianapolis	IN	Jerome, James	317/841-1065
3/16	Cincinnati	OH	Elmore, John	800/357-5759	9/13	Greensboro	NC	Juarez, Omar	336/665-1818
3/22	Portland	OR	Fairchild, Michael	503/232-1646	9/13	Glens Falls	NY	Elmore, John	800/357-5759
3/22	Dallas	TX	Harris, Dean	970/586-0702	9/15	FL.Hood	TX	Johnson, Maj Jennifer	(Army)
3/28	Brooks AFB	TX	Edris, Maj Robert	(Air Force)	9/19	Chapel Hill	NC	Stewart, Andy	919/493-4471
3/29	Shelton	CT	Sochrin, Phyllis	203/735-4327	9/20	Phoenix	AZ	Elmore, John	800/357-5759
3/29	Kansas City	MO	Bloyer, Cindy	816/471-3900	9/20	Portland	OR	Fairchild, Michael	503/232-1646
3/29	San Antonio	TX	Elmore, John	800/357-5759	9/20	Brooks AFB	TX	Edris, Maj Robert	(Air Force)
4/3	Cleveland	OH	Elmore, John	800/357-5759	9/20	Dallas	TX	Harris, Dean	970/586-0702
4/3	Portland	OR	Atack, Rodney	503/614-8465	9/26	Kansas City	MO	Bloyer, Cindy	816/471-3900
4/4	Chapel Hill	NC	Stewart, Andy	919/493-4471	9/27	San Antonio	TX	Elmore, John	800/357-5759
4/5	Boca Raton	FL	Greenberg, Herbert	561/750-2100	10/2	Portland	OR	Atack, Rodney	503/614-8465
4/6	Detroit	MI	Elmore, John	800/357-5759	10/10	Charlotte	NC	Newman, Valerie	336/665-1818
4/10	Oakbrook Terrace	IL	Thunder, Thomas	847/359-1068	10/11	Denver	CO	Harris, Dean	970/586-0702
4/11	San Francisco	CA	McCall, Kirsten	310/314-9957	10/11	Brookfield	WI	Korabic, Edward	414/288-3428
4/11	Charlotte	NC	Newman, Valerie	336/665-1818	10/12	Columbus	OH	Elmore, John	800/357-5759
4/12	Orlando	FL	Elmore, John	800/357-5759	10/16	Detroit	MI	Elmore, John	800/357-5759
4/12	Oakbrook Terrace	IL	Thunder, Thomas	847/359-1068	10/17	Los Angeles	CA	McCall, Kirsten	310/314-9957
4/12	Brookfield	WI	Hase, Meredy	262/547-2227	10/17	Oakbrook Terrace	IL	Thunder, Thomas	847/359-1068
4/13	Brooks AFB	TX	Edris, Maj Robert	(Air Force)	10/18	Shelton	CT	Sochrin, Phyllis	203/735-4327
4/14	Ft.Hood	TX	Johnson, Maj Jennifer	(Army)	10/18	Boca Raton	FL	Greenberg, Herbert	561/750-2100
4/18	Indianapolis	IN	Jerome, James	317/841-1065	10/19	Indianapolis	IN	Elmore, John	800/357-5759
4/26	Worcester	MA	Hengen, Garth	508/832-8484	10/23	Omaha	NE	Norris, Thomas	402/391-3982
5/2	St.Louis	MO	Thiele, Natalie	314/968-4710	11/1	Worcester	MA	Hengen, Garth	508/832-8484
5/3	Concord	NH	Hengen, Garth	508/832-8484	11/7	Atlanta	GA	Moore, A. Gregg	770/933-9236
5/5	St.Louis	MO	Bellamy, McKenna	314/968-4710	11/14	Chapel Hill	NC	Stewart, Andy	919/493-4471
5/8	Ft.Sam Houston	TX	Byrne, Col.Clyde	(Army)	11/14	Houston	TX	Bloyer, Cindy	816/471-3900
5/10	Baltimore	MD	Elmore, John	800/357-5759	11/14	Seattle	WA	McCall, Kirsten	310/314-9957
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5/12	Brooks AFB	TX	Edris, Maj Robert	(Air Force)	11/15	Portland	OR	Fairchild, Michael	503/232-1646
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5/16	Los Angeles	CA	McCall, Kirsten	310/314-9957	12/4	Portland	OR	Atack, Rodney	503/614-8465
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5/16	Greensboro	NC	Juarez, Omar	336/665-1818	12/5	Greensboro	NC	Juarez, Omar	336/665-1818
5/17	Portland	OR	Fairchild, Michael	503/232-1646	12/6	Boca Raton	FL	Greenberg, Herbert	561/750-2100
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5/24	Chapel Hill	NC	Stewart, Andy	919/493-4471	12/6	Houston	TX	Elmore, John	800/357-5759
5/24	San Antonio	TX	Elmore, John	800/357-5759	12/8	Brooks AFB	TX	Edris, Maj Robert	(Air Force)
6/5	Omaha	NE	Norris, Thomas	402/391-3982	12/13	San Antonio	TX	Elmore, John	800/357-5759

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