Inside NIDCD Newsletter

National Institute on Deafness and Other Communication Disorders
National Institutes of Health
www.nidcd.nih.gov

Spring 2006

IN THIS ISSUE

Smell and Taste Disorders Added to NIH Web Site for Seniors

They may not be as serious as cancer or heart disease, but problems with smell and taste can make life miserable. Just ask the more than 250,000 Americans who visit their physician every year because of a "chemosensory" disorder.

"People with a smell or taste disorder really have a lower quality of life," says Dr. Gary Beauchamp [pronounced BEE-cham], director of the **Monell Chemical Senses Center** (www.monell.org) in Philadelphia, and an NIDCD grantee. "They can't fully enjoy the simple aspects of normal life, like eating and drinking, and this can be a real challenge for them. For some of these people, enjoying food and beverages may be one of the few pleasures they have in life."

Who are these people? Adults over the age of 60 are the most likely candidates to have a problem with smell and taste, with a loss of smell occurring more frequently than a loss of taste. Nearly one-third of all Americans between the ages of 70 and 80 have a problem with smell as do about two out of three people over the age of 80. Although the causes are not well understood, colds and other upper respiratory infections, chronic sinusitis and head injuries are the most common causes of smell disorders. Taste disorders may be caused by aging, overall poor health, taking certain medications, and possibly infections.

To help seniors learn more about smell and taste problems, NIDCD has added these topics to **NIHSeniorHealth.gov**, a Web site co-sponsored by the **National Institute on Aging** (www.nia.nih.gov) and the **National Library of Medicine** (www.nlm.nih.gov). The Web site features senior-friendly elements such as large print; short, easy-to-read sentences; and an audio function that reads text aloud. Each health topic includes general background information, open-captioned videos, quizzes, and frequently asked questions.

Because the two senses are closely related, many people confuse smell and taste disorders. A problem with taste may actually be a problem with smell in disguise. (Most of us know what it's like to lose the ability to taste food when our noses are stopped up by a cold).

Taste occurs because taste buds on our tongue, throat, and roof of the mouth have special cells that can identify five different sensations: sweet, sour, bitter, salty, and umami (savory). At birth we have about 10,000 taste buds. By age 50 that number may begin to decrease, which may explain why some older people prefer salty or spicy foods. People with taste disorders often use flavor enhancers to make their meals more palatable.

Smell and taste disorders may not seem serious, but the loss of one or both could put an older person in a potentially hazardous situation. According to Dr. Beauchamp, who is featured in the *Older Adults and Smell Loss* video clip on the **NIHSeniorHealth.gov** Web site, smell lets us know when something is wrong in our environment, such as when food has spoiled or when a gas leak has occurred. Taste also protects us by helping us select foods that are healthful over those that might be bad for us. (For example, some plants that are toxic may have a bitter taste.) "The ability to identify food is especially important for people with food allergies," Dr. Beauchamp says.

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Inside NIDCD Newsletter

National Institute on Deafness and Other Communication Disorders
National Institutes of Health
www.nidcd.nih.gov

Spring 2006

NIDCD-funded Researchers Find Missing 'Piece of the Pie' in Understanding Taste

Scientists supported by NIDCD are a step closer to unraveling the mystery of taste. In a study published in the **December 2, 2005, issue of *Science*** (www.sciencemag.org/cgi/content/full/310/5753/1495), researchers have pinpointed the chemical responsible for transmitting signals from the taste buds—small sensory bumps on the tongue, throat, and roof of the mouth—to the taste nerves leading to the brain. These findings provide scientists with a more complete picture of this complicated process, helping advance the study of taste and taste disorders.

"People with taste disorders might not be able to enjoy the fun of eating and are at risk for other health problems, such as poorly balanced nutrition, so researchers are working to understand more fully how our sense of taste works," says James F. Battey, Jr., M.D., Ph.D., director of NIDCD. "Until now, there has always been a missing link between the detection of chemicals in the taste buds and the transmission of chemical signals from the taste nerves to the brain. Through an ingenious use of genetic engineering, these researchers have finally been able to solve the puzzle."

Using "knockout mice," mice that are genetically altered to be missing one or more key genes, the researchers were able to narrow the field of possible chemicals to one: adenosine 5'-triphosphate, or ATP, a high-energy molecule that is also important for helping cells in the body to function. The scientists produced mice that are missing the genes that encode two key receptors found in taste nerves—$P2X_2$ and $P2X_3$—both of which bind to ATP. They found that the taste nerves of mice lacking the $P2X_2$ and $P2X_3$ genes showed no response to taste stimulation, although the nerves remained responsive to touch, temperature, and menthol. These results indicate that not only are $P2X_2$ and $P2X_3$ important in transmitting taste signals, but the chemical that they bind to —ATP— is also important. The knockout mice also showed much lower behavioral responses to sweeteners, monosodium glutamate, and bitter substances. What's more, stimulation of taste buds in a laboratory preparation resulted in the release of ATP, which would be predicted if ATP is involved in the transmission of signals from the taste buds to the taste nerves.

The research was conducted by a team of scientists from the **University of Colorado Rocky Mountain Taste and Smell Center** (www.uchsc.edu/rmtsc), as well as the **University of Wisconsin** (www.wisconsin.edu), **Colorado State University** (welcome.colostate.edu), and the **University of Minnesota** (www1.umn.edu/twincities).

He adds, "For some older people, especially the very old, a smell or taste problem can be devastating. They no longer want to eat or drink or maintain a nutritious diet and they can easily slip into depression." Researchers at Monell and other NIDCD-supported institutions are looking at ways to restore smell and taste in people who have lost these senses.

"We're trying to understand at the molecular level why aging takes its toll on smell and taste, and specifically why certain medications exacerbate the problem. This work may eventually lead to new treatments for individuals with chemosensory disorders," says James F. Battey, Jr., M.D., Ph.D., NIDCD director.

In the meantime, it's important for older people to remember that most cases of smell and taste loss are treatable, and some may even resolve spontaneously. Consulting a family physician can help older adults identify the cause of the problem. A correct diagnosis is important and provides a much-needed reassurance that the smell or taste problem is not imaginary, adds Dr. Beauchamp.

"Some people find support groups helpful. Others prefer to use online bulletin boards to share their experiences and come up with various solutions. Regardless of the outcome, older people need to remember that they are not alone. There are thousands of people who are in the same situation," he says.

For more information on smell and taste disorders in older people, see the NIH SeniorHealth.gov Web site at **NIHSeniorHealth.gov**. For general information on smell and taste, see the NIDCD web site at **www.nidcd.nih.gov/health/smelltaste/.**

Inside NIDCD Newsletter

National Institute on Deafness and Other Communication Disorders
National Institutes of Health
www.nidcd.nih.gov

Spring 2006

Don't Let Gun Sports Backfire on You:
Use Ear Protection and Hang Onto Your Hearing

Shawn Dulohery, a national- and world-champion skeet shooter and 2004 Olympic team member in the skeet event, would never fire a gun without them. Likewise, Dave Henderson, a nationally recognized outdoor sports writer and hunting expert, wouldn't dream of venturing into the woods without his. These two highly skilled shooters ardently support the wearing of ear protection such as earplugs or earmuffs when firing a rifle, shotgun, or other firearm used in hunting and sport shooting.

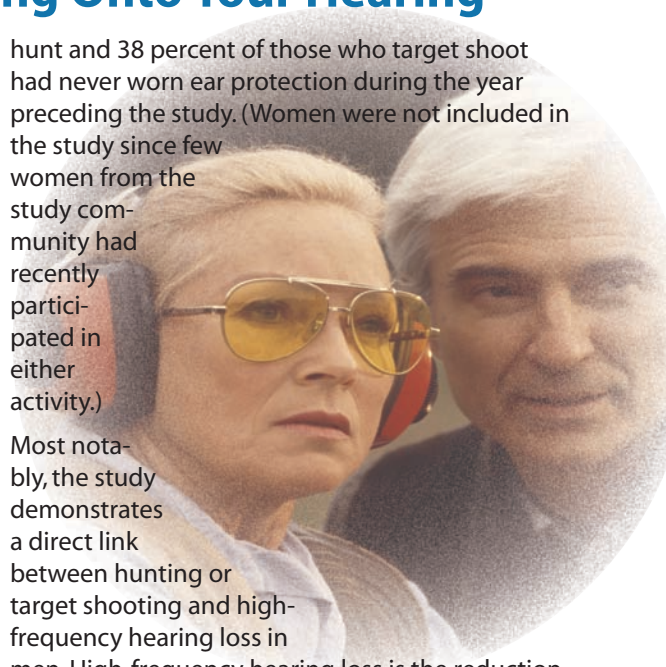
"Wearing ear protection is extremely important, not only for people who shoot, but for bystanders as well," says Dulohery. For this reason, the top-tier marksman—a silver medalist in the 2005 national shotgun shooting championships in Colorado Springs, CO—always carries two types of ear protection to the firing range: one type for when he is shooting and another type for when he is watching other people shoot.

Dulohery knows from experience. The 40-year-old Sergeant First Class in the U.S. Army's Marksmanship Unit, Fort Benning, GA, has been target shooting since the age of 12. He has already lost some of his hearing, and he is determined to protect the hearing he still has.

"Loud noise, such as the 140-decibel blast of a rifle, can irreparably damage the specialized cells of the inner ear—called hair cells—that enable us to hear," says James F. Battey, Jr., M.D., Ph.D., director of NIDCD. "So it is vitally important for us to protect our ears when we are repeatedly exposed to loud noise."

The **National Institute for Occupational Safety and Health (NIOSH)**(www.cdc.gov/niosh), part of the **Centers for Disease Control and Prevention** (CDC)(www.cdc.gov), recommends that hunters and shooters wear earplugs and earmuffs together when firing guns, to increase the amount of hearing protection provided.

Yet, according to a 2000 study supported by the NIH, too many male hunters and target shooters are not wearing ear protection at all. In fact, of the approximately 1,500 Wisconsin men who participated in the study, 95 percent of those who hunt and 38 percent of those who target shoot had never worn ear protection during the year preceding the study. (Women were not included in the study since few women from the study community had recently participated in either activity.)



Most notably, the study demonstrates a direct link between hunting or target shooting and high-frequency hearing loss in men. High-frequency hearing loss is the reduction of the ear's ability to hear high-frequency sounds, the sounds that are necessary for understanding speech.

Henderson, an avid outdoor sportsman who has published four books on hunting, along with thousands of newspaper and magazine articles on hunting and shooting, discovered his hearing loss at age 19 during a physical he took for the military.

"I never used hearing protection as a kid. Nobody did," tells Henderson, who began shooting when he was 10. "When I walked out of the test booth, the tester said, 'You're a shooter. Typical pattern,'" noting that Henderson's hearing loss was primarily in the high-frequency range, with slight loss in the middle range.

At 56, Henderson, who shoots 15,000 rounds of shotgun and rifle ammunition annually, has been wearing hearing protection without fail for the past two decades. He frequently delivers presentations to new hunters and shooters, particularly children and teens, pointing out that, as hearing protection becomes more sophisticated, there's no excuse not to wear it. For example, some hearing protection devices make it possible to block out loud sounds while amplifying softer sounds that

hunters or target shooters need to hear, such as snapping twigs or the issuing of range commands.

"Ear protection still is very much neglected, especially in hunting," Henderson cautions. "But, particularly in hunting, our sense of hearing is very important—almost as important as our sense of vision. We need to protect it as much as we can."

For more information on noise-induced hearing loss, visit the NIDCD Web site at **www.nidcd.nih.gov/health/hearing/noise.asp**.

For more information on hearing protection options, visit the NIOSH Web site at **www.cdc.gov/niosh/topics/noise/**.

Reference: DM Nondahl *et al*. **Recreational firearm use and hearing loss**. *Archives of Family Medicine* 9(4):352-7 (2000).

Link Between Newborn Infection and Childhood Hearing Loss?

NIDCD-funded Researchers to Lead a Multicenter Study

University Hospital at University of Alabama

NIDCD-supported researchers are investigating the link between a common infection that is spread from person to person through bodily fluids—saliva, tears, blood, semen, vaginal secretions and breast milk—and childhood hearing loss. In one of the largest studies of its kind, 100,000 babies will be screened for cytomegalovirus infection at birth to determine the role of CMV in childhood hearing loss. Those who test positive for CMV will undergo hearing screening to determine the onset, severity, and progression of hearing loss. The seven-year, $15 million contract, which is currently in protocol development, is being led by scientists at the **University of Alabama School of Medicine** (main.uab.edu/uasom/show.asp?durki=2023).

Although a majority of infants born in the United States are already screened for hearing loss, most infants are not tested for CMV unless they already show signs of the disease. Also, newborn hearing screening cannot detect or predict hearing loss that will occur later in childhood. While the causes of childhood hearing loss remain largely unknown, estimates indicate that as much as 20 to 30 percent of childhood hearing loss is caused by CMV infection.

CMV, a member of the herpes family, is the most common infection passed from a mother to her unborn child. Approximately one percent of newborns, or about 40,000 infants each year, are born infected with CMV. Children born with CMV infection who have symptoms of infection, such as hearing loss, seizures, visual impairment, and cerebral palsy, are usually identified at birth and receive appropriate medical care.

However, the majority of CMV-infected children—roughly 90 percent—have no symptoms at birth. These children have what is called a "silent" infection, which often goes unnoticed. About 10 percent are at risk for eventually developing hearing loss—the most common outcome of CMV infection. Identifying asymptomatic children and following their progress to determine if hearing loss develops is a major focus of this research.

In this study, newborns at seven institutions* around the country will be screened for CMV infection at birth, in addition to receiving newborn hearing screening. Most of the newborns will be enrolled for screening and follow-up evaluation beginning in about a year.

The researchers will analyze the data to better understand the relationship between CMV infection and hearing loss and to determine the extent to which CMV screening together with hearing screening can improve the detection and prediction of permanent hearing loss in children.

*In addition to the University of Alabama, Birmingham, AL, which is coordinating the research for this contract, other participating institutions are: University of Mississippi, Jackson, MS; Carolinas Medical Center, Charlotte, NC; St. Peter's University Medical Center, New Brunswick, NJ; University of Cincinnati, Cincinnati Children's Medical Center; University of Pittsburgh, Children's Hospital of Pittsburgh; and the University of Texas, Southwestern Medical Center, Dallas, TX.

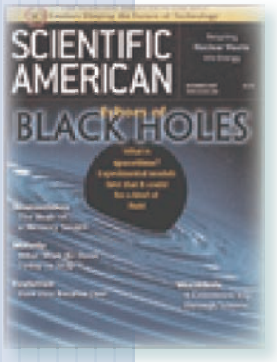
Inside NIDCD Newsletter

National Institute on Deafness and Other Communication Disorders
National Institutes of Health
www.nidcd.nih.gov

Spring 2006

NIDCD-funded Hair Cell Regeneration Studies Make *Scientific American's* Top 50 List for 2005

NIDCD-funded research on the use of gene therapy to regenerate auditory hair cells in guinea pigs and mice was included in ***Scientific American's* top 50 list** (www.sciam.com/article.cfm?chanID=sa006&colID=1&articleID=000A7311-2472-137E-A47283414B7F0101) honoring trends in research, business, and policy for 2005. The honored researchers were **Yehoash Raphael** (www.umich.edu/~neurosci/faculty/yoash.htm), Ph.D., University of Michigan Medical School, Ann Arbor, and **Zheng-Yi Chen** (hearing.harvard.edu/affiliates/chen.htm), Ph.D., Massachusetts General Hospital, Boston.



(photo courtesy of Scientific American)

"The ability to grow new auditory hair cells to replace damaged ones is a research priority for NIDCD and a prospect that holds tremendous promise in the coming decades," says NIDCD director James F. Battey, Jr., M.D., Ph.D. "Our hope is that this and other innovative research in gene therapy may one day be used to safely and effectively treat sensorineural hearing loss in people."

Hair cells, small sensory cells in the inner ear, are chiefly responsible for converting sound vibrations into electrical signals, which are interpreted—or "heard"—by the brain. When hair cells become damaged—either by disease, injury, or aging—a person experiences hearing loss, sometimes profound. While fish, amphibians, and birds are able to grow new hair cells to replace damaged ones, mammals cannot regenerate hair cells on their own.

The studies involve the coaxing of new auditory hair cell growth by either inserting a gene that promotes hair cell growth or by deleting a gene that prevents it. Dr. Raphael and his team used a modified virus to transport the Atoh 1 gene, a key gene for the development of hair cells, into non-sensory epithelial cells in the inner ears of deafened guinea pigs. After eight weeks, the scientists discovered new hair cell growth in the inner ears of the guinea pigs as well as improved hearing function. **(Read more about his research at www.nidcd.nih.gov/news/releases/05/2_13_05.asp.)** Dr. Chen and colleagues identified a key gene, called Rb1, which shuts down further growth of hair cells during the early stages of development. Mice bred to be missing the gene were able to grow more functioning hair cells than mice possessing the gene. In addition, mature hair cells growing in culture dishes were able to regenerate when the gene was deleted. **(Read more about his research at www.nidcd.nih.gov/news/releases/05/1_19_05.asp.)**

Inside NIDCD Newsletter

National Institute on Deafness and Other Communication Disorders
National Institutes of Health
www.nidcd.nih.gov

Spring 2006

Deaf and Hard-of-Hearing Alliance Visits NIDCD

On December 8, 2005, NIDCD hosted a scientific briefing for the Deaf and Hard-of-Hearing Alliance, a group of organizations representing individuals who are deaf or hard-of-hearing. NIDCD director James F. Battey, Jr., M.D., Ph.D., opened the briefing, which had been requested by the group for its members and members of the Congressional Hearing Health Caucus, with an overview of NIDCD's program in human communication research. Other speakers included the following NIDCD scientists:

- **Allen Braun, M.D.** (www.nidcd.nih.gov/research/scientists/brauna.asp), chief of the Language Section, Voice, Speech, and Language Branch, discussed how neuroimaging techniques, such as positron emission tomography (PET) and functional magnetic resonance imaging (fMRI), can be used to understand brain activity associated with language.
- **Matthew Kelley, Ph.D.** (www.nidcd.nih.gov/research/scientists/kelleym.asp), chief of the Developmental Neuroscience Section, described his studies on the regeneration of auditory hair cell—sensory cells in the inner ear that are important for hearing—from associated "supporting cells" in mice.
- **Andrew Griffith, M.D., Ph.D.** (www.nidcd.nih.gov/research/scientists/griffith.asp), chief of NIDCD's Section on Gene Structure and Function, Laboratory of Molecular Genetics, and Hearing Section, Neuro-Otology Branch, discussed a recent study on heredity hearing loss in which he and others identified a genetic mutation in humans that affects the severity of hearing loss caused by a mutation of another gene.

After the presentations, the group toured Dr. Kelley's laboratory in the Porter Neuroscience Research Center, a facility on the Bethesda campus designed to promote interdisciplinary research among NIH institutes.

NIDCD on the Road with New Exhibits

Be on the look-out for NIDCD's two new exhibits showcasing our mission areas of hearing, balance, smell, taste, voice, speech, and language. The exhibits were designed to attract meeting attendees to the NIDCD booth and to inform them about our institute's mission. One exhibit targets health professionals and the general public and the other showcases research advances for the scientific community. Come to our booth and check us out! The new exhibits will be at the following 2006 meetings:

June 23-27	Pittsburgh, PA	**AG Bell** (www.agbell.org/DesktopDefault.aspx?p=Convention)
July 29–30	Washington, DC	**ABC 7 Family Health & Caregiver Expo** (www.familycaregiverexpo.com/index.html)
September 17–20	Toronto, Canada	**American Academy of Otolaryngology-HNS** (www.entnet.org/meetings/meetings/Annual-Prep.cfm)
October 14–18	Altanta, GA	**Society for Neuroscience** (http://web.sfn.org/am2006/)

Inside NIDCD Newsletter

National Institute on Deafness and Other Communication Disorders
National Institutes of Health
www.nidcd.nih.gov

Spring 2006

NIDCD Tinnitus Workshop Summary Available

Want to know more about that ringing in your ears? NIDCD held a two-day workshop on December 5- 6, 2005, in Chevy Chase, MD to explore new research opportunities for understanding the central mechanisms and potential treatments for this sometimes debilitating condition. According to estimates by the **American Tinnitus Association** (ata.org), at least 12 million Americans suffer from tinnitus. Of these, at least one million experience it so severely that it interferes with their daily activities. The minutes from this workshop are on the NIDCD Web site at **www.nidcd.nih.gov/funding/programs/wkshp_tinnitus.htm**. You can also find general information on tinnitus at **www.nidcd.nih.gov/health/hearing/noiseinear.asp**.

NIH Holds First Workshop on Spasmodic Dysphonia Research

On June 23-24, 2005, the Research Planning Workshop on Spasmodic Dysphonia (SD), co-sponsored by the NIDCD and other organizations, was held at the NIH in Bethesda, MD. Bringing together 14 world-renowned SD researchers, the workshop was the first to be held solely to develop a "roadmap" for SD research.

Currently, little is understood about the cause of spasmodic dysphonia. Although the condition manifests in the larynx, researchers believe the abnormality resides in the brain. Involvement of neuroscientists working in collaborative teams is imperative to lay the groundwork for research and to help set the priorities to identify the neurological abnormalities that cause the disorder.

A white paper will be produced from this meeting for publication in medical journals as well as for distribution at medical conferences. To obtain a copy of the paper, please contact the **National Spasmodic Dysphonia Association** (www.dysphonia.org) at 800-795-6732 or via e-mail at **NSDA@dysphonia.org**.

NIDCD Holds Epidemiology Workshop

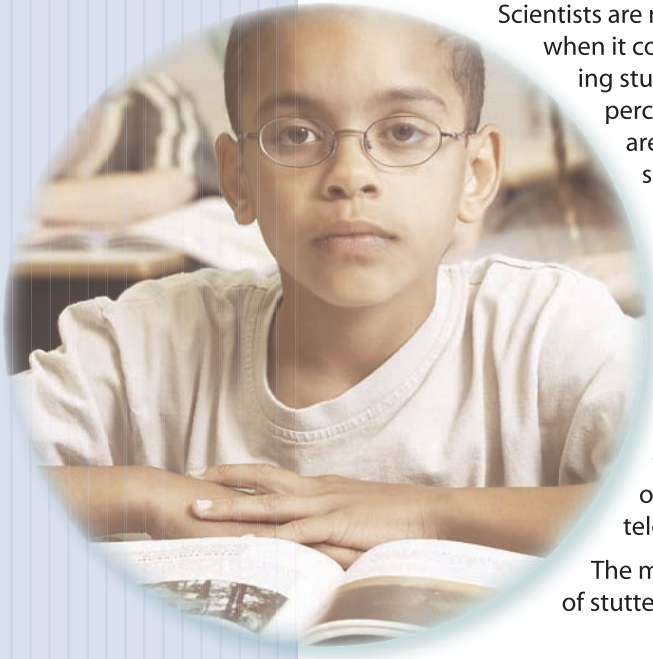
Because only about 1.1 percent of NIDCD funded grants are associated with epidemiology, there is a definite need to increase the number of investigators with training in epidemiology and an interest in hearing research. To address this need and other related issues, NIDCD sponsored the Epidemiology of Communication Disorders Workshop, which was held on March 29-30, 2005, in Bethesda, MD. The workshop was held to encourage more epidemiological research in the field of communication disorders. Workshop participants reviewed current epidemiological knowledge within each of NIDCD's mission areas of hearing, balance, smell, taste, voice, speech, and language, and recommended priority topics in which more epidemiological research is needed. Findings from earlier epidemiologic investigations and reports on useful biostatistical methods were presented. You can read a summary of the workshop at **www.nidcd.nih.gov/funding/programs/ep/episummary.asp**.

Inside NIDCD Newsletter

National Institute on Deafness and Other Communication Disorders
National Institutes of Health
www.nidcd.nih.gov

Spring 2006

Report Available from State of the Science Conference: Developmental Stuttering



Scientists are making headway when it comes to understanding stuttering. About 50 percent of stuttering cases are known to be associated with genetic factors and the other 50 percent are due to unknown causes. Scientists have also discovered many factors that make stuttering worse, such as speaking to a large audience or speaking on the telephone.

The most common type of stuttering is thought to be developmental, because it occurs in children who are in the process of developing speech and language. To address the scientific issues involved in developmental stuttering, the NIDCD sponsored a three-day state-of-the-science conference on March 21-23, 2005, in Washington, D.C. In addition to NIDCD, the conference was co-sponsored by the **American Institute for Stuttering Treatment and Professional Training** (www.stutteringtreatment.org), the **National Stuttering Association** (www.westutter.org), and the **Stuttering Foundation of America** (www.stutteringhelp.org). Read the conference summary at **www.nidcd.nih.gov/funding/programs/vsl/stutteringwrkshop.asp**.

For general information on stuttering, visit our Web site at: **www.nidcd.nih.gov/health/voice/stutter.asp**.

NIDCD Scientists Take Part in Trans-NIH Effort to Help Two Young Tanzanians

NIDCD clinical scientists played a central role in a trans-NIH effort to help two young boys from Tanzania with xeroderma pigmentosum, or XP, a rare genetic disease that causes a person to be extremely sensitive to harmful UV radiation, such as sunlight. NIDCD head and neck surgeons **Carter Van Waes, M.D., Ph.D.** (www.nidcd.nih.gov/research/scientists/vanwaesc.asp),(center) and Brian Driscoll, M.D., (right) and research nurse practitioner Susan Rudy contributed to the successful removal of cancer from Ally Sufian's (age 9) lip. **Read the inspiring story at** www.nih.gov/nihrecord/2005/12022005Record.pdf#nameddest=story1.

New Resources

New Publications List

NIDCD has updated its Publications List, a printed listing of all of NIDCD's fact sheets and other free materials that can be ordered and reproduced. Topics are categorized according to our seven major mission areas: hearing, balance, smell, taste, voice, speech, and language. Publications can be ordered online or downloaded from our Web site at **www.nidcd.nih.gov/order/**. Many publications are also available in Spanish.

To order by phone, call the NIDCD Information Clearinghouse toll-free at (800) 241-1044 or (800) 241-1055 (TTY) or send an e-mail to **nidcdinfo@nidcd.nih.gov.**

UPDATED: "How Loud is Too Loud?" Bookmark

Did you know that prolonged exposure to any noise above 85 decibels can cause gradual hearing loss? Our colorful **"How Loud is Too Loud?"** (www.nidcd.nih.gov/health/hearing/ruler.asp) bookmark—updated with some of the more common sounds we hear—is a fun and useful way to become more aware of the noise levels that put our hearing at risk, and the things we can do to protect our hearing.

Order online or call the NIDCD Information Clearinghouse toll-free at (800) 241-1044 or (800) 241-1055 (TTY), or send an e-mail to **nidcdinfo@nidcd.nih.gov.**

Sign Up For the New 2006-2007 Directory!

The 2006-2007 NIDCD Resources Directory is coming soon. The directory features nearly 150 nonprofit and federal organizations committed to preventing communication disorders or to improving the lives of people who have disorders of hearing, balance, smell, taste, voice, speech, and language. Each organization is identified by up-to-date contact information as well as a short description that explains its scope and mission. To sign up for the 2006-2007directory, contact the NIDCD Information Clearinghouse toll-free at (800) 241-1044 (voice) or (800) 241-1055 (TTY), or send an e-mail to **nidcdinfo@nidcd.nih.gov**.

Link to NIH News in Health!

Information about how to link to ***NIH News in Health*** (http://newsinhealth.nih.gov/) from your organization's Web site is available at **newsinhealth.nih.gov/linktous.htm**. NIH News in Health is a monthly newsletter that provides practical health information based on NIH research. It is a great resource for the public and features a timely health topic each month. Recent topics have included diabetes, cold and flu, teen drug use, and mental health. For information on balance disorders, read **"Dizzy for the Holidays,"** (newsinhealth.nih.gov/PastIssue/December2005/docs/02capsules.htm#cap01) in the **December 2005 issue** (newsinhealth.nih.gov/2005/December/index.htm).

We Want Your Suggestions!

NIDCD is updating its publications plan, and we are adding new topics to our list of fact sheets. We also welcome your suggestions about *Inside*. To suggest a topic for a fact sheet or to comment on Inside, contact the *Inside* editor, Mary Sullivan, at **sullivml@mail.nih.gov**.

Meetings and Events of Interest

2006 National Spasmodic Dysphonia Association (NSDA) Patient Symposium

April 29, 2006, Schaumburg, IL
Contact: (800) 795–6732 or **www.dysphonia.org**

RESNA 2006 (Rehabilitation Engineering and Assistive Technology Society of North America)

Technology & Disability: Research, Design, Practice, and Policy
June 22–26, 2006, Atlanta, GA
Contact: (703) 524–6686 ext. 306 or **www.resna.org**

National Association of the Deaf

48th Biennial Conference
June 29–July 3, 2006, Desert Springs JW Marriott Resort, Palm Desert, CA
Contact: **www.nad.org**

The National Cued Speech Association Events for 2006

- **Cue Camp, New York**, June 28–July 2, 2006, Nazareth College, Rochester, NY. Instruction for all ages and all levels, seminars, and fun. Contact: **NCSA@naz.edu**.
- **CueSign Camp**, July 14–20, 2006, Towson University, Towson, MD. A family camp designed to foster understanding and acceptance of ASL and English and their accompanying cultures. Contact: **www.cuesigncamp.com**.
- **Celebrating 40 Years of Cued Speech**, July 20–23, 2006, Towson University, Towson, MD. "Literacy, Excellence, and Diversity" Conference, including children's program and 40th anniversary gala. Contact: **www.cuedspeech.org.**


MarkeTrak VII:
Hearing Loss Population
Tops 31 Million People

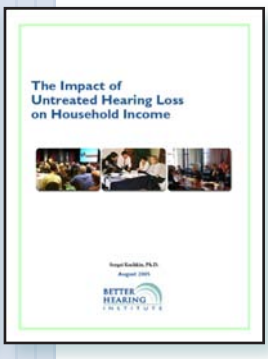
Information Exchange: News from Our Partner Organizations

Better Hearing Institute Offers New Publications Based on Survey

Based on the findings of a recent national survey, the Better Hearing Institute (BHI) has developed the following new publications:

- **The Impact of Untreated Hearing Loss on Household Income** (betterhearing.org/pdfs/MarkeTrak7_ImpactUntreatedHLIncome.pdf)—Compares how treated and untreated hearing loss can affect household income.
- **MarkeTrak VII: Hearing Loss Population Tops 31 Million People** (www.betterhearing.org/pdfs/MarkeTrak7_Kochkin_July05.pdf)—Discusses significant trends and projections through 2050 for people with hearing loss.
- **MarkeTrak VII: Customer Satisfaction with Hearing Instruments in the Digital Age** (www.betterhearing.org/pdfs/M7-satisfaction.pdf)—Reports on customer satisfaction with various types of hearing aid technologies.


MarkeTrak VII:
Customer Satisfaction with Hearing Instruments in the Digital Age


The Impact of Untreated Hearing Loss on Household Income

The BHI is a nonprofit corporation that educates the public about the problem of hearing loss and what can be done about it. BHI receives funding from the hearing aid industry to support its professional/consumer outreach efforts. For more information, visit the BHI Web site at: **www.betterhearing.org**.

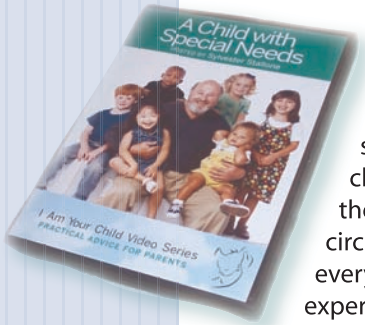
Inside NIDCD Newsletter

National Institute on Deafness and Other Communication Disorders
National Institutes of Health
www.nidcd.nih.gov

Spring 2006

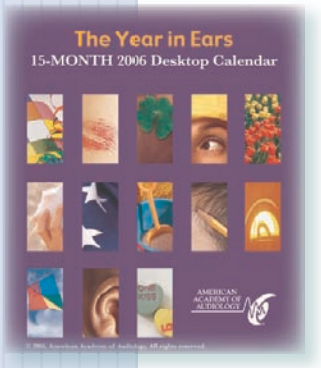
A Child with Special Needs— New Video from Parents' Action for Children

A new video entitled *A Child with Special Needs* is available from Parents' Action for Children, a nonprofit organization founded by actor/director Rob Reiner. This closed-captioned video is hosted by actors Sylvester Stallone (English version) and Lupe Ontiveros (Spanish version). The video features families of children with special needs sharing their stories to help others in similar circumstances. It stresses that, while every child is unique, there are common experiences, emotions, and challenges that families are likely to encounter as they work to help their child. The mission of Parents' Action for Children, formerly known as the I Am Your Child Foundation, is to build a national network of parents working to improve services and programs for children and families. For more information, visit **store.parentsactionstore.org/Detail.bok?no=37**



The "Year in Ears" Calendar

The American Academy of Audiology (AAA) is offering a new calendar—"The Year in Ears"—a 15- month desktop calendar that features interesting photos of ears each month from January 2006 through March 2007. The full-color calendar can be ordered through the academy's Web site at **www.audiology.org/store/metools**.



The AAA also reports that it has a position statement under widespread peer review—"*Guidelines for the Audiologic Management of Adult Hearing Impairment*." It is available online at **www.audiology.org/professional/positions/**.

House Ear Institute Launches New Hearing Campaign

The House Ear Institute has launched a consumer awareness campaign aimed at teenagers. The campaign uses the theme "*It's How You Listen that Counts*" to warn teens of the potential dangers to hearing posed by listening to loud sounds. Because many young people (12 to 22 years old) play their music too loud for too long, they are particularly vulnerable to permanent noise-induced hearing loss. In partnership with a market research firm and an ad agency, the institute is test marketing a series of online and cable television public service ads designed to motivate teens to learn more about safe listening habits by exploring the campaign's Web site at **www.EarBud.org**. Phase one of the campaign is running on MTV in Arizona, and also on **MTV.com** and five Yahoo! Web sites, including **Yahoo! Music (music.yahoo.com)**.

The House Ear Institute is a private, nonprofit organization dedicated to advancing hearing science through research and education to improve quality of life. For more information, call (213) 483-4431 or visit the Web site at **www.hei.org**.

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