

Advances

The Alzheimer's Association Newsletter

Progress in Alzheimer Research and Care

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Neuroscientists Gather in Sweden for World's Largest Alzheimer Research Conference

The 8th International Conference on Alzheimer's Disease and Related Disorders, held in Stockholm July 20–25, provided an exciting forum for nearly 3,700 researchers from 78 countries to present and discuss advances in dementia research on an international stage. Participants shared their most recent findings about the basic biology of Alzheimer's and related disorders, treatment and prevention strategies, and diagnosis and care.

The largest dementia research conference ever hosted by the Alzheimer's Association, the conference united experienced researchers and relative newcomers to the field to learn from one another, challenge each other's thinking, and explore new possibilities for collaboration. While it is not possible to fully summarize the breadth and depth of the conference in this article, the following highlights illustrate the scope of research and care issues presented.

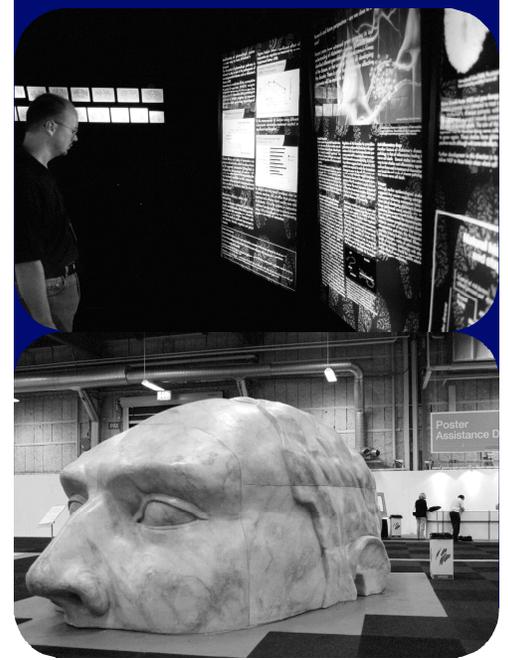
Caregiving Challenges

The conference kicked off with a special half-day session exploring quality of life in Alzheimer care. Presentations examined the subtleties involved in defining and measuring quality of life at different life stages, from various cultural perspectives, and under changing personal circumstances. In one session, for example, Yumiko Arai, MD, MPH, of Japan's National Institute of Longevity Sciences, described her country's universal long-term care program. Launched in 2000, the program provides in-home or residential care for anyone over 65 or for those over 40 experiencing "age-related" diseases. It is funded by a mix of tax support, premiums of about \$20 per month paid by those over 48, and a 10 percent copayment for services. Although the program is designed to relieve caregiving burden in the world's "fastest-graying" population and families must endorse the recommendations before a care plan is finalized, the program's acceptance has been slow since traditional Confucian values stressing respect for and care of elders make families reluctant to accept assistance from "outsiders."

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The Alzheimer's Association has launched an enhanced version of the national public Web site that includes two new sections and a modified organizational plan. The reorganization is intended to ensure that the Association provides Internet users with quick and easy access to the information they need.

The *Resource Center*, one of the new sections, includes more than 60 fact sheets and brochures, more than 100 Web site links, bulletin boards and other Web community resources, information about our programs and services, and resources in other languages. The second new section, *About Alzheimer's*, combines all the basic information about Alzheimer's—causes, risk factors, diagnosis, treatments, and statistics—into one section.

Changes to the home page make it easier to find information on the site and provide shortcuts to topics of interest, such as clinical trials and advocacy information. Please visit the newly revised Web site at www.alz.org.

An Improved Web Site

www.alz.org



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Stockholm Sessions Cover Emerging and Established Therapies

Researchers who have been involved with the International Conference on Alzheimer's Disease and Related Disorders since its inception noted that the first meeting in 1988 included no presentations about potential Alzheimer drugs. In contrast, the 2002 event in Stockholm featured a wealth of studies describing fresh insights about medications currently in clinical trials or already approved, reports about new drugs in development, and explorations of basic cellular and molecular processes that seem to hint at novel points of vulnerability to therapy. This article highlights a few of the many sessions devoted to pharmaceutical interventions.

Evolving Consensus about Cholinesterase Inhibitors

Several presentations detailed current knowledge about best practices for prescribing cholinesterase inhibitors

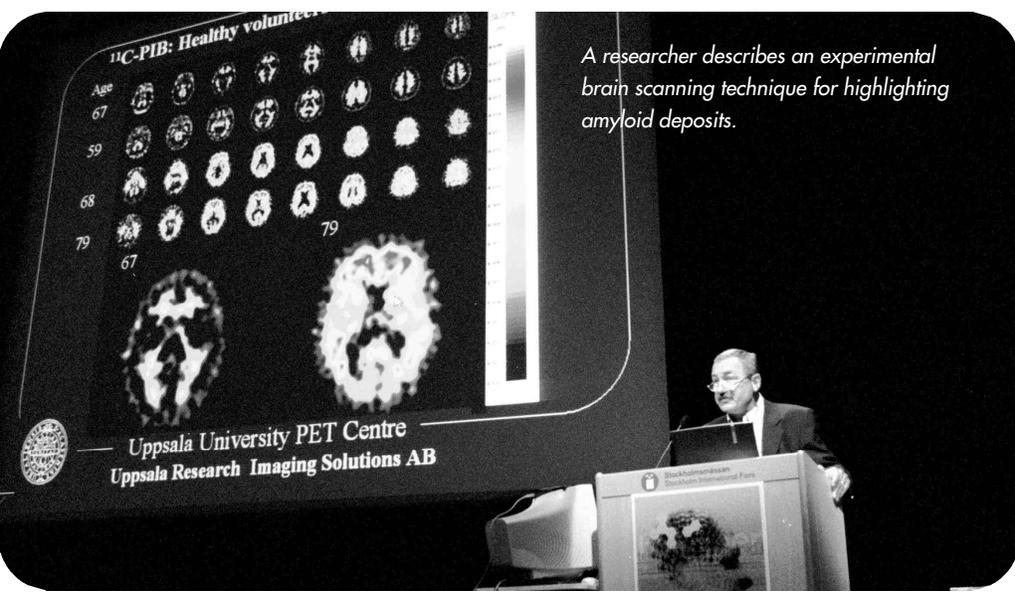
such as donepezil (Aricept®), galantamine (Reminyl®), and rivastigmine (Exelon®)—the only class of drugs currently approved specifically to treat Alzheimer's disease in the United States. These presentations reported an emerging consensus that—assuming a diagnosis at mild to moderate stages—“everyone with Alzheimer's deserves an opportunity to try these drugs.” Yet, according to one study cited, only about one-fifth of individuals with Alzheimer's ever have that opportunity. Recent work also suggests that beginning these drugs early in the course of the disease and continuing them as long as they are well tolerated may provide the greatest potential benefit in preserving function and postponing decline.

Anti-Amyloid Approaches

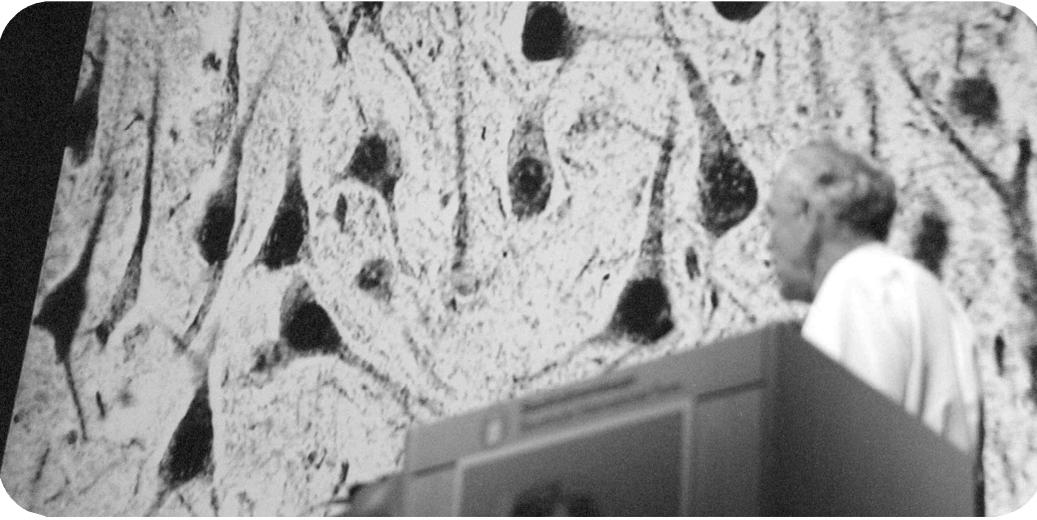
The “Alzheimer vaccine” trial continues to spark intense interest. In the trial, researchers gave some participants

injections of a form of beta-amyloid, the protein fragment that aggregates into the plaques that are a hallmark Alzheimer abnormality. The hope was that the inoculations would mobilize the participants' own immune systems to attack plaques. Although the technique showed early promise, the trial was stopped when some enrollees developed brain inflammation. Christoph Hock, MD, of the University of Zurich, reported the latest results from a 30-participant adjunct study within the trial. Hock's data confirm that vaccine recipients developed antibodies to beta-amyloid, and that there was no relationship between antibody levels and the occurrence of brain inflammation that led to stopping the trials. Further, individuals who developed inflammation recovered with no decrease in their antibody levels. Scientists will continue to follow participants closely to learn more about the long-term effects of the vaccine as well as other potential immunization therapies.

A biotechnology company reported on another anti-amyloid approach supported by a National Institute on Aging Small Business Innovative Research (SBIR) grant. In screening for anti-amyloid agents, the company discovered a strong effect in an extract from the tropical rain forest vine



A researcher describes an experimental brain scanning technique for highlighting amyloid deposits.



New methods of microscopy reveal brain cells in stunning detail.

Uncaria tomentosa, commonly known as “cat’s claw.” The company has identified 11 of the most active elements from among more than 100 compounds in the extract and called this proprietary mixture PTI-777. In tests with mice genetically altered to mimic Alzheimer pathology, PTI-777 appears to be well tolerated and significantly reduces brain plaques.

Development of PTI-777 is a good illustration of “screening,” a traditional method of drug discovery in which a wide variety of compounds are tested in hopes of identifying one with the desired effect. In “rational drug design,” a new development strategy made possible by advances in molecular biology, scientists set out to unravel the exact sequence of biochemical steps involved in a pathological process. Once all the steps are identified, specific points in the sequence may emerge as particularly well suited to intervention.

One example of rational drug design discussed at the conference centers on strategies to inhibit gamma-secretase, the enzyme that makes the final, beta-amyloid-producing cut in amyloid precursor protein (APP). Because gamma-secretase is also involved in activating a cellular signaling pathway called Notch, inhibiting its action may have an unwanted impact on Notch

signaling. Researchers are looking very closely at the exact way that gamma-secretase interacts with APP and Notch in hopes of identifying a unique aspect of the gamma-secretase/APP interaction that may offer a point of therapeutic vulnerability that spares the Notch pathway.

Another approach to protecting the brain from the destructive effects of amyloid involves clioquinol, a drug originally used to treat severe forms of diarrhea caused by microorganisms. The drug was withdrawn in the early 1970s because, in high doses, it appeared to cause nerve damage. Clioquinol, in a process called chelation, can combine with copper and zinc and help remove these metals from the brain. Removing the metals may help prevent beta-amyloid from dissolving out of plaques and assuming a soluble, toxic form, a property that may give clioquinol potential as an Alzheimer treatment. Some researchers believe that the nerve damage associated with clioquinol can be prevented by giving vitamin B₁₂ along with the drug. The Alzheimer’s Association funded part of the theoretical “proof of concept” work behind a small clinical trial of clioquinol recently launched in Australia.

Other Treatment Strategies

Although amyloid remains an extremely active area of research, presentations covered other treatment approaches. One speaker described work with the investigational drug NCX-2216, a standard nonsteroidal anti-inflammatory drug (NSAID) with nitric oxide (NO) added to reduce gastrointestinal side effects. Although observational studies have suggested that people taking NSAIDs for other conditions may have a reduced risk of developing Alzheimer’s disease, results of trials designed specifically to test the ability of NSAIDs to treat, prevent, or delay onset of Alzheimer’s have so far been disappointing. Some researchers believe that an NSAID that could be taken in higher doses without causing unacceptable side effects might produce a greater benefit. Because the action of NSAIDs and NO are well understood, the speaker believes that the modified NSAID stands a good chance of reaching clinical trials soon.

Partnering with Your Doctor to Improve Communications

Whether you suspect a loved one has Alzheimer's disease or your family has been grappling with the disease for several years, your doctor is key to confirming an Alzheimer's diagnosis, explaining what it means physically and emotionally, and describing what to expect as the disease progresses. Yet communicating with the doctor, getting him or her to listen to your concerns, and obtaining the answers you so desperately need can be difficult under the best of situations.

A May 2001 nationwide survey commissioned by the Alzheimer's Association revealed that only 124 of the 376 caregivers surveyed felt they were receiving all the information they wanted from their primary care physicians. Yet 440 of the 500 physicians who responded to the survey believed they were providing the necessary advice and recommendations.

Pilot Program Offers Solution to Bridge Communication Gap

To help narrow the communication gap separating caregivers and physicians, the Alzheimer's Association began actively searching for viable solutions to improve communication strategies and to help those affected by Alzheimer's make informed decisions about care and services.

Launched in October 2001 as part of a statewide Alzheimer's Disease Health Education Initiative, five California Alzheimer's Association chapters

with multiple counties teamed up with the California Department of Health Services to offer a state-funded workshop, "Working with Your Doctor When You Suspect Memory Problems."

The pilot program has two parts: a train-the-trainer program and a two-hour caregiver workshop that equips caregivers with the knowledge and skills needed to successfully partner with their physician to provide the best possible care for someone with Alzheimer's disease or a related disorder.

Effective communication among the person affected by Alzheimer's, the caregiver, and the doctor is crucial. "The average physician can spend only a limited time with each patient, so sometimes the exam can feel rushed. More than 80 percent of what's covered in the workshop focuses on communication and ensuring that individuals plan and prepare for office visits," says Michelle Plauché, of the Association's Los Angeles, Riverside, and San Bernardino Counties Chapter, who oversees the California program with the support of a dedicated team, including Debra Cherry, PhD, associate executive director, who helped create the program.

To date, more than 1,700 consumers have attended 135 free workshops throughout California, and more than 30 Association staff members, including

social workers and community educators, have been trained to teach the innovative program, which is offered in English and Spanish. The program will be available to Association chapters and consumers nationwide beginning in August 2003.

"We expect more than 5,000 consumers across the country to benefit from chapter workshops the first year, which is very exciting," says Molly Brault, associate director, education outreach, at the Association's national office, who will lead the program's national expansion along with Kathy O'Brien, vice president, program services.

California workshop participants are praising the program. "One woman had an extremely rocky relationship with her mom's doctor. After attending the workshop, she went to the next doctor's visit totally prepared. She was organized and had brought in a list of concerns along with care and medication logs," says Paula Paddleford, a Riverside County trainer. "To her surprise, the doctor responded very well to her new approach. She said the doctor seemed like a totally different person, and the relationship has improved dramatically."

Tips from Our Readers

Advances "Dialogue" readers have similar advice on how to improve "doctor-patient" communications. C. J. Shane suggests caregivers use the Internet or library to familiarize themselves with Alzheimer's and any medications their loved ones may be taking. She also

recommends going to a doctor affiliated with a teaching hospital and finding a geriatrician, a physician who specializes in treating the elderly. “My dad’s doctor provides a comprehensive approach to care,” says Shane. “As far as communication, I write bullet points of dad’s condition and place it in front of the chart so the doctor is forced to review it before he comes in to see us. This allows my father to keep his dignity while helping the doctor make appropriate decisions.”

Cass Naugle, executive director of the Association’s Central Maryland Chapter, cares for a father with vascular dementia and a mother with Alzheimer’s disease. Prior to her parents’ doctor’s appointment, she faxes the doctor a list of concerns that need addressing. “This fax is placed right in my parents’ charts. The doctor truly appreciates knowing the priority items to cover,” says Naugle.

Among other topics, the “Working with Your Doctor” workshop explores the challenges of doctor and caregiver interactions. “Caregivers will say, ‘My doctor said treatments won’t help,’ or ‘My doctor says things I don’t understand.’ When I ask, ‘Have you said this to your doctor?’ most times caregivers say ‘no.’ They begin to understand that doctors can’t read minds,” says California trainer Lynda Taylor, MSW.

Michigan resident Al Schmidt maintains that assertiveness counts

when seeking a diagnosis—whether it’s Alzheimer’s disease or a brain tumor. He brought his wife, Ruth, to two doctors who insisted his wife’s condition was just “the normal aging process.” But neurologists at another hospital diagnosed Ruth with early-onset Alzheimer’s. “I think I delayed the advancement considerably,” says Schmidt, whose wife takes chelation to delay onset and Seroquel to control agitation. “If your loved one becomes agitated beyond control, do not give up hope because there are medications available that can control behavior. Everyone is different; work with your doctor on the best treatment plan.”

The Association’s Molly Brault agrees: “The quality of information that one provides to the doctor has a direct impact on the quality of care that the doctor is able to provide.”

For More Information

To download a copy of an 18-page “WorkingwithYour Doctor” booklet, visit www.caalz.org. The workshop will be launched nationally next summer. If you’re interested in having it in your state, e-mail or write:

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919 North Michigan Avenue,
Suite 1100
Chicago, Illinois 60611-1676

What Do You Do When Family Members Second-Guess Your Decisions?

Even though you work full-time and are raising a family, for the past several years you’ve also been “mom” to your mother, who is suffering from Alzheimer’s disease.

While she lived with you for two years, it became increasingly difficult to provide care 24/7. You made the painful decision to place your mother in a nursing home, and now some of your siblings are upset and angry.

We Want to Hear from You!

In the best of families, conflict can occur, especially during times of great stress and serious illness. Please share with us examples of how people are reacting to your decisions. Has the matter been resolved satisfactorily? What did or did not work in resolving the situation?

Your experiences could be incorporated into a “Dialogue” article in the winter 2003 *Advances*. Please send your feedback no later than October 4.

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Elder Abuse and Dementia: Issues Behind the Numbers

The first-ever National Elder Abuse Incidence Study estimated that at least 500,000 older persons in domestic settings were abused and/or neglected, or experienced self neglect in 1996. Prepared by the National Center on Elder Abuse (NCEA), the study also estimated that for every reported incident of elder abuse, neglect, or exploitation, approximately five out of every six go unreported. Getting firm numbers is complicated by the fact that elder abuse is determined by state laws, with definitions varying from one jurisdiction to another.

The NCEA identifies the following as generally recognized forms of abuse:

Physical Abuse

Use of physical force that may result in bodily injury, physical pain, or impairment

Sexual Abuse

Nonconsensual sexual contact of any kind with an elderly person

Emotional or Psychological Abuse

Infliction of anguish, pain, or distress through such acts as verbal assaults, insults, threats, intimidation, humiliation, harassment, and social isolation

Neglect

Refusal or failure to provide hygiene, medicine, comfort, personal safety, and other essentials included in an implied or agreed-upon responsibility to an elder

Abandonment

Desertion of an elderly person by an individual who has assumed

responsibility for providing care for an elder, or by a person with physical custody of an elder

Financial or Material Exploitation

Illegal or improper use of an elder's funds, property, or assets

Social worker Carla Frisch, elder abuse program supervisor for Metropolitan Family Services Evanston/Skokie Valley, cites Illinois statistics revealing that four out of five alleged affected individuals suffer from one or more barriers to independent living, such as being nonambulatory, hearing-impaired, disoriented, or vision-impaired. Ten percent have Alzheimer's disease—a fact that raises issues the Alzheimer's Association chapter network is addressing through enhanced communication and cross-training with law enforcement and social services agencies.

Sharen Eckert, Cleveland Area Chapter director of strategic initiatives, notes that reporting elder abuse in situations involving people with Alzheimer's and other dementias poses a special challenge. Attributing many perceived cases of abuse to caregiver stress and lack of information, she says: "Caregiving is a high-risk business, and caregivers are often doing the very best they can."

The Cleveland Area Chapter participated in an initiative with the Benjamin Rose Institute and the Cuyahoga County Department of Adult and Elder Services that resulted in improved reporting and

management of potential and suspected elder abuse situations involving people with dementia. “We build long-term relationships with stressed caregivers, educating them about issues that are known to be risk factors for potential abuse, such as insufficient knowledge about dementia, challenging behaviors, key sources of stress that might trigger an abusive response, and their manner of responding under the strain of caregiving,” says Eckert. “It’s important to remember that harm can occur without intent.”

The project also led to the publication of *A Guide for Individuals Who Care for Persons with Dementia: Preventing Stress from Becoming Harmful*. The booklet is designed to help caregivers self-identify elder abuse risk and seek appropriate interventions.

Mary Bouche, executive director of the Association’s Greater Wisconsin Chapter, points to another facet of dementia-related strife that muddles perceptions of abuse: “In a number of cases, it’s actually an agitated person with dementia who is the alleged ‘abuser,’ striking out at the caregiver.” Such situations can be aggravated by mandatory arrest policies in cases of suspected abuse.

Working with law enforcement and several social services agencies in the Green Bay area, Bouche’s chapter developed a model community response system now being replicated in other Wisconsin communities.

“We all realized we were looking at the issue from our individual vantage points—domestic violence concerns

versus dementia concerns,” says Bouche. “It came down in large part to training and educating police officers about the special circumstances of dementia. We also had to change the domestic violence ordinance so officers no longer have to make mandatory arrests.”

She continues: “We also established adult group homes with home care workers trained to understand the needs of people with dementia, so that when a volatile situation occurs, people have a place to go before being returned to their caregivers. Hospitals, mental health centers, and jails are not the appropriate places for these people.”

Obviously, identifying elder abuse becomes more complex in situations where Alzheimer’s disease or other dementias are involved. As a caregiver, recognize the behaviors of your affected loved one that trigger your stress, e.g., repeating the same phrases over and over, hitting or grabbing, yelling or swearing, or wandering. It’s important to remember that the person with dementia has no control over these behaviors.

Also be aware of how you respond to the stresses of caregiving. If you frequently feel negative effects such as downheartedness, physical ailments, isolation, and/or the strain of competing family obligations, seek help by contacting the Alzheimer’s Association chapter in your area. The Association can link you with support services and help you get some relief.

What should you do when you sincerely suspect a case of elder abuse involving

your loved one or, perhaps, a friend or neighbor? Check with your local and state Adult Protective Services (APS), law enforcement, or family services agencies. The Illinois Elder Abuse and Neglect Act, for example, protects reporters of abuse from civil and criminal liability, as well as any professional disciplinary action, as long as the report was made in good faith. Confidentiality of the reporter’s name is ensured by requiring the release of a reporter’s name only with written consent or by court order. The Illinois Department on Aging also accepts anonymous reports. In most states professionals who come into contact with older people and people with disabilities are mandated by law to report suspected abuse to APS.

Says Carla Frisch: “You don’t have to be an expert—just make the report and let the program case managers investigate the allegations.”

For More Information

Many states have instituted 24-hour toll-free numbers for receiving reports of abuse. Calls are confidential. A complete listing of all state reporting numbers can be found on the Web at www.elderabusecenter.org. If the state you want to contact has no number accessible to out-of-state callers, contact the Eldercare Locator: 800.677.1116.

To order the *Preventing Stress from Becoming Harmful* booklet, call the Benjamin Rose Institute at 216.621.7201. (Quantities are limited.)

For help dealing with caregiving stress, call 800.272.3900.

Q: Does aluminum play a role in causing Alzheimer's disease?

A: The thinking about aluminum and Alzheimer's has evolved over the 40 years that researchers have explored this question. The theory that aluminum might be involved emerged in the 1960s as scientists discovered that exposing rabbits' brains to aluminum caused nerve cell damage similar to Alzheimer pathology. Physicians also noted that people with kidney failure undergoing long-term dialysis sometimes develop a non-Alzheimer form of dementia caused by aluminum buildup. These observations raised the specter that aluminum might be one of the first known substances implicated in triggering Alzheimer's.

But studies since then have failed to document a clear role for aluminum. Every perspective from which researchers have explored the issue has yielded contradictory findings. For virtually every study suggesting an aluminum/Alzheimer link, there is another study failing to confirm those results.

The vast majority of mainstream scientists now believe that if aluminum plays any role at all in Alzheimer's, that role is small. If aluminum exposure had a major impact on risk, investigators would have gained a clearer picture of its involvement over the decades that they have been studying the issue, even though certain factors hamper research. One such factor is that the widespread

occurrence of both aluminum and Alzheimer's complicates the effort to characterize their relationship since aluminum is Earth's thirdmost common element, and Alzheimer's strikes frequently in older adults. Another issue is the lack of an animal model in which to study aluminum's effects. The best animal models of Alzheimer's disease are mice that are genetically engineered to mimic human Alzheimer pathology, but mice lack sensitivity to aluminum. Rabbits have the necessary sensitivity, but there is no transgenic Alzheimer rabbit model.

Even if aluminum were a significant risk factor, it is unlikely that people could significantly reduce their exposure through such measures as avoiding aluminum-containing cookware, foil, beverage cans, medications, or other products, because these types of exposure account for only a small part of the average person's intake. Most experts encourage people to focus their wellness efforts on measures with a proven impact on health or quality of life—avoiding smoking, exercising regularly, eating moderately, maintaining social connections, and remaining intellectually active.

Our consultant for this column is William H. Thies, PhD, vice president of medical and scientific affairs at the Alzheimer's Association.

Some Conflicting Findings about Aluminum

- > Aluminum is known to be toxic to the nervous system, but its effects differ from those of Alzheimer's disease.
- > Some studies show elevated aluminum in the Alzheimer brain, but others do not.
- > There is some evidence that in laboratory cultures of nerve cells, aluminum promotes aggregation of the protein fragment beta-amyloid into the amyloid plaques that are a hallmark Alzheimer abnormality. However, efforts to correlate aluminum levels with plaque density in people with Alzheimer's have been inconclusive.
- > Research has failed to document a clear elevation of Alzheimer risk in individuals with occupational exposure to aluminum.
- > Studies finding the most consistent link have correlated elevated levels of aluminum in drinking water with increased occurrence of Alzheimer's. Yet, there is no evidence that Alzheimer's disease is more prevalent in cultures that traditionally drink large amounts of tea, even though tea is one of the few plants whose leaves accumulate significant amounts of aluminum that may seep into the brewed beverage.

For More Information

Benjamin B. Green-Field
National Alzheimer's
Library and Resource Center
312.335.9602

Tuning in Through Music Therapy

The man with late-stage Alzheimer's generally spent most of his day pacing repetitively around his care facility, unable or unwilling to interact with those around him. Sensing an opportunity, music therapist Nancy Swanson, MT-BC, picked up her guitar, strummed a tune, and sang in a rhythm that matched his movements.

"He came over and began tapping the song's rhythm on my shoulder," relates Swanson, who practices music therapy at the Alzheimer's Family Care Center in Chicago and the Mather Gardens in Evanston, Illinois. "He stayed at my side for one more song, then went back to walking. The songs allowed him a few minutes to rest and connect with someone."

Such is the power of music therapy which, according to the American Music Therapy Association (AMTA), continues to exhibit steady growth as a viable treatment for people with Alzheimer's and related dementias. The AMTA is a worldwide association whose mission is to promote the therapeutic use of music in rehabilitation, special education, and community settings.

"Music has always had a dramatic effect on people with Alzheimer's, but trained therapists can harness and target the power of music to address specific treatment goals such as decreasing anxiety and maintaining physical functioning," comments Al Bumanis, MT-BC, director of communications and conferences

for the AMTA. "Though not a cure, music therapy enhances the quality of life for persons with Alzheimer's and their families."

Specifically, the AMTA believes the benefits of music therapy include:

- memory recall, which contributes to reminiscence and satisfaction with life
- positive changes in mood and emotional states
- sense of control over life through successful experiences
- awareness of self and the environment that accompanies increased attention to music
- anxiety and stress reduction for the older adult and the caregiver
- nonpharmacological management of pain and discomfort
- emotional intimacy when spouses and families share creative music experiences

"Studies have shown that the progression of dementia can be slowed by involving people in specialized, skilled activities such as music therapy," adds Swanson. "But in general, it isn't the long-term benefit that music therapists look for but rather their clients' enjoyment and satisfaction of being 'in the moment.'"

Degreed and board-certified specialists engage participants in making music, sparking a connection that can't be

achieved by merely listening.

Sessions are generally convened in small groups and are based on individual assessments and treatment plans, with goals and objectives implemented through different music therapy activities such as bell choirs and percussion ensembles. Prior musical ability isn't required, and any style of music is suitable, depending on the setting.

"Music therapy is not music *to* the group, it's music *with* the group," says Melanie Chavin, MT-BC, program director for the Greater Illinois Chapter and a music therapist. "It doesn't matter how well participants play the music—it will sound beautiful."

Adds Swanson: "Music is so powerful for someone with Alzheimer's because it communicates emotions and very deep feelings that sometimes can't be expressed in words. It can make the difference between withdrawal and awareness, between isolation and interaction."

"Just think if you were alone and isolated in your house or care facility, and you couldn't turn on the radio or play piano," Chavin concludes. "Your life would be so dull—you'd walk around, lost and anxious. When you see people with Alzheimer's engaging in musical activity, you see an amazing difference."

For More Information

Visit the AMTA Web site at www.musictherapy.org.

around the association

The Cost of Alzheimer's Explodes

American business spends \$61 billion a year on Alzheimer's disease—a twofold increase from the amount calculated four years ago—according to a new study, *Alzheimer's Disease: The Costs to U.S. Businesses in 2002*. The report, commissioned by the Alzheimer's Association, predicts that the cost to U.S. businesses and the nation will continue to rise as the baby boomer generation reaches the age of highest risk for getting the disease.

The results of this research will help support advocacy work promoting:

- Employer support for workers facing long-term care challenges
- Improvements in Medicare
- Federal investment in research to prevent or delay the onset of Alzheimer's

Total Business Costs for Alzheimer's Disease (in billions)

	1998	2000
Cost for caregivers	\$ 26.0	\$ 36.5
Cost of health care and research for those affected	\$ 7.1	\$ 24.6
Total	\$ 33.1	\$ 61.1

For More Information www.alz.org/media/newsreleases/overview.htm

New Book about Healthy Aging

Marilyn Albert, PhD, chair of the Association's Medical and Scientific Advisory Council, has coauthored *Keep Your Brain Young:*

The Complete Guide to Physical and Emotional Health and Longevity.

Albert and her coauthor and husband Guy McKhann, MD, discuss in lay language the normal changes and diseases associated with aging, as well as strategies for maintaining mental and physical health as we age.

The authors discuss the importance of nutrition, sleep, emotional well-being, and physical and mental activity to the brain's health. The book also presents an overview of what to expect as we grow older and how aging seems to affect the brain. The final section provides an overview of dementia and other diseases of the brain associated with aging. Albert and McKhann present what recent research has shown about risk factors, treatment, and possible prevention strategies.

in the news

Over the Airwaves

New "Faces of Alzheimer's" television and radio public service announcements (PSAs) for the Alzheimer's Association feature award-winning actor David Hyde Pierce, of TV's *Frasier*. The television PSAs put a personal face on Alzheimer's, spotlighting 12 people ranging in age from the early 40s to mid-80s who look into the camera and state simply, "I have Alzheimer's." The PSAs encourage people to support the Association's annual Memory Walkfund-raisers, which chapters across the country host throughout the year. Pierce has served on the Association's national board of directors since 1999.

Keeping Safe

Television news programs have been educating their viewers about the tendency of people with Alzheimer's disease to wander and get lost. The coverage has resulted from an Alzheimer's Association effort to inform the public, especially family caregivers, about wandering and explain how its Safe Return Program can help. Nearly six out of 10 people with Alzheimer's will wander, according to the Association. Safe Return is the only nationwide identification program assisting in the safe and timely return of individuals with Alzheimer's and related dementias who wander. Safe Return's telephone hotline operates 24 hours a day, seven days a week. The program has had a near 100 percent success rate of returning registrants who have wandered.

World's Largest Alzheimer Research Conference*continued from page 1***Vascular Risk Factors for Alzheimer's**

A number of studies presented in Stockholm showed that risk factors for heart disease and stroke—high blood pressure, high cholesterol, and high blood levels of homocysteine—may also increase the risk for dementia. This research suggests that paying lifelong attention to diet, exercise, and “healthy numbers” may help decrease the risk of developing Alzheimer's disease later in life.

According to one of these studies, presented by Miia Kivipelto, MD, of the University of Kuopio in Finland, the risk of Alzheimer's associated with elevated cholesterol and blood pressure appears to be greater than the risk associated with APOE-4, a form of a gene known to increase an individual's chances of developing late-onset Alzheimer's. Kivipelto obtained her data by following more than 1,400 participants for an average of 21 years. Her findings, if confirmed in further research, offer hope that controlling treatable risk factors may help prevent or delay Alzheimer's.

Several researchers reported on related studies exploring the effect of statins, a cholesterol-lowering drug. Robert C. Green, MD, MPH, and his colleagues at Boston University School of Medicine in Massachusetts found a 39 percent lower risk of developing Alzheimer's in individuals taking statins to reduce cholesterol. With 2,378 participants, this was the largest study to date investigating the statins-Alzheimer relationship.

Brain Imaging

Researchers also detailed several improvements in brain imaging methods that may one day offer techniques for directly tracking changes in Alzheimer pathology. This ability may provide scientists with a powerful new tool for evaluating the impact of experimental drugs, a task now complicated by the relative imprecision of currently available assessment tools.

Researchers at the University of Pittsburgh School of Medicine in Pennsylvania, the Massachusetts General Hospital in Boston, and the Uppsala University PET Center and Karolinska Institute of Sweden reported on significant developments. Scientists explained that—for the first time—they had used an investigational compound to generate images that may show the presence of amyloid plaques in the brains of people living with Alzheimer's disease. Plaques, accumulations of protein fragments that may contribute to cell damage in Alzheimer's, could formerly be identified only in autopsy.

In tests of nine individuals with Alzheimer's, the compound could be detected in the brain scans in patterns consistent with the distribution of plaques previously observed in autopsies. Although further research is needed to confirm these preliminary studies, many researchers were excited about the implication of being able to “see” a characteristic feature of Alzheimer pathology in live subjects. If brain imaging can reveal the presence of plaques, technology may play an important role as other researchers test

compounds designed to prevent plaque formation.

Related Disorders

The meeting was also a venue for presenting studies about other diseases that cause dementia. Julie Snowden, PhD, of the Greater Manchester Neuroscience Centre in the United Kingdom, presented a study that explored the challenges in interpreting tests to distinguish people with Alzheimer's from those with frontotemporal dementia.

Although participants with either disorder may have similar scores on various mental acuity tests, significant differences in performance underlie the scores, she said. For example, in one study an individual with Alzheimer's was unable to follow instructions to create a figure made of four lines. In contrast, an individual with frontotemporal dementia drew a rectangle and then added a “doorknob” to the drawing. According to Snowden, the performance of both individuals suggested impairment, but in significantly different ways. Such characteristic differences in cognitive performance may have important implications for clinical assessment and care management decisions.

Such presentations provided a glimpse of future directions in dementia research. As more is determined about neurodegenerative disorders, scientists may begin to see how they make up a complex and interrelated family of diseases. The promise of such thinking is that progress in one field may contribute to advances in others.