

What You Should Know About Alzheimer's Disease

“Uh-oh, must be Alzheimer's disease.” A common joke when someone loses or forgets something, but no joke at all when the disease touches you or a loved one. Alzheimer's disease is becoming an epidemic, affecting an estimated 4 million older Americans. Up to 10% of people aged 65 and older have it, with the figure rising to almost 50% for those over age 85, and it kills about 100,000 people annually. Furthermore, the proportion of female Alzheimer's patients increases from 55% at age 65 to 75% at age 95.

What is Alzheimer's disease?

Alzheimer's (AHLZ-hi-merz) disease is a form of *dementia*, impairing brain functions such as memory and reasoning. There are three types:

- 1. Early-onset.** A rare form of the disease that is diagnosed before age 65 and may be associated with a genetic defect.
- 2. Late-onset.** This is the most common form of Alzheimer's disease, occurring after age 65; it may or may not be hereditary.
- 3. Familial Alzheimer's disease (FAD).** This form is entirely inherited, may begin in the 40s, and accounts for fewer than one in 100 patients.

Alzheimer's disease has no cure. Once the diagnosis is made, mental function deteriorates over 3 to 20 years (average of 10 years) until death. Patients gradually lose the ability to perform daily activities and care for themselves; may develop personality changes, irritability, anxiety, depression, and aggression; and finally suffer delusions (irrational beliefs) and hallucinations (false sensations).

This Patient Handout was prepared by Patricia L. Van Horn using materials from the Alzheimer's Association (<http://www.alz.org>), IntelliHealth (<http://www.intelihealth.com/IH/ihIH>), OBGYN.net (<http://www.obgyn.net/>), and WebMD/The Cleveland Clinic (<http://my.webmd.com/index>).

What causes Alzheimer's disease?

The exact cause is unknown. Two types of abnormalities form in the brain: *amyloid plaques* (protein fragments that clump together outside of cells), and *neurofibrillary tangles* (altered proteins that cluster inside cells). These abnormalities distort and block the paths of communication between brain cells. Eventually, the brain cells begin to shrivel and die, causing parts of the brain to shrink.

Several genes may be involved in Alzheimer's disease, as well as other factors. For example, there may be a problem with sugar digestion. Environmental factors may be important; while there was initially a great deal of publicity about aluminum, zinc, and Alzheimer's disease, study results have been so conflicting that their role, if any, is questionable. Other suspected contributors are food toxins, viruses, or other infectious agents. But Alzheimer's disease is likely due to both genetic and environmental factors that combine in some way to activate this destructive process.

How is Alzheimer's disease diagnosed?

There is no direct test for diagnosing Alzheimer's disease; it is mostly a matter of ruling out other possible causes of dementia, such as a stroke or tumor. The doctor will interview the patient and fam-

ily members to obtain a history, perform physical and neurologic examinations, and make a brief mental status evaluation (MSE). Tests may be ordered for blood cell count, blood chemistry, liver function, levels of thyroid hormone and vitamin B₁₂, and syphilis. There may be tests to assess the brain's electrical activity; imaging studies to look for changes in brain structure; and magnetic resonance spectroscopy imaging (MRSI) to observe certain substances in the brain.

Risks Factors for Alzheimer's Disease

- Increasing age
- Female gender
- Family history of Alzheimer's disease
- Down syndrome
- History of a significant head injury
- Environmental toxins
- Low education level.

What treatments are available for Alzheimer's disease?

Drugs like tacrine (Cognex), donepezil (Aricept), rivastigmine (Exelon), and galantamine (Reminyl) can temporarily improve brain function in some people with mild to moderate Alzheimer's disease. These *cholinesterase inhibitors* increase levels of acetylcholine, which helps to enhance cellular communication. These drugs can't cure Alzheimer's disease, but may help to slow its progress. Psychotherapy such as reality orientation and memory retraining are often helpful.

Drugs can be used to treat the emotional and behavioral problems of Alzheimer's disease such as depression, paranoia, wandering, hallucinations, agitation, and confusion, but these can also worsen the disease by affecting movement, causing

Alzheimer's Disease

Symptoms of Alzheimer's Disease

The "hallmark" symptoms of Alzheimer's disease are:

- Memory loss
- Impaired reasoning
- Disorientation
- Confusion
- Misplacing things used every day
- Problems with abstract thinking
- Trouble performing familiar tasks
- Changes in personality and behavior
- Poor judgment
- Inability to follow directions
- Difficulty with language and communication
- Impaired visual and spatial skills
- Loss of motivation or initiative
- Sleep disturbances.

drowsiness, and disturbing sleep. They may interact with tacrine and donepezil as well. Common choices include antipsychotics and neuroleptics (haloperidol, risperidone [Risperdal], olanzapine [Zyprexa]); antidepressants (fluoxetine [Prozac], paroxetine [Paxil], sertraline [Zoloft], nortriptyline [Pamelor]); and anti-anxiety medications (alprazolam [Xanax], lorazepam [Ativan], buspirone [BuSpar]).

Medications being tested to treat Alzheimer's disease include estrogen, nonsteroidal anti-inflammatory agents, vitamin E, selegiline (Carbex, Eldepryl), the herbal product ginkgo biloba, and the supplements huperzine A and phosphatidylserine. Bear in mind that studies on estrogen and Alzheimer's disease have been inconclusive and that estrogen carries some risks, so its use must be thoroughly discussed with your doctor. In addition, supplements such as huperzine A and ginkgo biloba have not been proved effective by studies, and the government has no control over their content

or purity. A promising vaccine is under study that appears to remove amyloid plaques from the brain, but much research is still needed.

Exercise can have many benefits for people with Alzheimer's disease, improving strength, endurance, cardiac fitness, and even mental function. It can also boost energy and mood, promote better sleep, and preserve motor skills and balance. The activity should be discussed with your doctor, but walking, bowling, dancing, golf, and swimming (with appropriate supervision) are some possibilities.

I feel so desperate and overwhelmed. How can I cope?

A diagnosis of Alzheimer's disease, whether for you or for a loved one, can be devastating. The prospects of losing mental and emotional function, the ability to fulfill responsibilities, and dignity are grim. But the situation isn't hopeless, and you'll feel better if you try to control what you can. First on the list are legal and financial issues. You can seek the advice of an attorney who practices elder law for issues such as power of attorney, power of attorney for health care, a living will, a living trust, a will naming an executor and beneficiaries, and designation of a guardian or conservator.

As with many long-term illnesses, Alzheimer's patients face fatigue, inability to function independently, changes that affect mood and appearance, and poor self-image and self-esteem. This can lead to withdrawal from friends and social activities. There may also be financial worries due to loss of the ability to work and the rising cost of medical care. Faced by these major problems, stress, anger, depression, confusion, loneliness, and frustration are normal. Some general tips to make the best of life if you or a loved one have Alzheimer's disease include:

- Find out as much as you can about the illness, and discuss it with your friends and family

- Do things that you and your loved ones enjoy
- Don't put your life on hold
- While engaging in as many normal daily activities as you can, allow lots of time for each task and take a break if something becomes frustrating
- Boost memory with cues like labels and notebooks
- Try to stick to a familiar routine
- Ask your doctor about anything you do not understand
- Use the resources and support services offered by your hospital and community
- Learn to manage stress for a positive physical, emotional, and spiritual outlook
- Pay special attention to a proper diet and regular exercise
- Seek help from a mental health professional as early as possible; this is especially important for dealing with depression.

Local Alzheimer organizations and your doctor can tell you how to get help with things like shopping, housekeeping, respite care, meals, and transportation.

Resources

For additional information... Contact your local Alzheimer's Association chapter for a list of Alzheimer's disease specialists in your area. You can also look for an Alzheimer's Disease Center (ADC) at a major medical institution. There are about 30 of these centers in the United States.

Alzheimer's Association
Phone: 312-335-8700; 800-272-3900
E-mail: info@alz.org, Web site: www.alz.org

Alzheimer's Disease Education and Referral Center
National Institute on Aging
Phone: 800-438-4380
E-mail: aDear@alzheimers.org
Web site: www.alzheimers.org/aDear/