The impact of Alzheimer’s disease

Ron Petersen, MD, PhD, is Director of the Mayo Alzheimer’s Disease Research Center.

Typical changes

- Typical age-related changes involve:
  - Making a bad decision once in a while
  - Missing an occasional monthly payment
  - Forgetting which day it is and remembering later
  - Sometimes forgetting which word to use
  - Losing things from time to time

Problematic changes

Joyce has a diagnosis of Alzheimer’s disease.
What is dementia?

- Loss of cognitive functioning serious enough to interfere with daily functioning
- Causes changes in:
  - Memory
  - Language
  - Thought
  - Navigation
  - Behavior
  - Personality/Mood
  - Planning and Organizing

Reversible diseases that mimic dementia

- Metabolic disorders (e.g., hypothyroidism)
- Brain tumors
- Dehydration
- Emotional disorders
- Sensory loss
- Vitamin deficiencies (e.g., B12 deficiency)
- Infections
- Alcohol, drugs, medication interactions

Understanding dementia

Dementia

- Alzheimer's disease
- Frontotemporal lobar degeneration
- Vascular dementia
- Dementia with Lewy bodies
- Mixed dementia

More rare types of dementia

Other more rare dementias include:
- Creutzfeldt-Jakob disease
- Parkinson's disease
- Huntington's disease
- Normal pressure hydrocephalus
- Wernicke-Korsakoff syndrome

Mild Cognitive Impairment

- Severe enough to show up on tests
- Not severe enough to affect daily life
- Increases risk of developing Alzheimer's disease
Problematic changes

Steve has a diagnosis of Alzheimer’s disease, the most common form of dementia.

What is Alzheimer’s disease?

Alzheimer’s disease:
- is a brain disorder
- is a progressive disease
- is the most common form of dementia
- has no cure
- is eventually fatal
- affects over 5 million Americans

How the brain works

- There are 100 billion nerve cells, or neurons, creating a branching network.
- Signals traveling through the neuron forest form memories, thoughts and feelings
- Alzheimer’s disease destroys neurons

Which functions are affected?

Healthy vs. Alzheimer’s brain

- Ventricles enlarge
- Cortex shrivels, especially near hippocampus
**Major risk factors**

- The primary risk factor is age
- The incidence is higher in women largely due to women living longer
- Down syndrome is correlated with Alzheimer’s
- Family history can increase risk
- There are two categories of genes

**Selecting a Doctor**

- Doctors can diagnosis Alzheimer’s disease with accuracy
- Start with:
  - A physician who is experienced with diagnosing Alzheimer’s
- Then consult the following as needed:
  - Geriatrician
  - Neurologist
  - Psychiatrist
  - Neuropsychologist

**Preparing for the doctor’s visit**

- Keep a log
  - Write a list of symptoms, be specific
  - Include when, how often and where
  - Develop the list with input from other family members
- List current and previous health problems
- Bring all medication (prescriptions, vitamins, herbal supplements and over the counter medication)

**Steps in the assessment**

1. Medical history
2. Mental status evaluation
3. Series of evaluations that test memory, reasoning, visual-motor coordination and language skills
4. Physical examination, which includes:
   - Evaluating blood pressure, nutrition and pulse
   - Testing nervous system functions like sensation and balance
   - A brain scan to rule out a stroke
   - Lab tests to rule out other disorders
5. Psychiatric evaluation, to rule out emotional causes of symptoms
6. Interviews with family to get more information about changes

**When the diagnosis is Alzheimer’s disease…**

- Shocks
- Fear
- Confusion
- Guilt
- Grief
- Worry
- Anger
- Acceptance
- Denial
- Relief
Stages of Alzheimer's disease

- **Early Stage**
  - Recent memory loss
  - Difficulty managing money, driving, or handling social situations

- **Middle Stage**
  - Difficulty with language
  - Problems keeping track of personal items
  - May need help with grooming

- **Late Stage**
  - Long- and short-term memory affected
  - Needs care around the clock

Plan early

- Be an active partner in long-term care plan
- Develop a relationship with your healthcare team
- Get legal and financial issues in order
- Grow a support system
- Educate yourself about the disease

Medications to treat symptoms

- Cholinesterase inhibitors for mild to moderate symptoms
  - Donepezil (Aricept®)
  - Rivastigmine (Exelon®)
  - Galantamine (Razadyne®)
- NMDA receptor antagonist (glutamate regulator) for moderate to severe symptoms
  - Memantine (Namenda®)
Medications to treat symptoms

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Clinical research studies

- Clinical trials fuel progress toward treatments
- Participants receive a high standard of care

Contact us - we can help

- Alzheimer’s Navigator
- Community Resource Finder
- ALZConnected
- Alzheimer's and Dementia Caregiver Center
- Safety Center

- Support groups, education programs and more available in communities nationwide

- Free online education programs available at training.alz.org

Get involved

- 24/7 Helpline – Available all day every day

Build Your Community

Betsy’s partner, John, has a diagnosis of Alzheimer’s disease.