

FIRE & EMS



Alzheimer's Training for Emergency Responders (Fire & EMS)



Why Provide Training to Emergency Responders?

- Over 60% of A.D. patients **wander**, become lost and often are seriously injured or die if not found within 24 hours. 72% wander repeatedly.
- Some A.D. patients, will exhibit behavioral changes which may **endanger** themselves, caregivers or responding public safety personnel.

Purpose of Training

- To provide basic information about Alzheimer's disease and dementia
- To identify and understand symptoms
- To provide behavior patterns and typical incidents that occur with Alzheimer's disease
- To better understand how to assess and communicate with an individual in various stages of the disease process
- To raise awareness of the impact of this disease to our communities and population



**What do you already know
about**

Alzheimer's Disease?

(personal experiences, encounters, TV shows)

**What can we learn from this
training?**



Common Questions

- Why do people with Alzheimer's wander away and get lost?
 - Where are they going?
 - Why can't the family keep track of them?
 - Why do they wait so long to report them missing?
- Why does the elderly lady down the street keep calling us saying someone is stealing from her and reporting intruders when there are none?
- Why are they still driving?



Common Questions

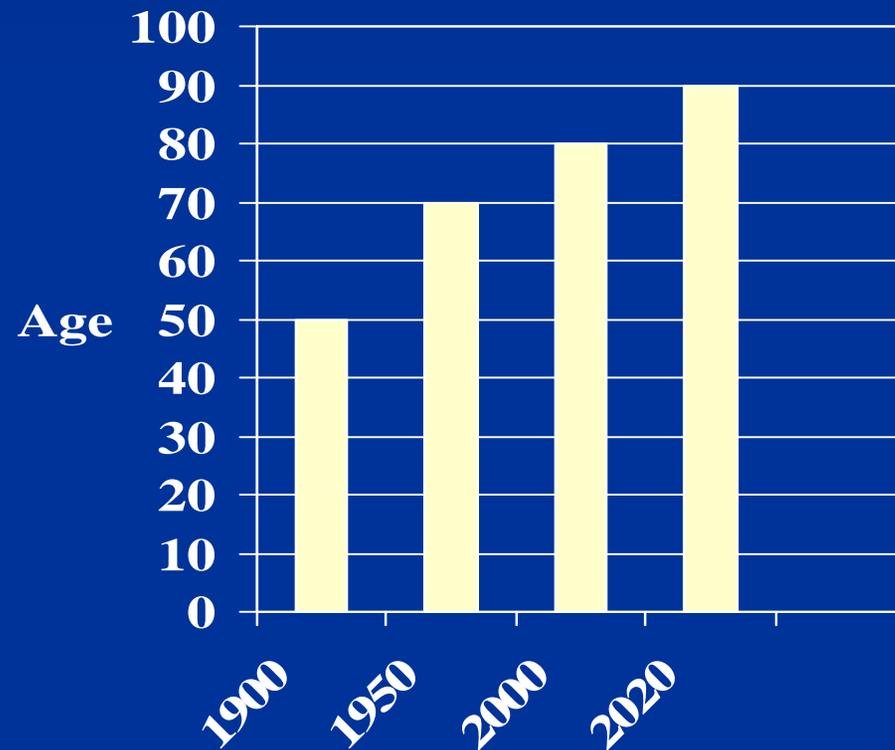


- Are people with Alzheimer's violent?
- Why does it seem that we are getting more calls now relating to older people, nursing homes, missing elderly people, etc.?
- Alzheimer's only affects the elderly, right?
- Is dementia and Alzheimer's the same? What's the difference?

Demographics

- Our population is aging due to many factors; primarily:
 - Longer life expectancy
 - Better healthcare
 - Baby Boomers (1946 – 1964)

Average Life Expectancy



In 1860, half the population in the U.S. was under age 20, and most were not expected to live to age 65.

Baby Boomers

- Every 70 seconds, someone in America is diagnosed with Alzheimer's disease; by mid-century: every 33 seconds.
- We are now seeing the first wave of baby boomers turning 60.
- The size of the older population (65+) will double over the next 25 years.
- Age is a risk factor for Alzheimer's disease.

Statistics

- In 2009 an estimated 5.3 million people have Alzheimer's in the U.S. (1:8 persons 65 and older)
- 24.3 million worldwide
- 110,000 in Virginia to increase to 160,000 in Virginia by 2025
- 38,000 in Southeastern Virginia
- Alzheimer's is the **fourth** leading cause of death among adults.*

The Year 2050

- By 2050 life expectancy will reach 90+
- Over **70 million** people will be over the age of 65; 10% of those will have Alzheimer's disease.
- Close to **20 million** over the age of 85; half of those will have Alzheimer's disease.

The Year 2050

- An estimated **14 million** Americans will have Alzheimer's disease if a cure is not found.
- Alzheimer's disease will be the leading cause of death among adults.
- Finding a treatment that could delay the onset of Alzheimer's disease by five years could reduce the number of people with the disease by nearly 50% over 50 years.

Cost of Alzheimer's Disease

- National direct and indirect cost of caring for people with Alzheimer's disease amount to more than \$148 Billion a year.
- The average lifetime cost of care for an individual with AD is \$174,000.
- Alzheimer's has the potential to bankrupt healthcare as we know it.

Cost of Alzheimer's Disease

- Half of all nursing home residents have Alzheimer's disease or a related disorder.
- The average cost of nursing home care in Virginia is from \$4,000 to \$7,000 per month.
- In 2005, the federal government spent approximately \$647 million for Alzheimer's disease research.

Typical Dangers



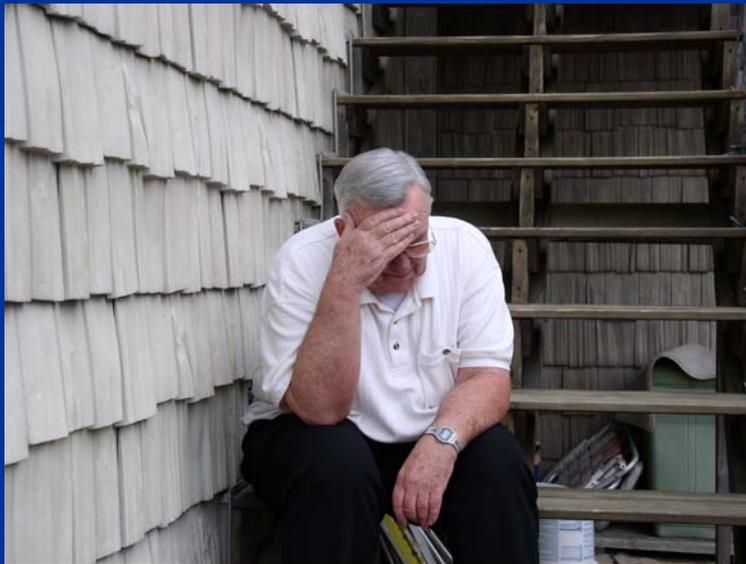
- Many elderly people with dementia live alone.
- Dangers associated with living alone include:
 - Falls – altered vision, hearing, unsteady gait
 - Fires – smoking, stove, space heaters
 - Overdose/poisoning – medication, cleaning chemicals

Typical Dangers

- Burns – decreased temp. sensitivity
- Not eating/dehydration
- Wandering/disorientation
- Victims of phone/door-to-door scams/theft
- Auto Accidents



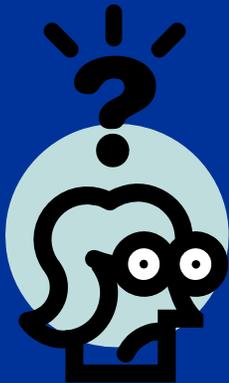
Alzheimer's disease is not just about forgetting things.



Alzheimer's disease robs a person of all of their memories, experiences, and abilities.

Alzheimer's disease causes a person to have dementia.

What is dementia?



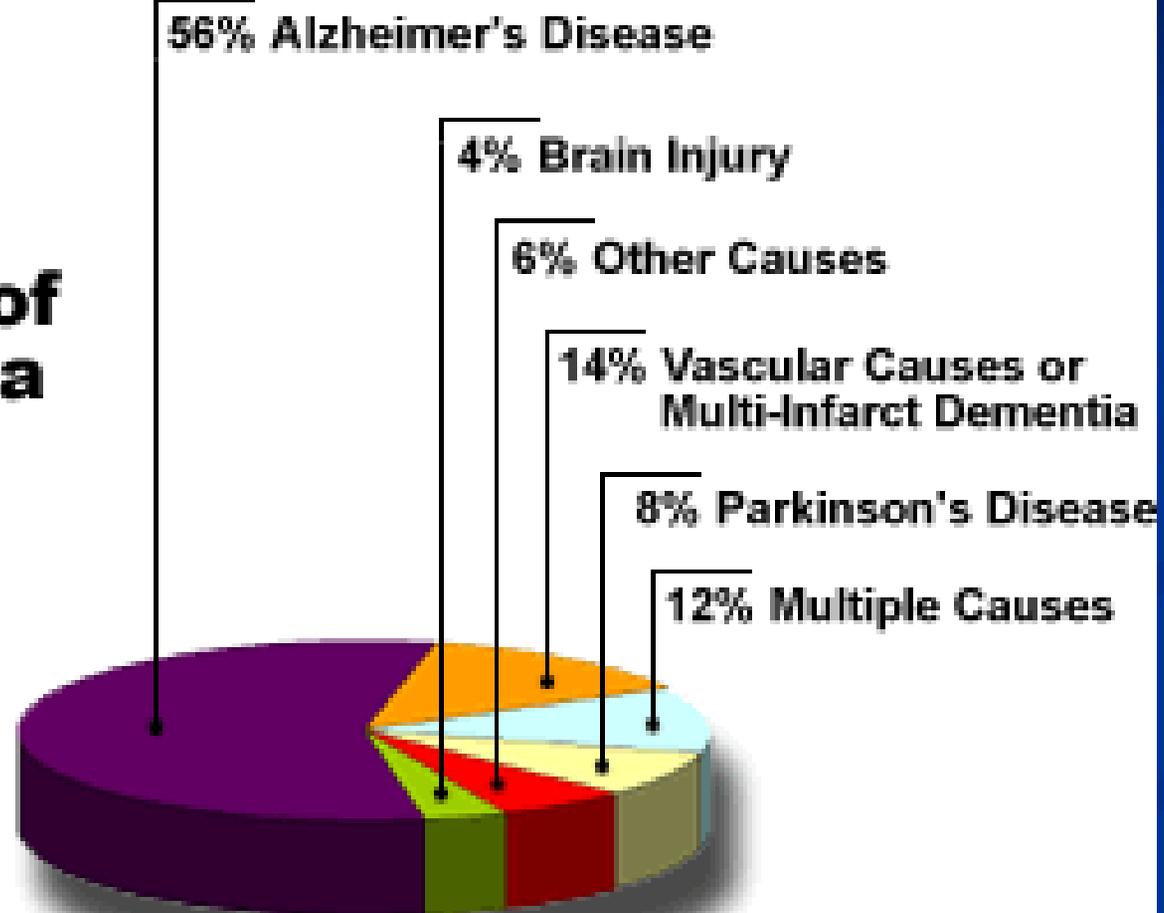
Dementia

- Dementia is an general term that literally means “without mind.” Dementia replaced the word **senile** in medical terminology.
- It is NOT a disease; it is a set of symptoms resulting from a either a disease process OR a condition affecting the brain.
- It is a gradual loss of thinking, remembering and reasoning.
- Any trauma that occurs in the brain or to the brain can result in permanent or temporary dementia.

Dementia

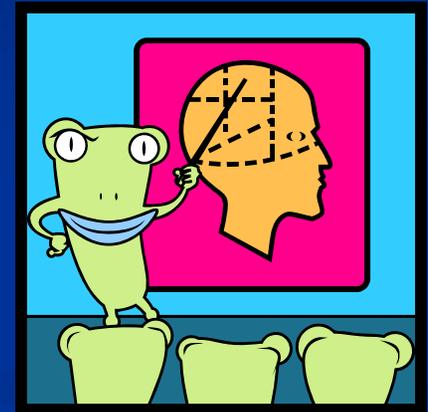
- Some forms of dementia can be reversed if the underlying cause is treatable.
- Alzheimer's is not reversible at this time.
- Alzheimer's is the most common cause of dementia (60 – 80 % of cases)

Causes of Dementia



Diseases that Cause Dementia

- Alzheimer's Disease
- Mini-strokes (Vascular Dementia)
- Parkinson's Disease
- Huntington's Disease
- Pick's Disease
- Fluid on the Brain (Hydrocephalus)
- AIDS-Related Dementia
- Alcohol-Related Dementia
- Head Trauma





Reversible Causes of Dementia

- Drug reactions/interactions
- Emotional disturbance (Depression, Schizophrenia)
- Metabolic and Endocrine Dysfunction (Thyroid)
- Nutritional Loss (malnourishment, vitamin deficiencies - B12)
- Operable Tumors
- Infections
- Arteriosclerosis



Alzheimer's Disease

- Although identified in 1906 by Alois Alzheimer's, a German neuropathologist and psychiatrist, it is believed that Alzheimer's has been around since the beginning of time.
- There are references to Alzheimer's in the bible, Shakespearean literature and ancient writings.



Alzheimer's Disease

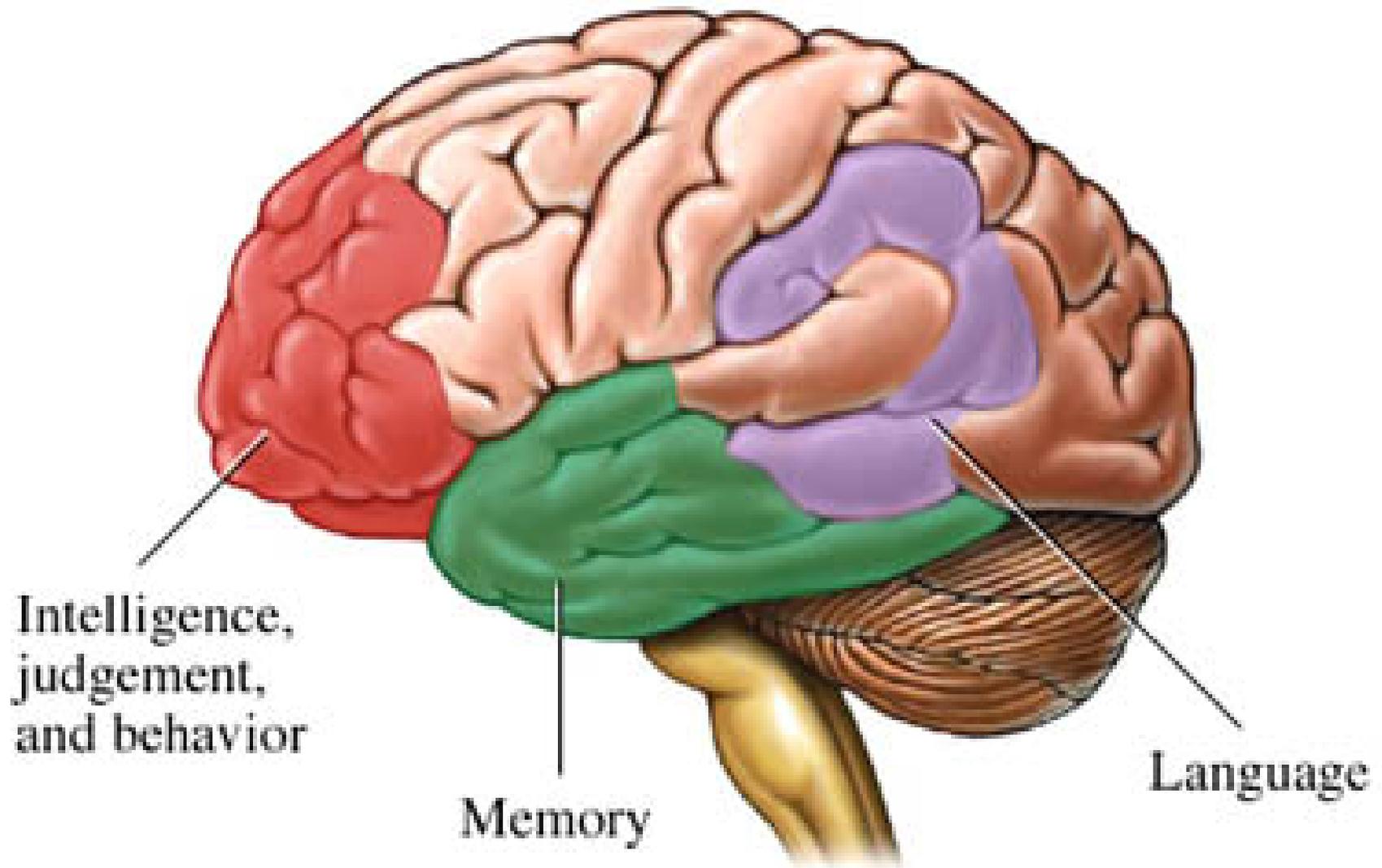
- Is a degenerative, progressive brain disorder affecting memory, thought, behavior, personality and muscle control.
- It is not a mental illness – although behavior may at times seem similar. It is a **physical disease** that attacks and destroys brain cells and causes abnormal structural changes to occur in the brain (called plaques and tangles).



Alzheimer's Disease

Early Onset Type (APOE-4)

- Familial Alzheimer's accounts for less than 5% of cases
- People are much younger in age
- A simple blood test can determine if you have the genetic marker for Early Onset Alzheimer's.
- There could be hundreds of unidentified genes





Normal



Mild Alzheimer's

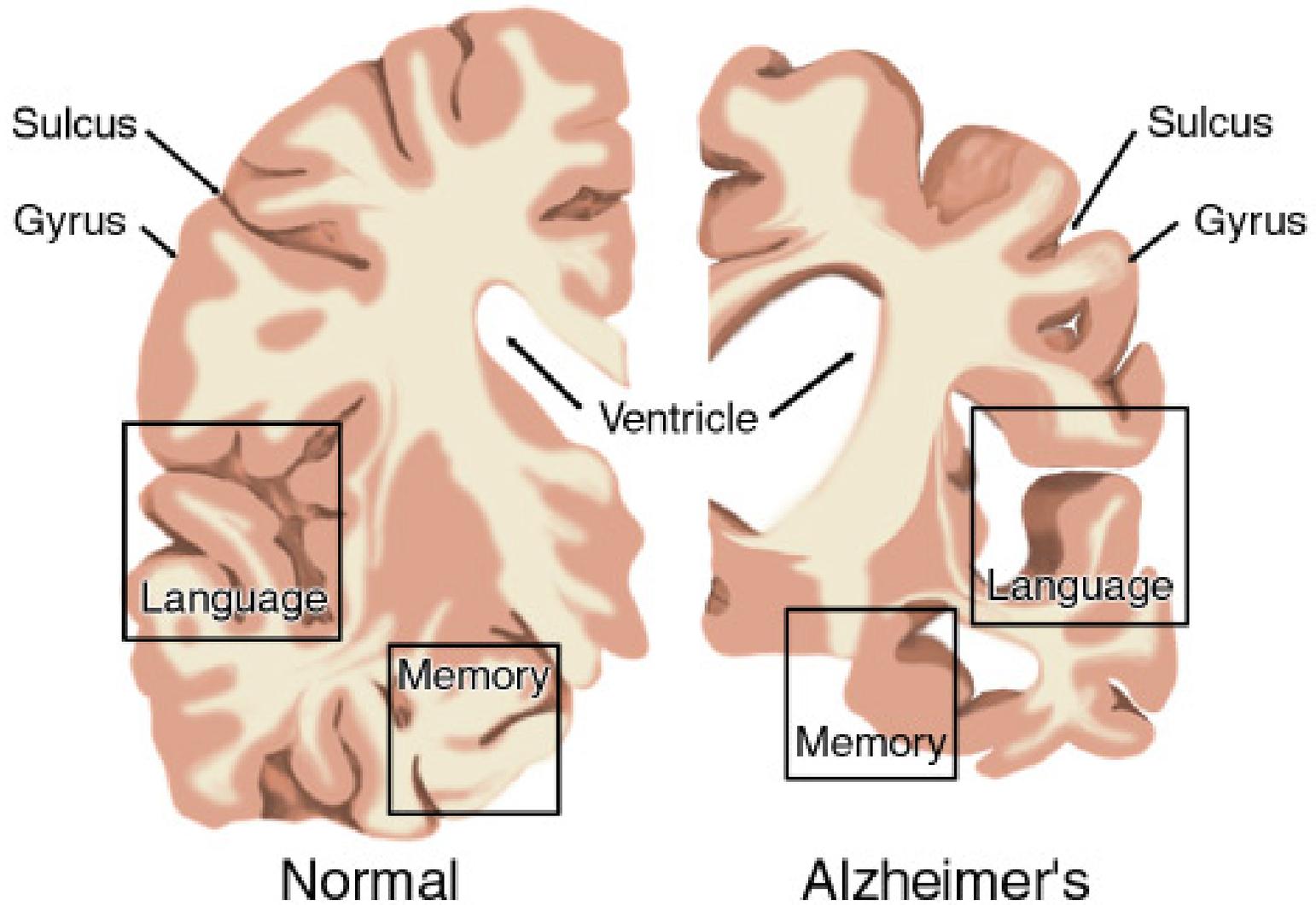


Moderate Alzheimer's

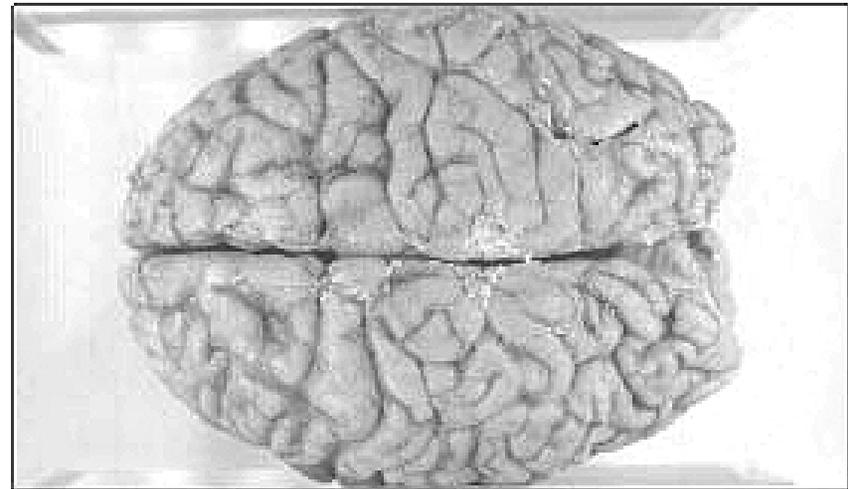
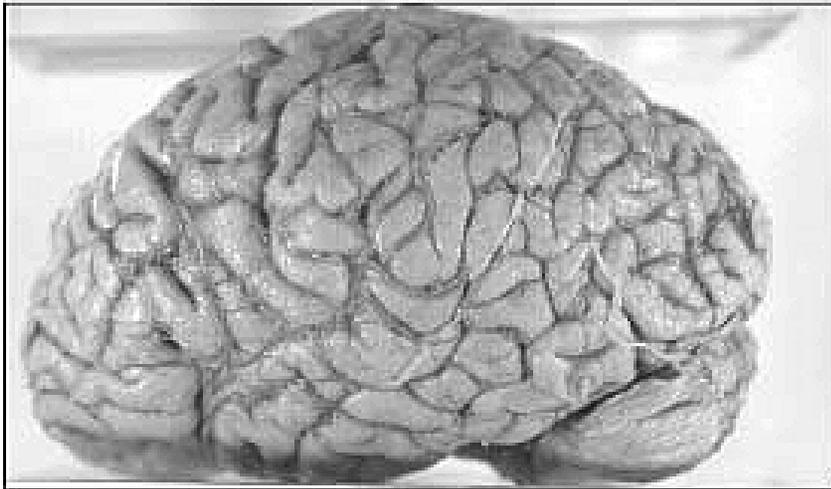


Severe Alzheimer's

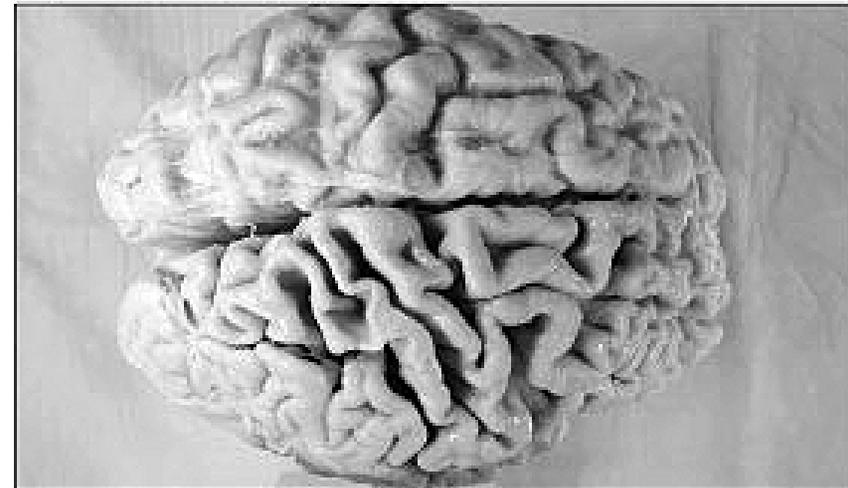
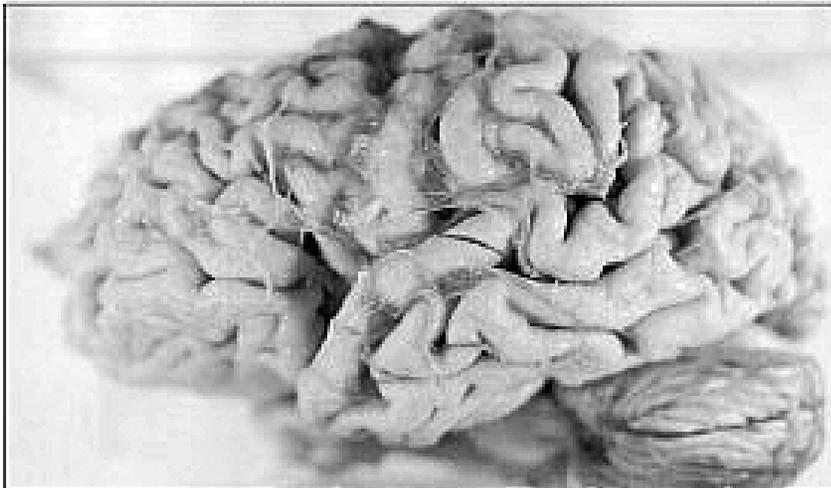
Brain Cross-Sections



Brain: Normal Elderly



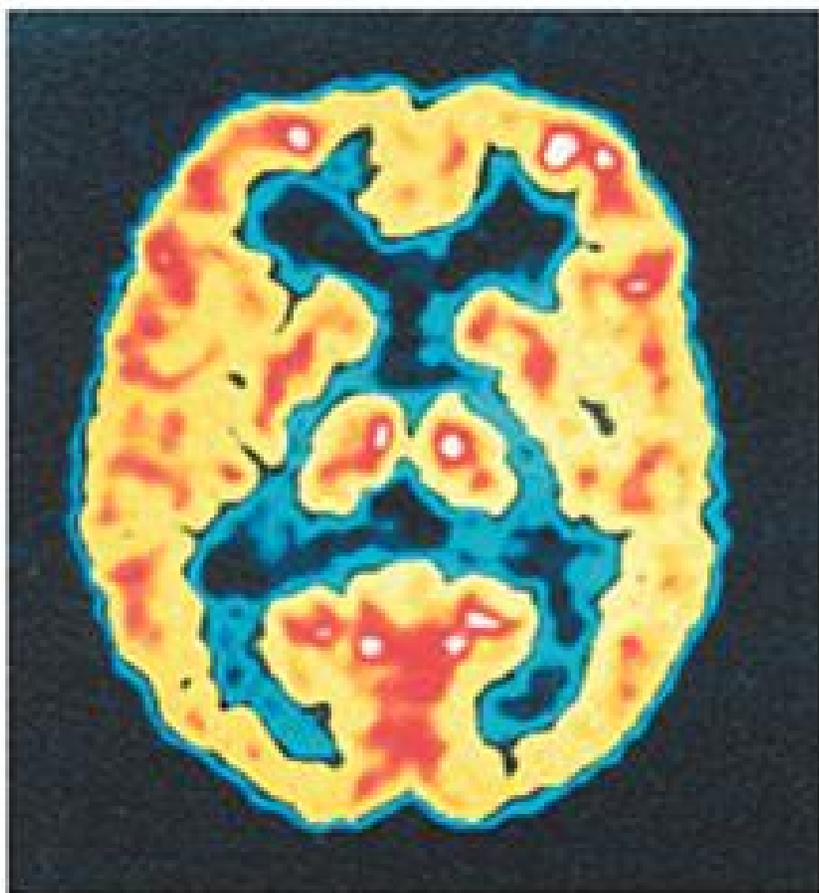
Brain: Alzheimer's Disease



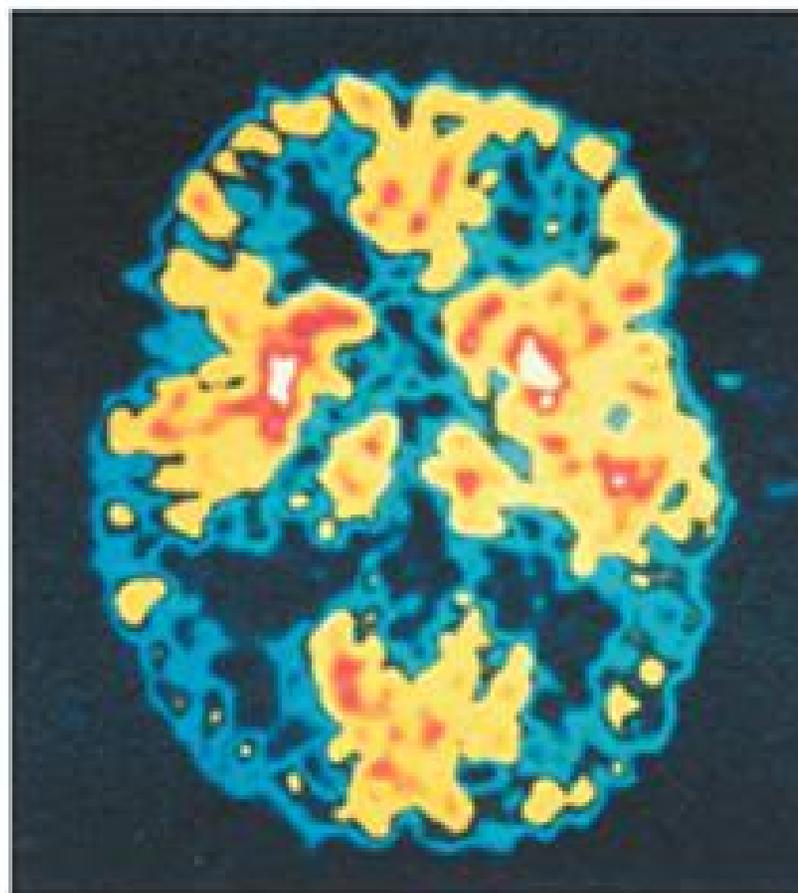
[HTTP://WWW.NIAAA.NIH.GOV/PUBLICATIONS/ARH25-4/254IMAGES/300.JPG](http://www.niaaa.nih.gov/publications/ARH25-4/254images/300.jpg)

TYAS, S. L. (N.D). ALCOHOL USE AND THE RISK OF DEVELOPING ALZHEIMER'S DISEASE. NATIONAL INSTITUTE ON ALCOHOL ABUSE AND ALCOHOLISM [HTTP://WWW.NIAAA.NIH.GOV/PUBLICATIONS/ARH25-4/299-306.HTM](http://www.niaaa.nih.gov/publications/ARH25-4/299-306.htm)

BRAIN SCANS HELP IDENTIFY ALZHEIMER'S



NORMAL

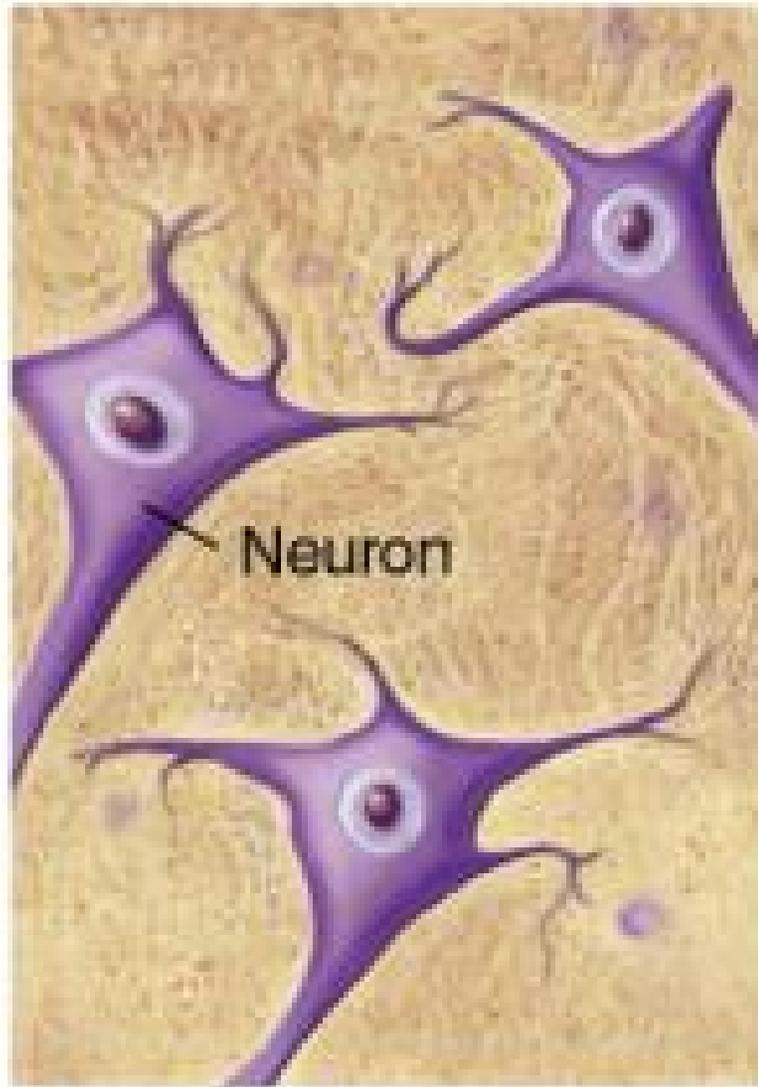


ALZHEIMER'S

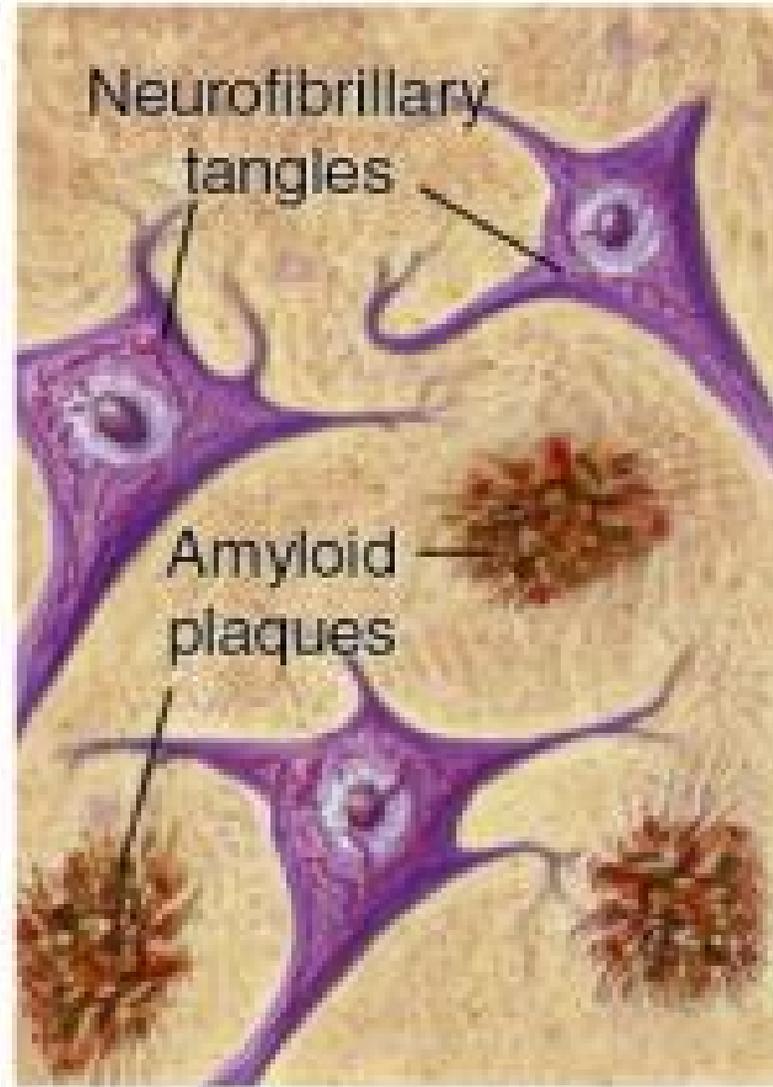
Brain scans done with Positron Emission Tomography (PET) show how Alzheimer's affects brain activity. The left image shows a normal brain, while the right is from a person with Alzheimer's. The blue and black areas in the right image indicate reduced brain activity resulting from the disease.

Images courtesy of Alzheimer's Disease Education and Referral Center, National Institute on Aging

Normal



Alzheimer's



Causes of Alzheimer's Disease

- Genetic – Early Onset Alzheimer's - Blood Test/Screening (APOE-4)
- Genes linked to Alzheimer's include Chromosomes 21, 14, 1, 19, 12
- Thought to be a combination of Genetic & Environmental
- No exact environmental cause has been identified.



Possible Risk Factors

- Increasing Age
- Down's Syndrome – over age of 40
- Family History/Genetics
 - Being born – 15%
 - Having a parent with AD – 30%
 - Over age 85 – 50%
- Early Head Injury/Head Trauma
- Chronic Inflammatory Conditions
- Episodes of Clinical Depression



Risk Factors

- **Current theories – Vascular Risks:**
 - High Blood Pressure
 - Diabetes
 - High Cholesterol
 - Weight
 - Smoking
- (In general what is good for your heart is good for your brain).



Ironically, many people living with Alzheimer's are healthy.



10 Warning Signs



Memory changes that disrupt daily life

Forgetting important dates, asking the same information over and over again

Difficulty performing familiar tasks

Managing bills, driving to a familiar location

Problems with language

Difficulty following a conversation, repeating themselves, calling things by the wrong name, forgetting the name of common objects

Disorientation of time and place

may forget where they are or how they got there, lose track of the passage of time

Poor or decreased judgment

Giving large amounts of money to telemarketers, refuse to stop driving, refuse to move to a facility

10 Warning Signs

Difficulty planning or solving problems

Difficulty following a recipe or paying bills

Problems with visual images/spatial relationships

May pass a mirror and think someone else in is the room

Misplacing things

lose things and be unable to retrace steps, may accuse others of stealing

Changes in mood or personality

May become confused, suspicious, depressed, fearful or anxious

Social withdrawal



Stages of Alzheimer's Disease

There are three basic stages:

Early Stage - memory loss and confusion is mild becoming progressively worse.

Often the person is still driving.

Middle Stage - memory loss and confusion worsens and is exacerbated with increased anxiety, paranoia, and delusions.

High risk of wandering.

(This is often the longest stage lasting 7 years or longer.)

Stages of Alzheimer's Disease

Late Stage - bodily functions shut down, little or no ability to communicate basic needs, person becomes bedridden and needs continuous care.

Usually lasts about 1 to 3 years.

People progress at different rates depending on their health, age, and other variables.

Clues for Recognizing/Identifying

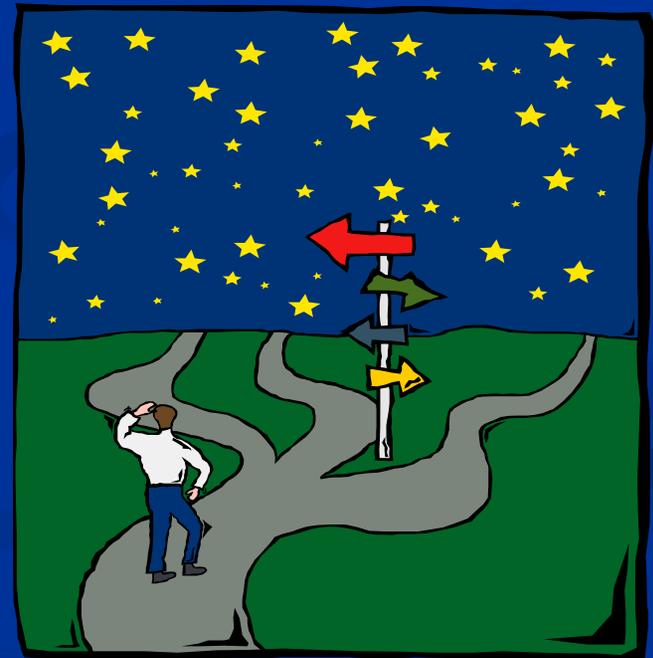
Physical Clues:

- Memory-impaired I.D.
Safe Return and Project Lifesaver
- Blank facial expression
- Inappropriate clothing
- Age
- Unsteady gait (shuffle)

Clues for Recognizing/Identifying

Psychological Clues:

- Confusing/contradictory statements
- Suffering from delusions and hallucinations
- Agitated
- Catastrophic reaction
- Forgetful
- Disoriented/lost
- Impaired judgment and reasoning skills





Commonly Prescribed Treatments

FDA approved cholinesterase inhibitors:

1993 - tacrine (Cognex®)

1996 - donepezil (Aricept®),

2000 - rivastigmine (Exelon®),

2001 - galantamine (Razadyne®)

Cholinesterase inhibitors are designed to enhance memory and other cognitive functions by influencing certain chemical activities in the brain.

2004 - memantine (Namenda®)

The first non-cholinesterase treatment ever approved in the U.S. Regulates Glutamate.

These drugs help alleviate some of the symptoms in about 50% of cases



Prevention

- Vitamins – C & E taken together (prevention)
- Vitamin E taken alone has been shown to possibly slow functional decline
- NSAIDS (anti-inflammatory) – may decrease risk
- Anti-oxidant rich diet
- Low saturated fat diet
- Stay Active – both mind and body
- Find positive ways to release stress

Common



Behaviors



Common Problem Behaviors

- **Repetition** - the person repeats the same questions, statements, or stories
- **Hiding, hoarding** - Saving bags of trash, old cartons, newspapers, magazines, money
- **Delusions/Paranoia** – accusing others of stealing their money or plotting against them
- **Sudden Mood Swings** – quickly becoming extremely angry or upset without warning
- **Irritability** – lashing out at family members

Common Problem Behaviors

- **Anxiety** – a constant feeling that they have forgotten something
- **Fidgeting/pacing** – walking or swaying back and forth
- **Sundowning** - Around 4:00 p.m., wanting to 'go home' despite the fact she is in her home of many years
- **Wandering** – leaves the home in search of something or somewhere that is familiar to them



Common Emergencies

Calls for Emergency Services

■ Driving

It is VERY difficult to convince a person to stop driving



Common Dangers include:

- Difficulty Staying Alert
- Missing traffic signals or road signs
- Becoming Disoriented/Distracted
- Running out of Gas

- **Faulty Judgment**

- Over-reacting
- Problems exiting/merging into traffic
- Over-reacting
- Driving on the wrong side of the road

- **Delayed Reaction Time**

- Noticing changing stop lights too late
- Braking too late to avoid collision

- **Interventions:**

- DMV Medical Review Form
- Family Physician
- Disabling/Selling Vehicle



Calls for Emergency Services

■ False Reports to 911

- Someone is stealing money or items
- Seeing people or animals
- Reporting intruders/strangers

■ Interventions:

- Don't argue
- Respond to their fear and anxiety
- Consider contacting family or Social Services



Calls for Emergency Services

■ Domestic Violence

- Aggression often caused by:
 - Mistaken Identity
 - Confusion
 - Over-stimulation (noisy environment)
 - No pre-meditation



- Code of Virginia: Section 19.2-81.3B states
- an officer shall arrest . . . unless there are special circumstances that dictate action other than arrest.
- Paragraph C states that if an arrest isn't made, officers must file a written report indicting why and the circumstances.
- most agencies have a policy that states an arrest must be made.

- **Alternatives to Arrest**

TDO/Psychiatric Evaluation



Calls for Emergency Services

■ Homicide and Suicide

- Some premeditation particularly for early onset or very soon after diagnosis
- Many caregivers consider at some point due to the overwhelming circumstances

Calls for Emergency Services

■ Indecent Exposure

- Often accidental resulting from either:
 - Loss of inhibitions (social norms)
 - Inability to dress themselves properly

■ Shoplifting

- No intent – simply forget to pay



Calls for Emergency Services

■ Abuse/Neglect

- Affected person may lash out physically and hurt family members/caregivers.
- Family members may take out frustrations on affected person resulting in the following types of abuse:

- Physical, Neglect, Psychological, Financial, Sexual



Calls for Emergency Services

■ Abuse/Neglect

- Can occur on behalf of either party
- Often difficult to ascertain whether person with Alzheimer's is truly suffering or paranoid
- Social Services (APS) should be called for investigation

Calls for Emergency Services

■ Poisoning/Choking

- May ingest toxic chemicals, i.e. shampoo, cleaning materials
- May overdose on medication

■ Falls/Tripping

- Stairs and shower stalls



Calls for Emergency Services

- **Burns/electrocution**

- Loss of sensitivity to hot/cold

- **Accidental Fire**

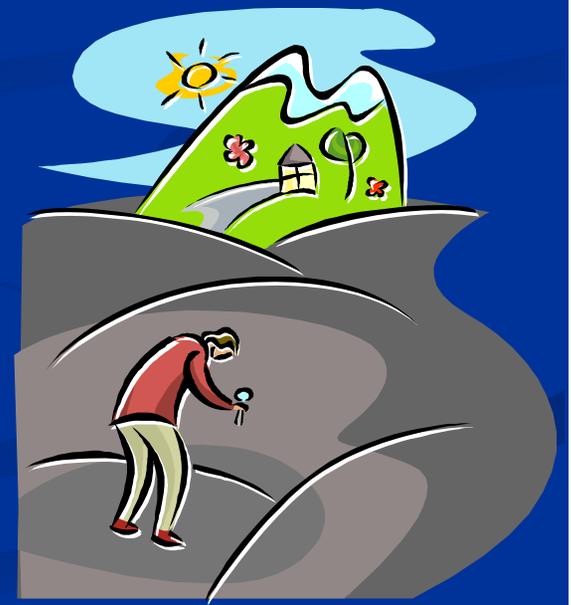
- Cooking
- Microwave/Stove
- Space Heaters
- Smoking



- Be aware that people with Alzheimer's may hide during a fire and/or not know what to do
- Many families are forced to lock doors from the inside to prevent their loved one from getting out

Calls for Emergency Services

- **Trespassing** – walking in the wrong home
- **Wandering** – “wanting to go home” and becoming lost and disoriented



Assessing the Individual

- **Rely on caregiver for information**
 - The person with Alzheimer's cannot tell you what is going on.
 - If you continue to ask them questions, they will get increasingly upset and may become combative.

Assessing the Individual

- **Do not separate the caregiver from patient**
 - Do not take the caregiver into another room.
 - Flashing lights and radios are a distraction.
 - A barrage of people or too much commotion can also be difficult, try to separate the individual.
 - Sometimes patient may respond better to one person than another.

Basic Medical Care

- Don't forget basic ABC Assessment.
- Just because they have Alzheimer's doesn't mean that is what is wrong with them.
- They can't tell you "what hurts" or "where".
- If they cannot talk, treat them as an "unresponsive patient" but don't treat them as if they can't hear you.

Transporting

- If possible allow caregiver to be transported with the patient
- Notify the ER staff that the person has Alzheimer's and can not speak for him/herself and that they need to allow the caregiver in the ER



Communicating

- Approach from the front and introduce yourself
- Tell them you are there to help them
- Speak slowly and calmly
- Do not raise your voice
- Allow ample time to respond
- Ask only one question at a time



Communicating

- Keep the climate calm
- Keep instructions positive
- Substitute non-verbal for verbal communication
- Avoid restraints if possible



Denial

- Family members are often in denial about their loved ones having this disease. They may:
 - Be angry at the person with the disease
 - Refuse to acknowledge the person has Alzheimer's
 - Be uneducated about the disease process
 - Allow the person with Alzheimer's to make decisions she/he cannot make

Patient Refuses Treatment

- If the patient refuses to go to the hospital you may be able to talk to the caregiver about getting an Emergency Custody Order (ECO) through the magistrate.
- In some jurisdictions, EMS providers can obtain an ECO if deemed necessary.
- Other Options:
 - TDO (law enforcement)
 - Social Services
 - APS – Adult Protective Services
 - Medical Control

Caregivers

- Caregivers suffer as much or more than the person with Alzheimer's disease does.
- Caregivers are exhausted and overwhelmed.
- Caregivers often feel isolated and have very few support systems.
- Caregivers become very depressed and many consider ending their life and the life of their loved one.

Caregivers

- Caregivers have a tough time accepting help from others because they don't want to burden other people.
- Caregivers will not call for help immediately when they realize their loved one is missing.

The Future of Alzheimer's

- Researchers hope to find a drug that can delay the onset of Alzheimer's by 5 years.
- Detecting Alzheimer's Disease earlier:
 - Genetic Screening
 - Better Imaging Techniques
 - Measuring Brain Proteins
 - Anti-amyloid therapies



Additional Resources

- Alzheimer's Association Area Chapters
 - National Capital Area Chapter, Fairfax
 - Southeastern Virginia Chapter, Norfolk
 - Central and Western Virginia Chapter, Charlottesville
 - Greater Richmond Chapter, Glen Allen

- Alzheimer's Association Safe Return Program
 - Contact your local Alzheimer's Association Chapter

- Project Lifesaver International
 - www.projectlifesaver.org

- State Search and Rescue Resources
 - Virginia Department of Emergency Services at (800) 468-8892.

Questions?

For Additional Information contact:

**Commonwealth of Virginia
Alzheimer's Training Program for
Emergency Service Personnel**

Julie Ana Skone

Dept. of Criminal Justice Services

(757) 692-0108

www.dcjs.virginia.gov

Module 4



Searching for a Missing Alzheimer's Person

The Wandering Problem

For every 1,000 people in Virginia, 15 suffer from Alzheimer's disease.

- **18%** of those with mild dementia, *wander*
- **50%** of those with severe dementia, *wander*

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The Wandering Problem

- **1%** of lost Alzheimer wandering incidents reported to law enforcement result in fatalities.
- One-third of those incidents where the lost person is not located within 24 hours results in fatalities.

Subject's Profile

- Leaves residence or nursing home
- Has a previous history of wandering
- May cross or depart from roads (67%)
- Usually (89%) found within one mile of place last seen
- Usually found a short distance from road (off road)
- Attempts to travel to former residence

Subject's Profile

- Leaves few verifiable clues
- Will not cry out for help or respond to shouts
- Usually found in a creek, drainage area, brush or briars (47%)
- Succumbs to the environment



Behavioral Hypothesis

Why do they get lost?

- **Wandering Initiated**

Agitation (exit seekers, escapist, want to go home)

Depression, goal oriented

- **Becomes Lost**

Loss of time, short term memory, spatial mapping

- **Intense Emotional Crisis**

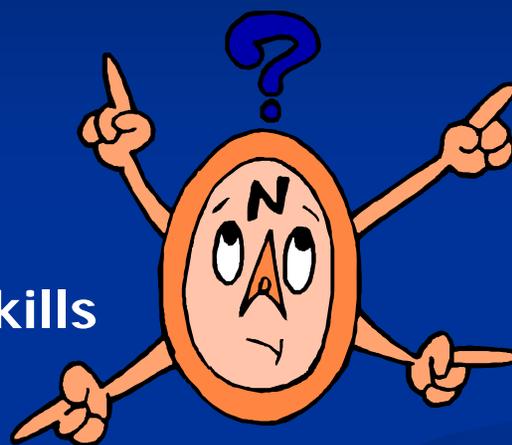
Panic reaction

Alzheimer's VS Navigation

Poor recent memory

Inability to judge time

Loss of visual-spatial skills



Landmarks

Estimate distances

Sense of direction

If you can't recognize where you are for lack of landmarks, can't judge how far back to where you came from and don't know how to turn around, you get lost.

Search is an Emergency

- Subject needs emergency care.
- Subject needs protection from weather and self.
- Time and weather destroy clues.
- Urgent response decreases search difficulty.
- Search size grows exponentially with time.
- Subject seldom 'walks' out.

**Caregiver's often wait hours before calling for help
once they notice their loved one is missing.**

Search is an Emergency

No deaths when subject found within 12 hours of the time last seen.

- If subject found DOA, average time to contact SAR = 50 hours.
- If subject found uninjured, average time to contact SAR = 12.3 hours.
- Subjects die due to environment.

Search at Night



- Subject does not generally move at night.
- Searchers / dogs are able to hear better at night.
- Air-scent dogs work better at night.
- Bloodhounds may work better at night.
- 25% of finds occur at night

Distance Traveled

(Distances given in *crows flight*.)

Average distance : 0.6 miles.

50% subjects found within: 0.5 miles.

75% subjects found within: 0.7 miles.

94% subjects found within: 1.5 miles.

Individuals with severe dementia travel shorter distances.

Wanderers who stay on roads go further.

Contact Trained S.A.R. Resources

Bloodhounds

Air-scent dogs

Helicopters
teams

Fixed wing aircraft

Search management

Man trackers

Field team leaders

Field team members

Mounted (horse) SAR

Bike teams

Other specialized SAR
resources

Planning Data

Point last seen (PLS)

Last Known Position (LKP)

Circumstances surrounding loss

Initial actions taken by caller

History of the missing subject

Physical and mental health of subject

Personality traits

Weather, terrain

Hobbies or activities person used to engage in

Find Environment

- General pattern: *They go until they get stuck.*
- Unique in the tendency to go into brush/ briars.
- Requires searching off roads.
- Many subjects found near or in creeks or drainage ditches.
- Many nursing home cases where subject was found within the structure, make sure staff checks every room, even if the door is locked.

Once the subject is located, please remember to refer family members to resources such as the Alzheimer's Association, Safe Return or Project Lifesaver.

Many of them are unaware that such resources exist.

Questions?