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Understanding Dementia for Caregivers

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Movement Disorders Center**

What is Normal Aging?

- We may experience minor changes in our memory or thinking as we age, however, these changes do not affect daily functioning or the ability to live independently.
- Memory changes is a normal part of the aging process. It is common to have less recall of recent memories and to be slower remembering names and details.
- Alzheimer's disease is NOT a normal part of aging or “just what happens when we get old”.

**If Alzheimer's was part of the normal aging process,
then everyone over the age of 65 would have Alzheimer's disease.**

Normal Aging vs. Not Normal Aging

Normal Aging

- Forgetting part of an experience
- Forgetting something but eventually remembers the information
- Can follow instructions without difficulty
- Able to use notes and reminders
- Can still manage their own personal care (bathing, dressing, grooming, etc.)
- Able to manage their own finances

Not Normal Aging

- Forgetting the whole experience
- Unable to recall the information at a later time
- Less and less able to follow instructions over time
- Gradually becoming less able to benefit from memory aids or forgets to use them
- Losing the ability to engage in personal care tasks
- Unable to track spending, pay bills, manage saving/ checking accounts

Dementia

- Alzheimer's disease
- Vascular (multi-infarct) dementia
- Dementia with Lewy bodies (Diffuse Lewy Body Disease)
- Parkinson's Disease related Dementia
- Pick's Disease (Frontotemporal Dementia)
- Frontal Lobe Dementia

Differential Diagnosis

- Creutzfeldt-Jakob Disease
- Normal Pressure Hydrocephalus
- Huntington's Disease
- Wernicke-Korsakoff syndrome
- Neurosyphilis
- HIV
- MS
- Delirium
- Depression / Anxiety
- Other: Toxic/ Metabolic: alcohol, heavy metals, thyroid/renal/liver disease, vitamin deficiencies, polypharmacy

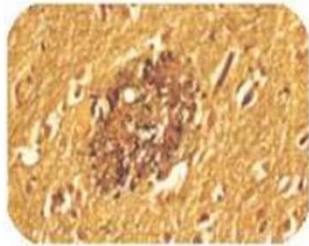
Alzheimer's Definition

- Clinical Manifestations

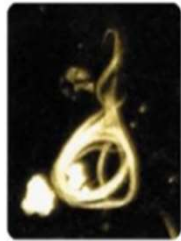
- Alzheimer's disease (AD), also known as Senile Dementia of the Alzheimer Type (SDAT) or simply Alzheimer's, is the most common form of dementia and is an irreversible, progressive brain disease that slowly destroys memory and cognitive function
- Characterized by impairment of memory and eventually by disturbances in reasoning, planning, language, and perception
- The risk of developing AD increases with age, however, in most people with AD, symptoms first appear after age 60 (5% incidence)

Pathophysiology

Plaques and Tangles: The Hallmarks of AD



An actual AD plaque

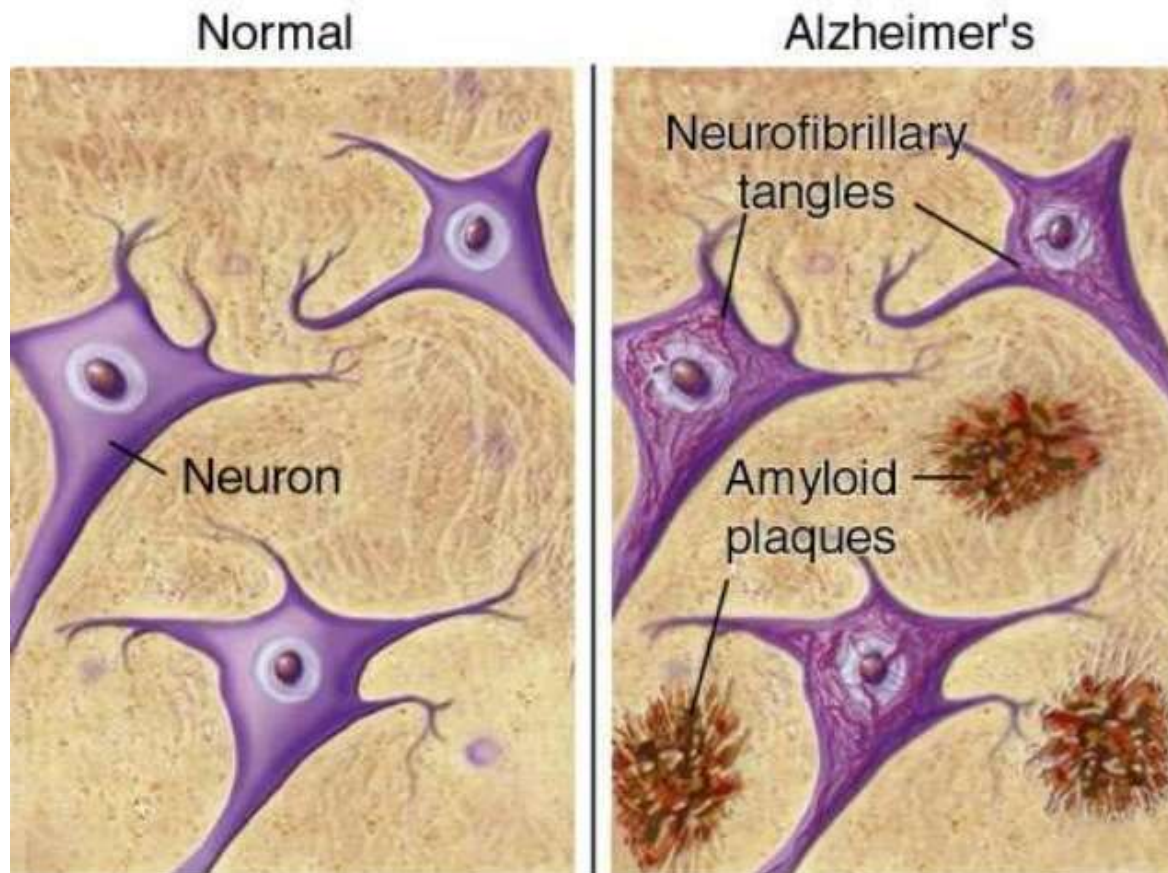


An actual AD tangle

Volicer L. *Clin Geriatr Med.* 2001;17:377-391.

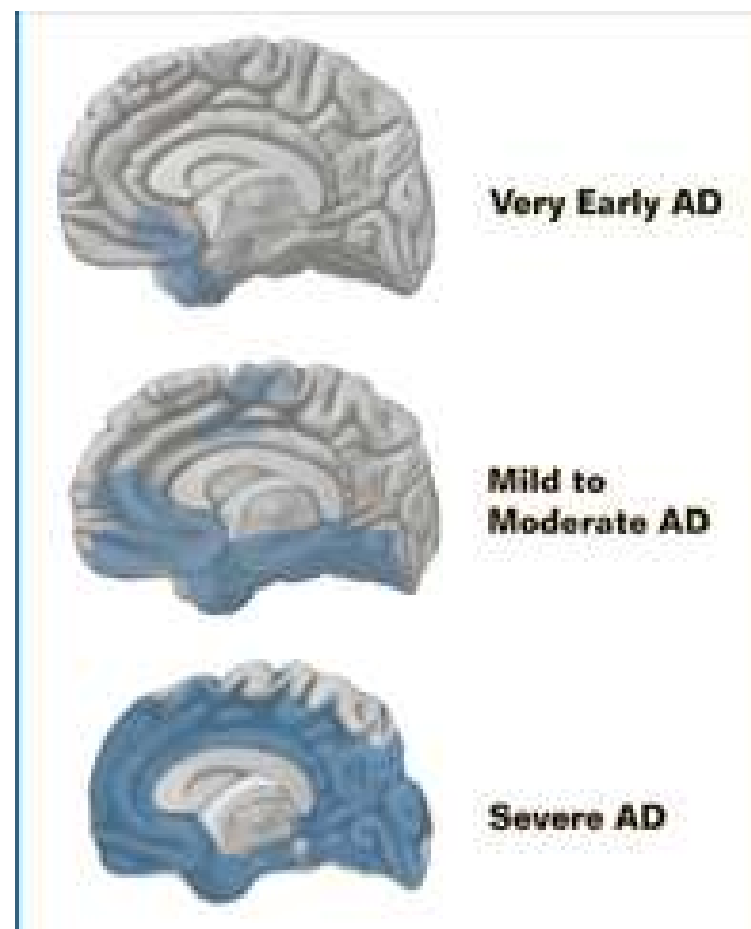
- The brains of people with AD have an abundance of two abnormal structures:
- Beta-amyloid plaques, which are dense deposits of protein and cellular material that accumulate outside and around nerve cells
- neurofibrillary tangles, which are twisted fibers that build up inside the nerve cell

Pathophysiology



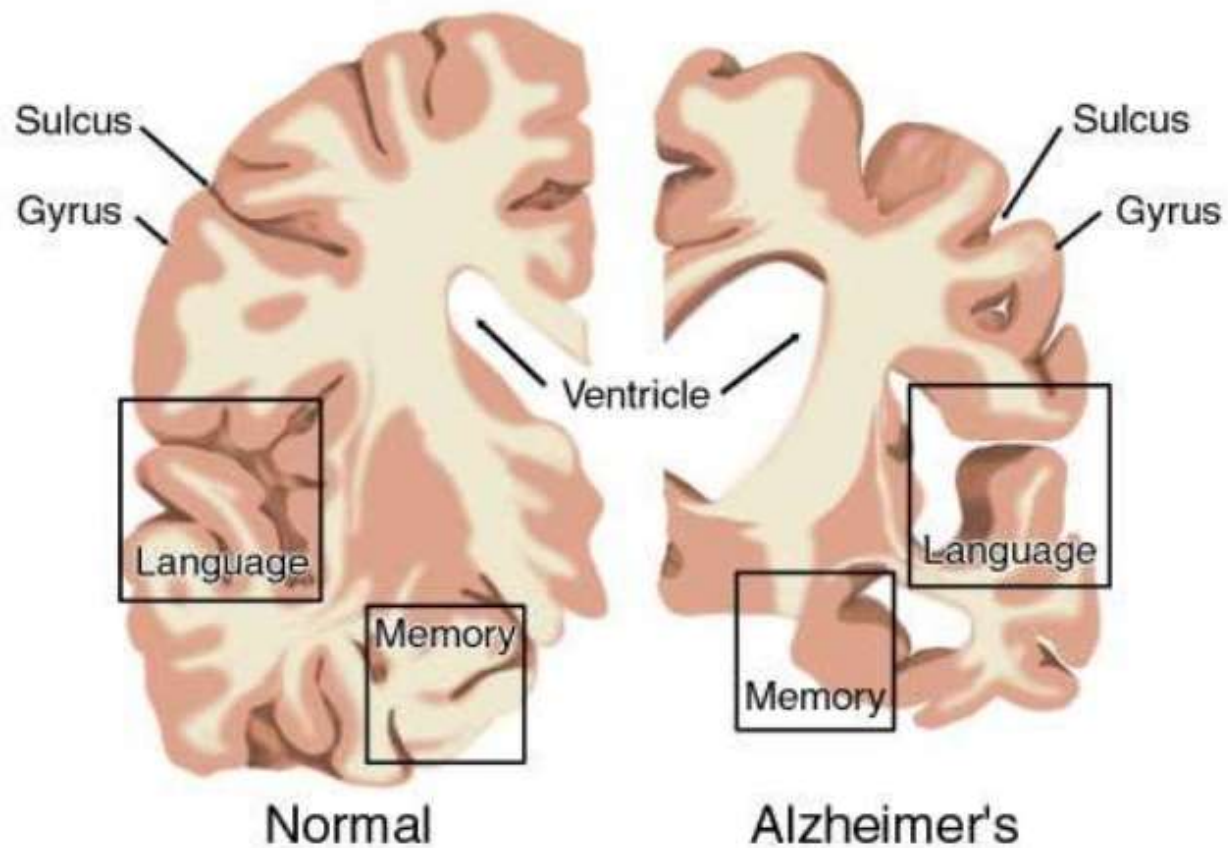
Stages of Disease

- As AD progresses, neurofibrillary tangles spread throughout the brain (shown in blue). Plaques also spread throughout the brain, starting in the neocortex.
- By the final stage, damage is widespread and brain tissue has shrunk significantly.

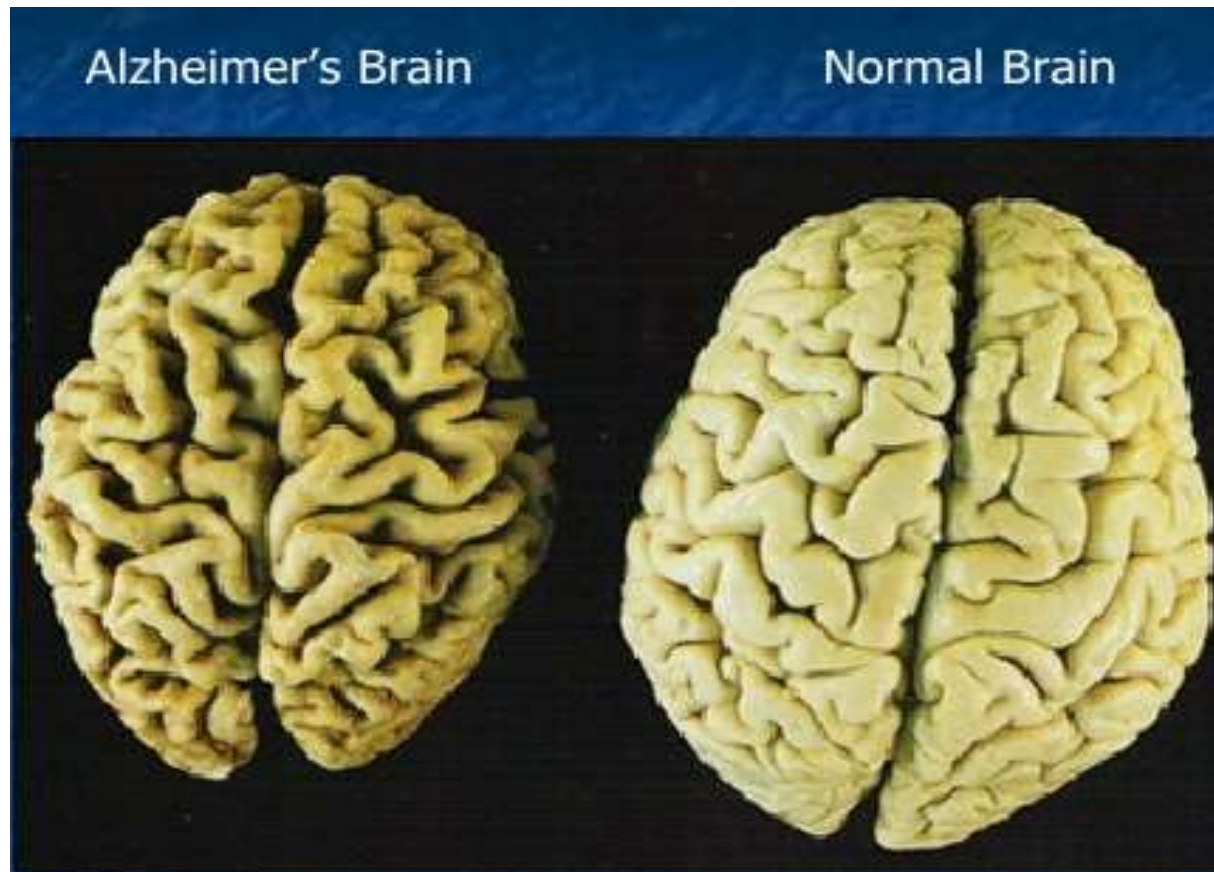


Pathophysiology

Brain Cross-Sections

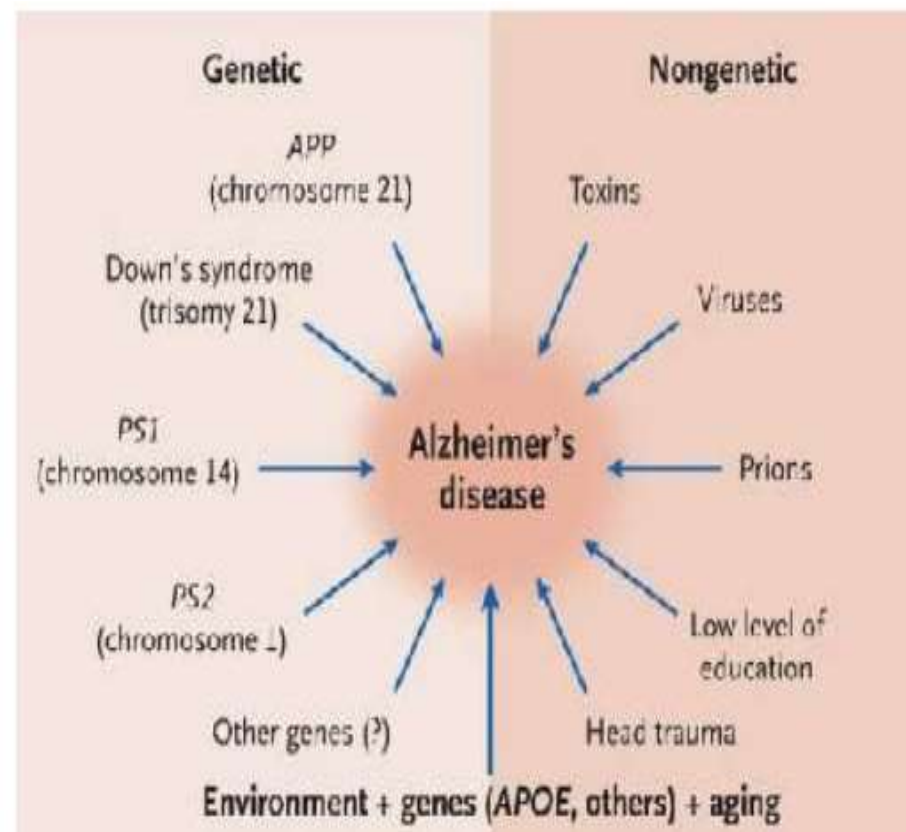


Pathophysiology



Causes

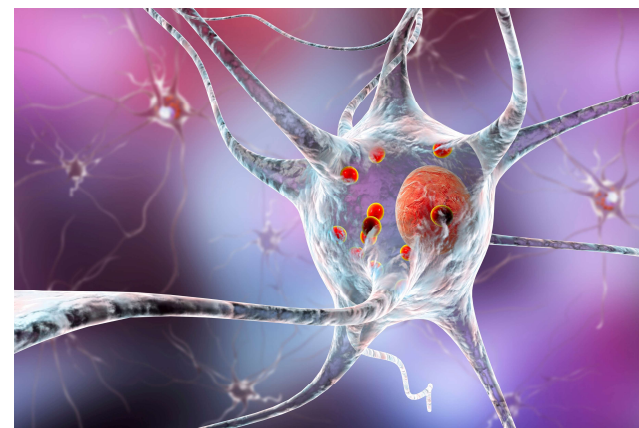
- The known genetic causes of Alzheimer's Disease (left side) are responsible for only a small number of the total cases.
- The possible environmental factors (right side) are largely speculative; none are proven cases



Lewy Body Dementia

Dementia with Lewy Bodies
Diffuse Lewy Body Disease
Parkinson's Dementia

- 30% of all dementias⁴, second to Alzheimer's. 1.4 million people⁶
- LBD classically associated with:
 - EARLY cognitive change (within 1 yr of PD symptoms) for LBD
 - Relatively rapid onset
 - Fluctuating cognitive impairment
 - Visual hallucinations
 - Parkinsonism
 - Sensitivity to
 - Dopamine replacement – hallucinations, side-effects
 - Neuroleptics – catatonia, rigidity
 - REM Behavioral Sleep Disorder now part of diagnostic criteria⁵
- Parkinson's Dementia – LBD but later in the disease course.



Diagnosis

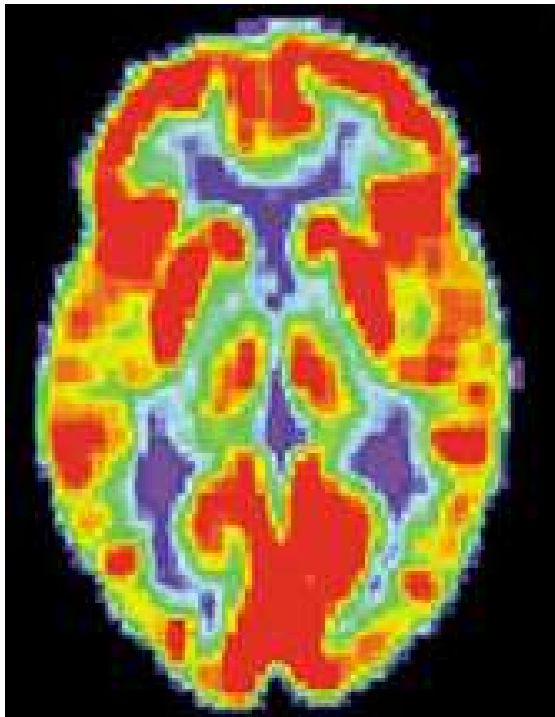
- Diagnosed clinically from the patient history, collateral history from relatives, and clinical observations, based on the presence of characteristic neurological and neuropsychological features and the absence of alternative conditions
- Advanced medical imaging with computed tomography (CT) or magnetic resonance imaging (MRI), and with single photon emission computer tomography (SPECT) or positron emission tomography (PET) can be used to help exclude other cerebral pathology or subtypes of dementia.
- The diagnosis can be confirmed with very high accuracy post-mortem when brain material is available and can be examined histologically.

Diagnosis

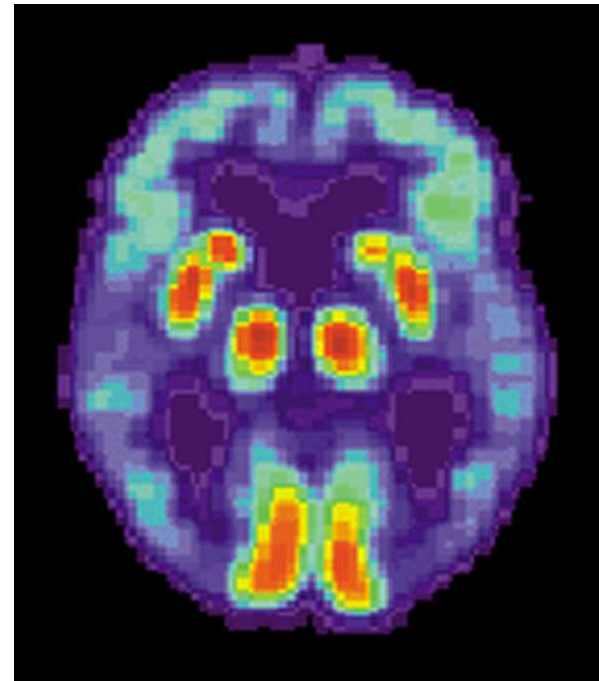
- Neuropsychological tests such as the mini-mental state examination (MMSE) or the Montreal Cognitive Assessment (MoCA) examination are widely used to evaluate the cognitive impairments needed for diagnosis. More comprehensive test arrays are necessary for high reliability of results, particularly in the earliest stages of the disease.
- Psychological tests for depression are employed, since depression can either be concurrent with AD, an early sign of cognitive impairment, or even the cause.
- When available as a diagnostic tool, SPECT and PET neuroimaging are used to confirm a diagnosis of Alzheimer's in conjunction with evaluations involving mental status examination. In a person already having dementia, SPECT appears to be superior in differentiating Alzheimer's disease from other possible causes, compared with the usual attempts employing mental testing and medical history analysis.

Diagnosis

PET scan of normal brain



PET scan of Alzheimer's Disease brain



Treatment - Pharmacologic

- Acetylcholinesterase Inhibitors
- NMDA receptor Antagonist
- Antidepressants/ Anxiolytics
- Cholinergic Agonists
- Inverse Agonist and Antagonist at Serotonin 5-HT_{2A}, 5HTC_{2C} receptors
- Antagonist at D₂ receptors and 5HT₂ receptors
- Antiepileptic drugs (various mech of action)

Treatment – Pharmacologic (FDA)

- **Aricept® (Donepezil)**
Used for mild, moderate and severe AD
- **Exelon® (Rivastigmine)**
Used for mild to moderate AD
Can get in pill form or as a skin patch.
- **Namenda (Memantine)**
Used for moderate to severe AD
Sometimes given with Aricept, Exelon
- **Namzaric (Memantine + Donepezil)**
Used for moderate to severe AD
Sometimes given with Aricept, Exelon
- **Razadyne (Galantamine)**
Used to prevent or slow symptoms, for mild to moderate AD
Can get in pill form or as a skin patch.

Used to delay or slow the symptoms of Alzheimer's Dementia (AD)

- Loses its effect over time
- Does not prevent or cure AD

Treatment – Pharmacologic

- **Lexapro (Escitalopram)**
- **Cymbalta (Duloxetine)**
- **Celexa (Citalopram)**

Used to reduce depression

- May take 4 to 6 weeks to work
- Sometimes used to help people get to sleep.

Treatment – Pharmacologic

Medication	Use
Nuplazid (Pimavanserin)	Used to reduce psychosis and agitation May take 4 to 6 weeks to work Improves slow wave sleep and secondarily memory
Seroquel (Quetiapine)	Used to reduce psychosis and agitation Works immediately but very sedating
Remeron (Mirtazepine)	Used to reduce depression and anxiety May take 4 to 6 weeks to work Sometimes used to help people to get to sleep

Treatment – Pharmacologic

Medication	Use
Depakote (Sodium Valproate)	Used to treat severe aggression Also used to treat depression and anxiety
Trileptal (Oxcarbazepine)	Used to treat severe aggression Also used to treat depression and anxiety
Tegretol (Carbamazepine)	Used to treat severe aggression Also used to treat depression and anxiety

Hallucinations and Delusions

Hallucinations:

Seeing, hearing, feeling things that are not really there

Illusions:

Seeing things that are really there, but thinking they are something else (e.g. coat on a coat rack looks like a person)

Delusions:

Strongly believing things that are not true (e.g. spouse cheating, children stealing, etc.)



Avoid

Avoid medications that block dopamine or acetylcholine

- Neuroleptics - antipsychotic medications.
- Cold medication – dextromethorphan interacts.
- Anti-emetics – prescribed to help with nausea and vomiting
- Older Parkinson's medications such as Artane

Treatment – Non-Pharmacologic (Diet)

Mediterranean diet:

- Plant based foods, such as fruits and vegetables, whole grains, legumes, and nuts
- Replacing butter with healthy fats such as olive oil and canola oil
- Using herbs and spices instead of salt to flavor food
- Limiting red meat to no more than a few times a month
- Eating fish and poultry at least twice per week
- Drinking red wine in moderation (Pinot Noir has highest concentration of resveratrol)

Ketogenic diet: allows brain to use alternative source of energy to glucose

- Low carb, moderate protein, high fat (No bread, pasta, rice, sugar, milk, corn, beans)

Treatment – Non-Pharmacologic (Exercise)

Routine exercise regimen

Sleep

- 8 hours of restful sleep per night that is not dependent upon sleep aids
 - Make sure sleep disorders are appropriately treated:
Sleep Apnea, REM Sleep Behavior D/O, Insomnia

Keeping brain active:

- delayed retirement/ volunteer work, board/ card games, luminosity.com, brain boot camp (UCLA Longevity Center), Adult daycare/ senior activity center or wellness centers
- Keep a daily routine – continuous/ repetitive orientation

Family support

Discussion

- Importance of early diagnosis and treatment
- Evaluation by neurologist trained in memory disorders AND movement disorders is KEY
- Be open minded about treatment options
- Multidisciplinary approach to care is most successful:
 - Neurologist
 - Psychiatry
 - Physical and Occupational Therapy
 - Nutritionists
 - Support Groups
 - Wellness Center activities
 - and lots of family support

Caregiver Coping Strategies

- Stay calm and be understanding.
- Be patient and flexible.
- Don't argue or try to convince.
- Acknowledge requests and respond to them.
- Try not to take behaviors personally.
- Remember: It's the disease talking, not your loved one.

Caregiver Support Programs / Services

- Inova Parkinson's and Movement Disorders Center
<https://ipmdc.org/care-partner-tips/>
- Insight Memory Care, Locations in Fairfax and Sterling
<https://www.insightmcc.org/>
- Regional Older Adults Facility Mental Health Support Team (RAFT)
<https://www.raftnorthernvirginia.org/Home>
- Alzheimer's Association: <https://www.alz.org/>
- Family Caregiver alliance: www.caregiver.org
- Each Other!

Movement Disorders Specialists



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**Sean Rogers,
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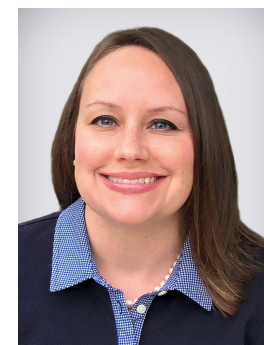
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www.ipmdc.org – programs and resources