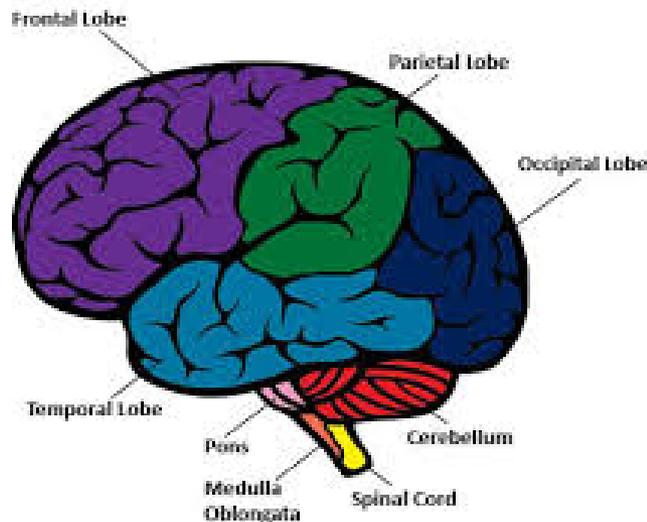
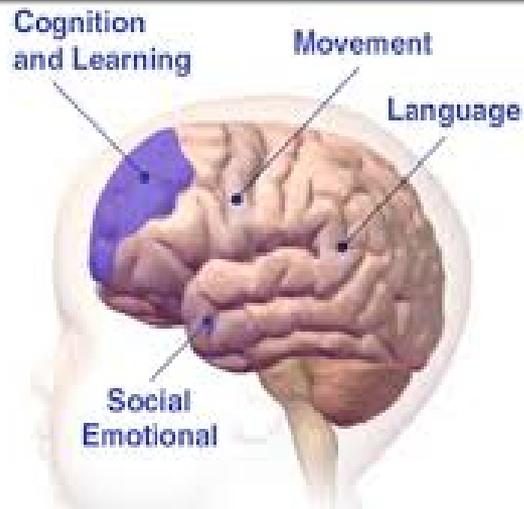


# Dementia & Parkinson's Disease

Presented by UIC College of Nursing  
Carla M. Tozer, DNP, APN/CNP



# Dementia & Parkinson's Disease



- Purpose & Objectives
- Background
- Types
- Stages
- Symptoms
- Diagnosis
- Management
- Resources
- References

# Purpose & Objectives

## PURPOSE

1. Learn about the different types of dementia.
2. Understand risk factors, signs and symptoms.
3. Learn about the association with Parkinson's disease.
4. Provide tips for interacting with participants.
5. Provide resources and references.

## OBJECTIVES

1. Identify the different types of Dementia.
2. Identify risk factors for the development of Dementia.
3. Identify ways to mitigate behavior problems in the individual with Dementia.
4. Identify the relationship between Dementia and Parkinson's disease.
5. Identify signs of Parkinson's disease.
6. Identify resources for individuals and families/support systems when confronted with the diagnosis of Dementia.

# Background

- What is “Cognition”



- The mental processes involved in gaining knowledge and comprehension.
  - thinking,
  - knowing,
  - remembering,
  - judging and
  - problem-solving.
- These are higher-level functions of the brain and encompass language, imagination, perception, and planning.

(Cherry, 2016)

# Background

- Take away:



- Cognitive functioning or Cognitive status is much more than how a person scores on the MMSE\*
- Memory loss is NOT the key indicator for Dementia

(Cockrell & Folstein, 1987)

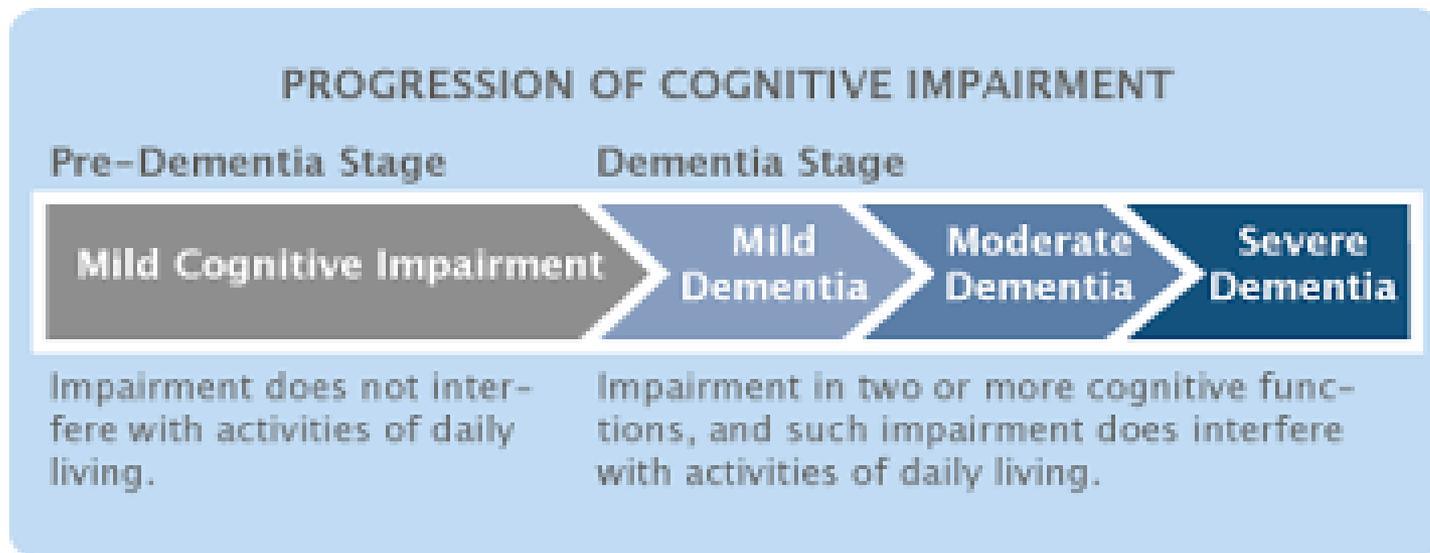
# Background

- Latest term:
  - “Neurocognitive Disorders”
    - An acquired cognitive decline in one or more cognitive domains:
      - The person’s senses loss
      - Observable by others
      - + neuropsychological tests
- Major neurocognitive disorder = Dementia

(Groholl, 2016)

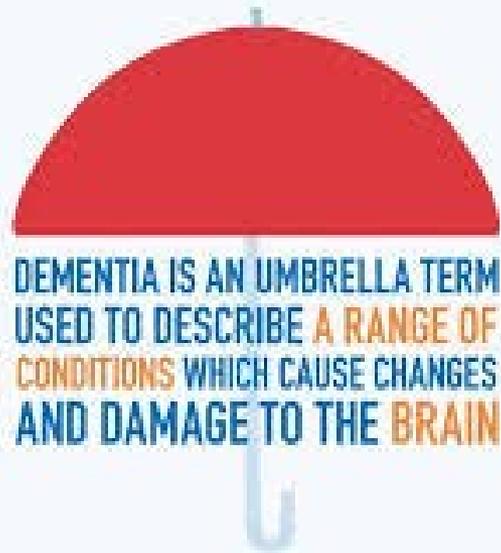
# Background

- Mild Cognitive Impairment: MCI
  - A disturbance in cognition **without** impairment in daily functioning.



# Background

- What is “Dementia”



- Major neurocognitive disorder:
  - **a group of symptoms;**
  - it is **NOT** a disease itself.
- Dementia:
  - Latin
    - “de” WITHOUT
    - “ment” from “mens” MIND

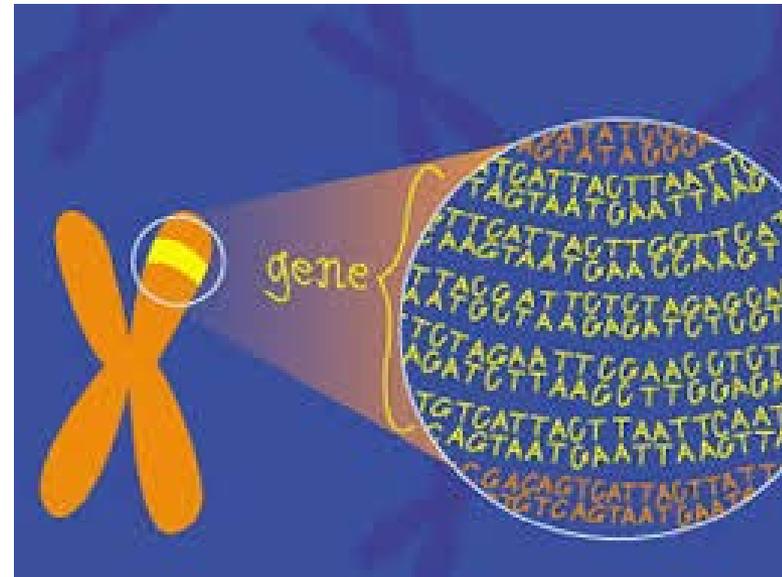
# Background



- Contributing Factors:
  - Degenerative Neurological diseases
  - Vascular disorders
  - TBI
  - Infections of the nervous system
  - Certain types of hydrocephalus
  - Unknown

# Background

- What about Genetics?
- Variants and Mutations



- Whether or not we develop a disease can depend on whether we smoke, exercise, have a healthy diet and so on, as well as the genes we were born with and how old we are.

(Alzheimer's Society, 2017)

# Background

- Contributing Factors:
  - Degenerative Neurological diseases
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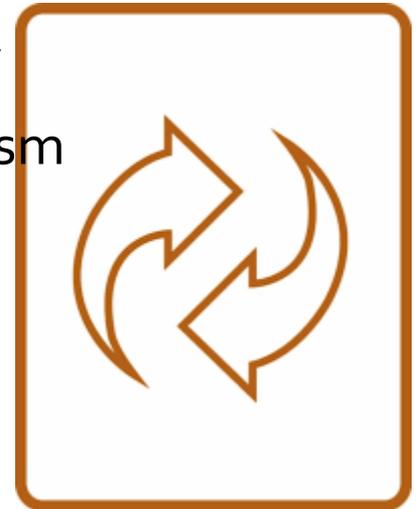
# Background

- Is there any good news if someone is starting to show signs of dementia?



# Background

- YES. Causes of dementia that **may be reversible** include:
- Alcohol or drug abuse
- Tumors
- Subdural hematomas, blood clots beneath the outer covering of the brain
- Normal-pressure hydrocephalus, a buildup of fluid in the brain
- Metabolic disorders such as a vitamin B12 deficiency
- Low levels of thyroid hormones, called hypothyroidism
- Low blood sugar, called hypoglycemia
- HIV-associated neurocognitive disorders (HAND)



# Background

- Partially manageable.
- Not reversible.
- Generally gets worse over time.
- Terminal: referral to hospice.



(Sekerak, 2014)

# Risk Factors

## YOU CAN CONTROL

- Heavy alcohol use
- Cardiovascular risk factors
- Depression
- Diabetes
- Smoking
- Sleep apnea

## UNABLE TO CONTROL

- **Age**
- Family history
- Down syndrome
- Mild cognitive impairment

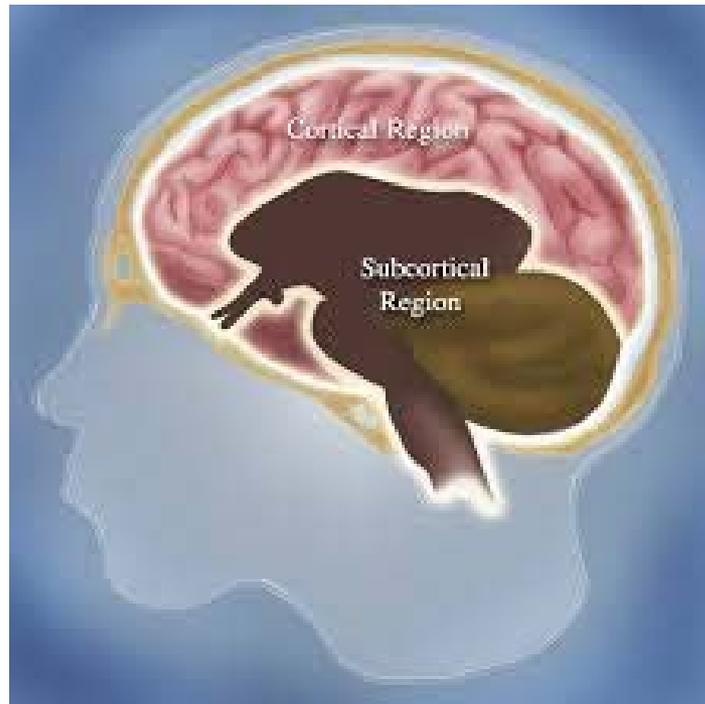
# Areas of the Brain

- Cortical

*(the grey matter)*

Memory

Language



- Subcortical

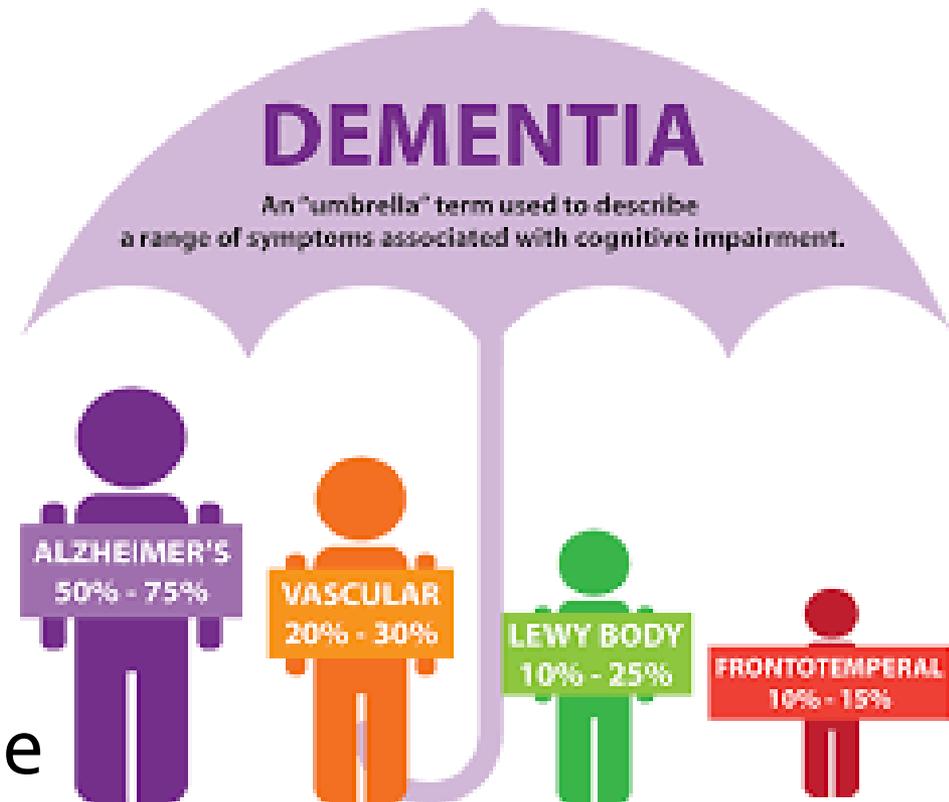
*(literally, below the cortex)*

Thinking, thought changes

Slowed motor skills

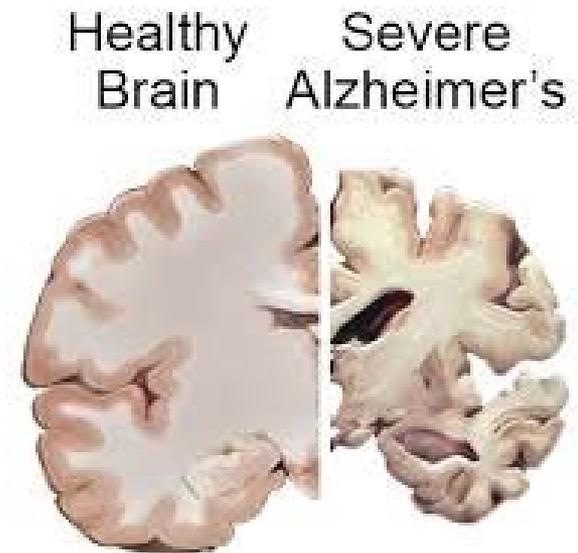
# Types of Dementia

- Alzheimer's
- Vascular
- Lewy Body
- Frontotemporal
- Dementia associated with Parkinson's disease



# Types

- Alzheimer's
  - Most common form of dementia.
  - Progressive terminal illness.
  - > age 65: 10-15%
  - > age 85: 45%
  - 80% of NH residents



(Durkin, 2013)

# Types

## ■ Alzheimer's



- Gradual onset and progressive decline over years. (average is 8 years, but progression may occur as short as 3 years or as long as 20 years)
- Alzheimer's disease usually causes a gradual decline in thinking abilities
  - NOTE: Short term memory loss occurs first and later long-term memory loss

# Types

## ■ Alzheimer's

- Must have deficits in at least 2 of the following areas of cognition
  - Memory, Orientation, Judgment and Problem Solving, Community Affairs, Home and Hobbies, Personal Care
- Eventually nearly all brain functions, including memory, movement, language, judgment, behavior, and abstract thinking are affected
- \*Early-onset form of the disease, usually linked to a specific gene defect, may appear as early as age 30

# Types

## ■ Vascular

- 2<sup>nd</sup> most common type of dementia
- Etiology:
  - CVA, Heart disease
- May also exist in the presence of Alzheimer's dementia (Mixed type dementia)



Blood supply to the brain



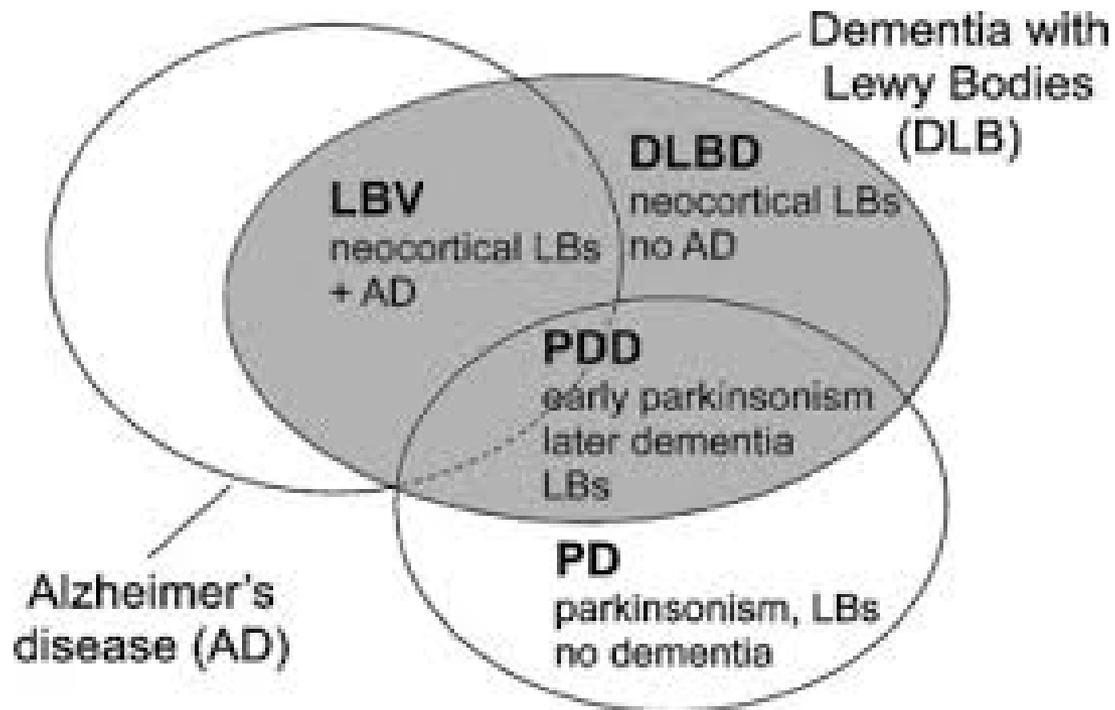
Lack of blood supply to the brain

# Types

## ■ Vascular

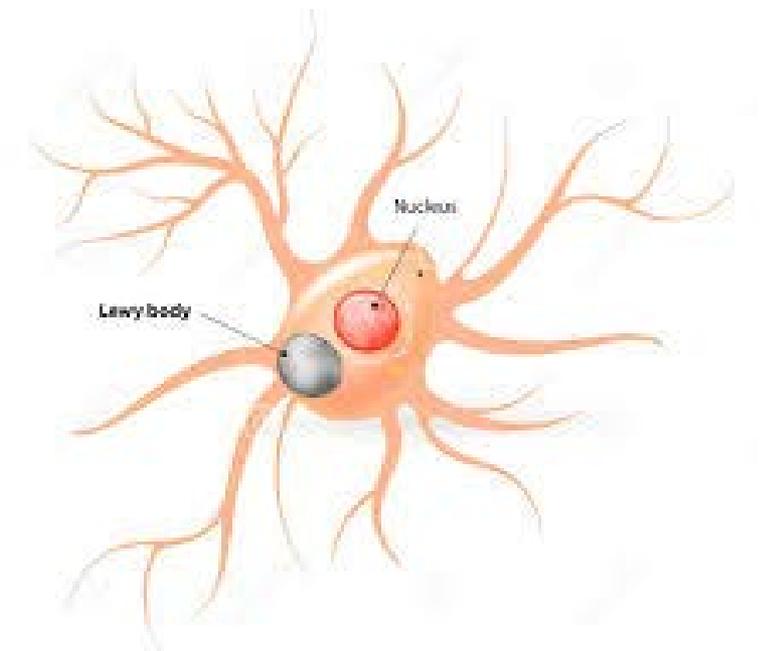
- People maintain their personality and normal levels of emotional responsiveness until the later stages of the disease.
- Sudden onset, slower course, more variable
- Focal neurologic signs
- Stepwise progression, “Patchy” loss of abilities
- Gait difficulties, urinary incontinence, Parkinsonian features
- Subcortical dementia (Slowing of thought, Apathy, depression)
- Wander at night

# Types



# Types

- Lewy Body
  - 2<sup>nd</sup> most common neurodegenerative dementia (Alzheimer's disease is the 1<sup>st</sup>)
  - Affects approx. 1.4 million people in the U.S.
  - Underdiagnosed
  - Umbrella term:
    - Parkinson's disease dementia
    - Dementia with Lewy bodies

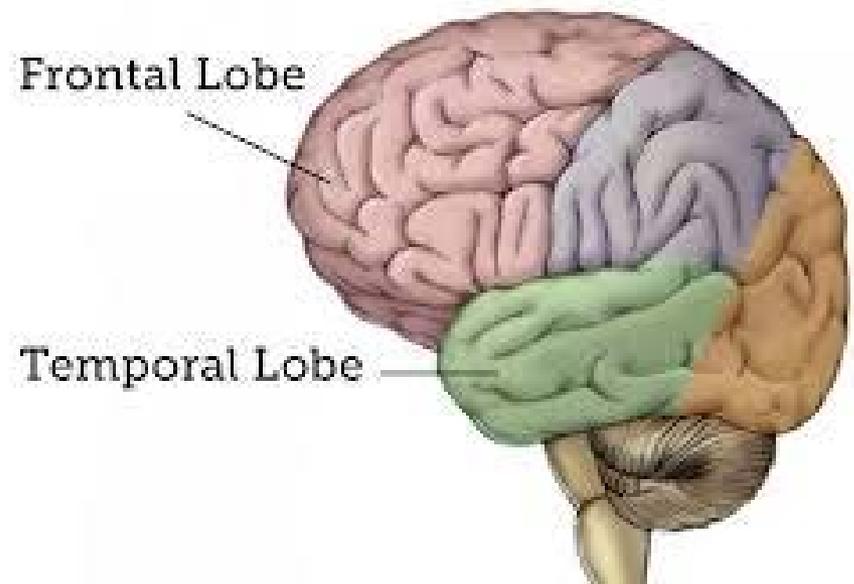
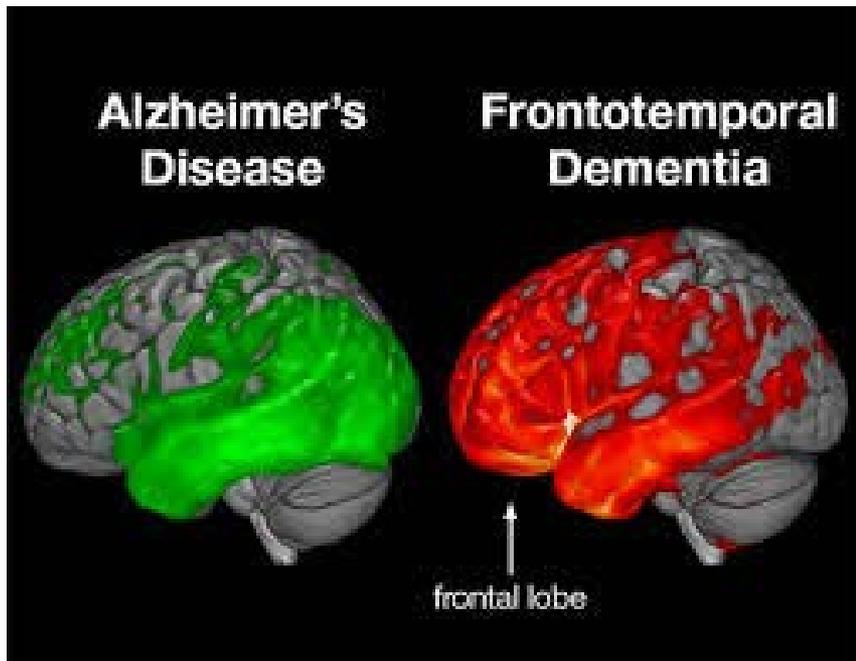


# Types

- Lewy Body
  - Onset typically age 50-85.
  - Men > Women
  - Duration: ~5-7 years (2-20yrs-depends)
  - Stages: Very difficult to quantify
    - Classic: Fluctuating levels of cognitive abilities, alertness and attention

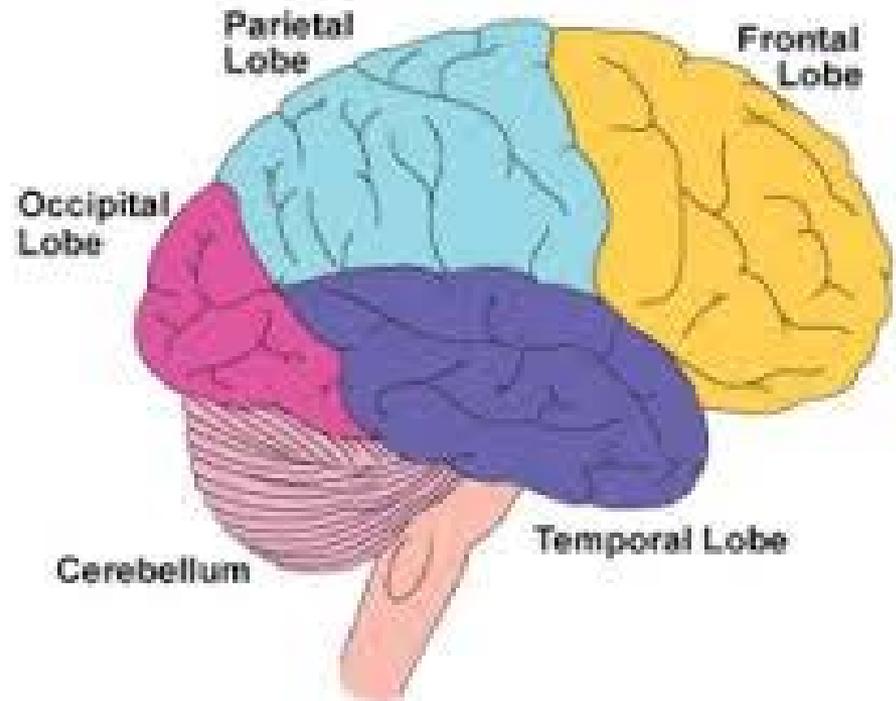
# Types

- Frontotemporal



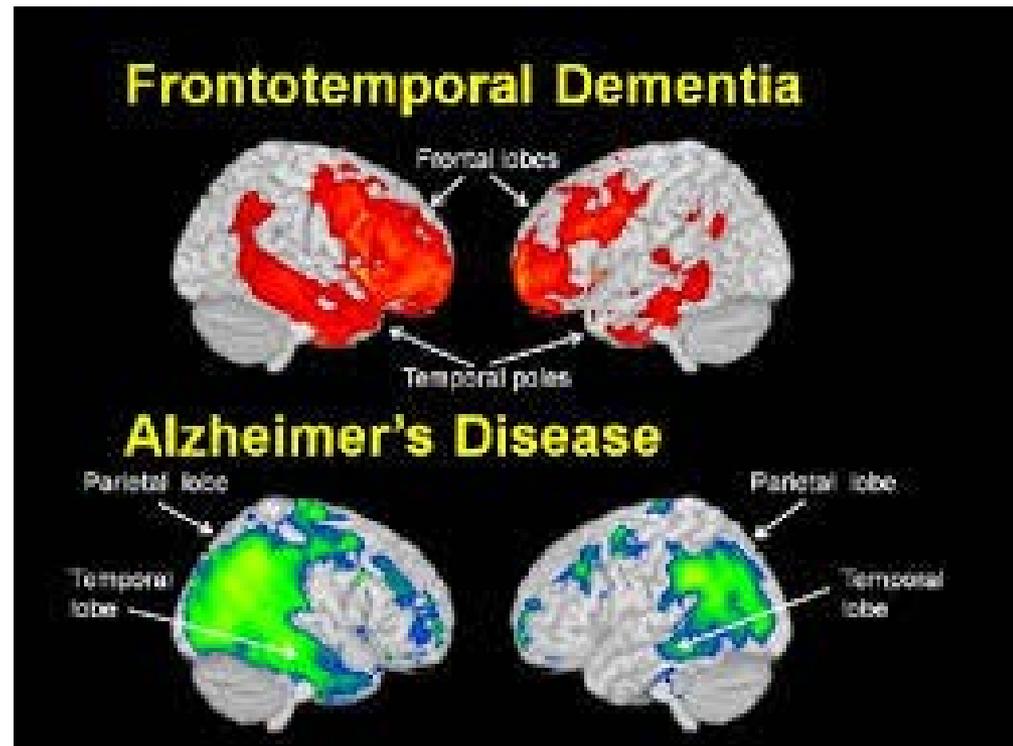
# Types

- Frontotemporal:
  - Younger age 40-45
  - Misdiagnosed as a Psychiatric condition or as Alzheimer's
  - Presentation varies



# Types

- Frontotemporal
  - Symptoms
    - Behavior changes
    - Speech and language problems
    - Movement disorders



# Types

- Dementia associated with Parkinson's Disease

- Lewy Body



- Decline in thinking and reasoning that develops in someone diagnosed with Parkinson's disease at least one year earlier.

# Types

## ■ Common Symptoms of Dementia w/Parkinson's:

- Memory changes
- Concentration declines
- Decreased judgment
- Muffled speech
- Visual hallucinations
- Delusions/paranoia
- Depression
- Irritability and Anxiety
- Sleep disturbances



# Types

## ■ Parkinson's Disease

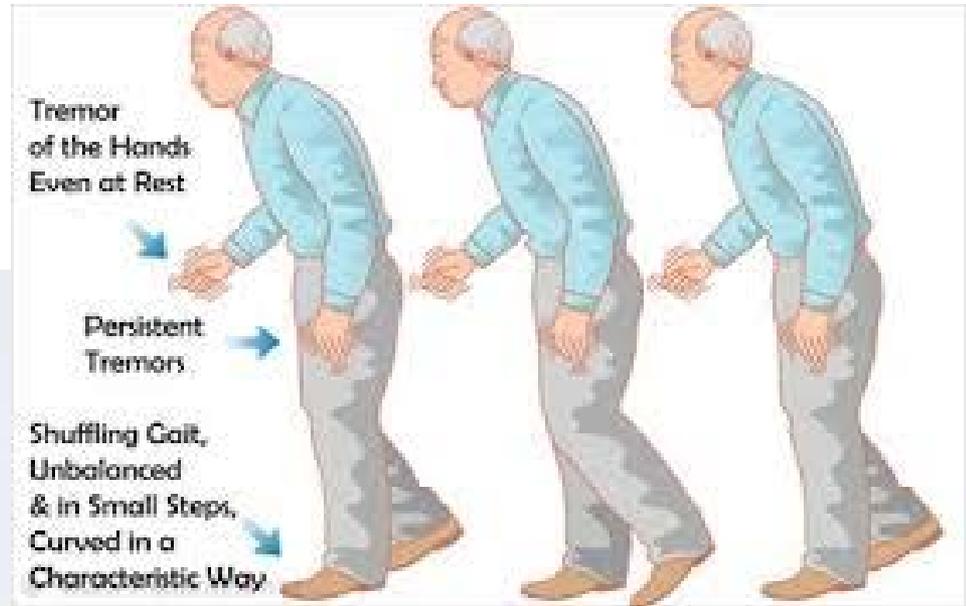
May cause stiffness and tremors



Normal midbrain



Parkinson's midbrain



# Types

- Etiology of Parkinson's Disease:

- Genetics
- Environmental triggers
- The presence of Lewy Bodies

- Risk Factors for Parkinson's Disease:

- Age
- Heredity
- Sex (male)
- Exposure to toxins

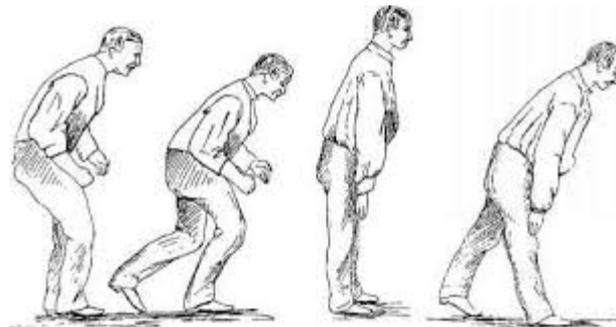
# Types

- Associated problems for Parkinson's patients:

- Thinking difficulties
- Swallow problems
- Sleep problems
- Bladder problems
- Constipation
- Gait changes

- Also:

- Blood pressure changes
  - Sudden drop sit->stand
- Smell dysfunction
- Fatigue
- Pain
- Sexual dysfunction



# Stages of Dementia

## Global Deterioration Scale for Assessment of Primary Degenerative Dementia (GDS) (also known as the Reisberg Scale)

Diagnosis	Stage	Signs and Symptoms
No Dementia	<b>Stage 1: No Cognitive Decline</b>	In this stage the person functions normally, has no memory loss, and is mentally healthy. People with NO dementia would be considered to be in Stage 1.
No Dementia	<b>Stage 2: Very Mild Cognitive Decline</b>	This stage is used to describe normal forgetfulness associated with aging; for example, forgetfulness of names and where familiar objects were left. Symptoms are not evident to loved ones or the physician.
No Dementia	<b>Stage 3: Mild Cognitive Decline</b>	This stage includes increased forgetfulness, slight difficulty concentrating, decreased work performance. People may get lost more often or have difficulty finding the right words. At this stage, a person's loved ones will begin to notice a cognitive decline. Average duration: 7 years before onset of dementia

# Stages of Dementia

Early-stage

**Stage 4:  
Moderate Cognitive Decline**

This stage includes difficulty concentrating, decreased memory of recent events, and difficulties managing finances or traveling alone to new locations. People have trouble completing complex tasks efficiently or accurately and may be in denial about their symptoms. They may also start withdrawing from family or friends, because socialization becomes difficult. At this stage a physician can detect clear cognitive problems during a patient interview and exam. Average duration: 2 years

Mid-Stage

**Stage 5:  
Moderately Severe Cognitive Decline**

People in this stage have major memory deficiencies and need some assistance to complete their daily activities (dressing, bathing, preparing meals). Memory loss is more prominent and may include major relevant aspects of current lives; for example, people may not remember their address or phone number and may not know the time or day or where they are. Average duration: 1.5 years

# Stages of Dementia

Mid-Stage

**Stage 6:  
Severe Cognitive Decline (Middle  
Dementia)**

People in Stage 6 require extensive assistance to carry out daily activities. They start to forget names of close family members and have little memory of recent events. Many people can remember only some details of earlier life. They also have difficulty counting down from 10 and finishing tasks. Incontinence (loss of bladder or bowel control) is a problem in this stage. Ability to speak declines. Personality changes, such as delusions (believing something to be true that is not), compulsions (repeating a simple behavior, such as cleaning), or anxiety and agitation may occur. Average duration: 2.5 years

Late-Stage

**Stage 7:  
Very Severe Cognitive Decline (Late  
Dementia)**

People in this stage have essentially no ability to speak or communicate. They require assistance with most activities (e.g., using the toilet, eating). They often lose psychomotor skills, for example, the ability to walk. Average duration: 2.5 years.  
(Reisberg, et al., 1982; DeLeon and Reisberg, 1999)

# Symptoms

- Symptoms of dementia
  - Requires a medical diagnosis
  - Cognitive
  - Behavioral
  - Mood
  - Psychological
  - Muscular
  - Others

# Making the Diagnosis

- **Diagnosing dementia**

- Physical exam
- Neurological exam
- Patient and Family interviews
- Neuropsychological tests
- Mental status tests
- Brain imaging
- Blood tests
- Other tests

\*Conclusive diagnosis: postmortem autopsy

# Making the Diagnosis

- Tips for the diagnosis work-up:
  - Make a list of symptoms
  - Provide key personal information such as stressors and life changes
  - Bring all medications in prescription bottles/package
  - Have someone with you
  - Think of questions to ask the doctor:

# Management

- Management

- Medications



- Other treatments, management, approaches



# Management

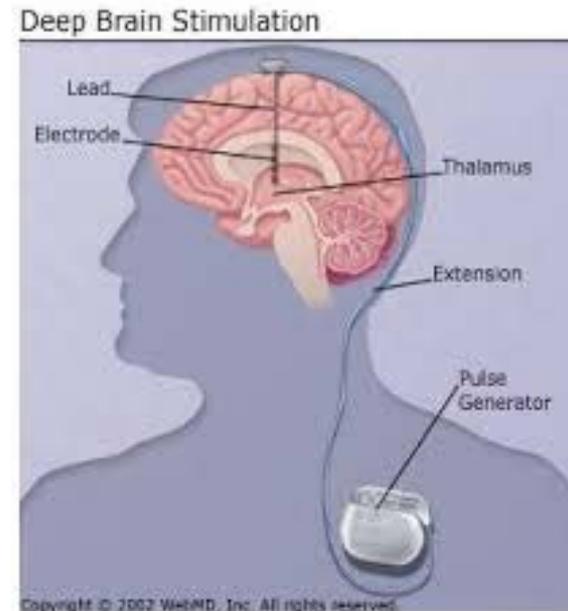
- Medications for Dementia
  - Cholinesterase inhibitors
    - Aricept
    - Exelon
  - Memantine/ Namenda
  - Symptom management:
    - Antidepressants
    - Antipsychotics- off-label

# Management

- Medications/Treatment for Parkinson's
  - Dopamine replacement: Levodopa, Carbidopa
  - Synthetic dopamine (dopamine agonists)
    - Mirapex, Requip
  - MAO-B inhibitors (Comtan)
  - Anticholinergics (Cogentin)
  - Amantadine

# Management

- Other treatment approaches Parkinson's:
  - Deep brain stimulation
  - Aerobic exercise
  - Physical therapy:  
balance and stretch
  - Speech therapy:  
speech and swallow difficulties



# Management

- Dementia management approaches:
  - OT
  - Modify environment
  - Modify tasks
  - Alternative medicine
  - Music therapy; Art therapy; Pet therapy; Massage therapy; Aromatherapy

# Management

## Management for Dementia and Parkinson's

- Regular cardiovascular exercise may help improve mood and thinking skills.
- Home safety evaluation.
- Avoiding events or activities that trigger the undesirable behavior
- Anticipating needs and meeting them promptly
- Maintaining a calm environment
- Providing structured routines
- Simplifying daily tasks
- Using humor

Transforming the Alzheimer experience with a **FREE Mobile App:**

## ***Dementia Guide Expert for families***



In 2013, an estimated 5 million Americans aged 65 and older had Alzheimer's Disease. By 2050, the prevalence may triple !

**Goal:** educate students, clinicians, older adults, families/caregivers on dementia

**Developed by:** ENGAGE-IL Co-Directors: Dr. Valerie Gruss (CON), Dr. Memoona Hasnain (COM), along with Dr. Micha   owski, (COP)

Since launching in January 2017, the Dementia Guide Expert for families has been viewed/downloaded thousands of times in 5 different countries



**Download the FREE App today !!**

***Dementia Guide Expert for families***

Available for iOS on Apple iTunes and  
for Android on Google Play

Visit [engageil.com](http://engageil.com)  
to learn about this  
multifaceted  
program aimed at  
improving the  
health of older  
adults!



# Resources

- Videos to watch

- Michael J. Fox Foundation: Parkinson's Disease

<https://www.michaeljfox.org/understanding-parkinsons/living-with-pd/topic.php?symptoms>

- TED talks on Dementia

[https://www.ted.com/playlists/443/the\\_fight\\_a  
gainst\\_alzheimer\\_s](https://www.ted.com/playlists/443/the_fight_against_alzheimer_s)

# Resources

- **Federal Government**
- National Institute on Aging  
Alzheimer's Disease Education and Referral (ADEAR) Center  
1-800-438-4380 (toll-free)  
[adear@nia.nih.gov](mailto:adear@nia.nih.gov)  
[www.nia.nih.gov/alzheimers](http://www.nia.nih.gov/alzheimers)
- National Institute of Neurological Disorders and Stroke  
1-800-352-9424 (toll-free)  
[www.ninds.nih.gov](http://www.ninds.nih.gov)
- MedlinePlus  
National Library of Medicine  
[www.medlineplus.gov](http://www.medlineplus.gov)[www.medlineplus.gov/spanish](http://www.medlineplus.gov/spanish)

# Resources

- **General Information**
- Lewy Body Dementia Association  
1-800-539-9767 (toll-free LBD Caregiver Link)  
1-404-935-6444 (national office)  
[lbd@lbd.org](mailto:lbd@lbd.org)  
[www.lbd.org](http://www.lbd.org)
- Michael J. Fox Foundation for Parkinson's Research  
1-800-708-7644 (toll-free)  
[www.michaeljfox.org](http://www.michaeljfox.org)
- National Parkinson Foundation  
1-800-473-4636 (toll-free helpline)  
[contact@parkinson.org](mailto:contact@parkinson.org)  
[www.parkinson.org](http://www.parkinson.org)
- Parkinson's Disease Foundation  
1-800-457-6676 (toll-free helpline)  
[info@pdf.org](mailto:info@pdf.org)  
[www.pdf.org](http://www.pdf.org)

# Resources

- **Support Services and Resources**
- **Eldercare Locator** This service of the U.S. Administration on Aging connects the public to community services for older adults and their families.  
1-800-677-1116 (toll-free)  
[www.eldercare.gov](http://www.eldercare.gov)
- **Family Caregiver Alliance** The Alliance provides information and referral, education, and other services to caregivers of people with chronic, disabling health conditions.  
1-800-445-8106 (toll-free)  
[info@caregiver.org](mailto:info@caregiver.org)  
[www.caregiver.org](http://www.caregiver.org)

# Resources

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<https://www.lbda.org/content/10-things-you-should-know-about-lbd>

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- Webmd: <http://www.webmd.com/brain/types-dementia#1>



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