



Memory and Parkinson's Disease

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About us...

The Layton Aging & Alzheimer's Disease Center at OHSU is one of 30 NIH Alzheimer's Disease Centers in the United States and the only one of its kind in Oregon.

The Layton Center conducts studies of promising treatments, technologies for patient support, genetics, neuroimaging and pathology.

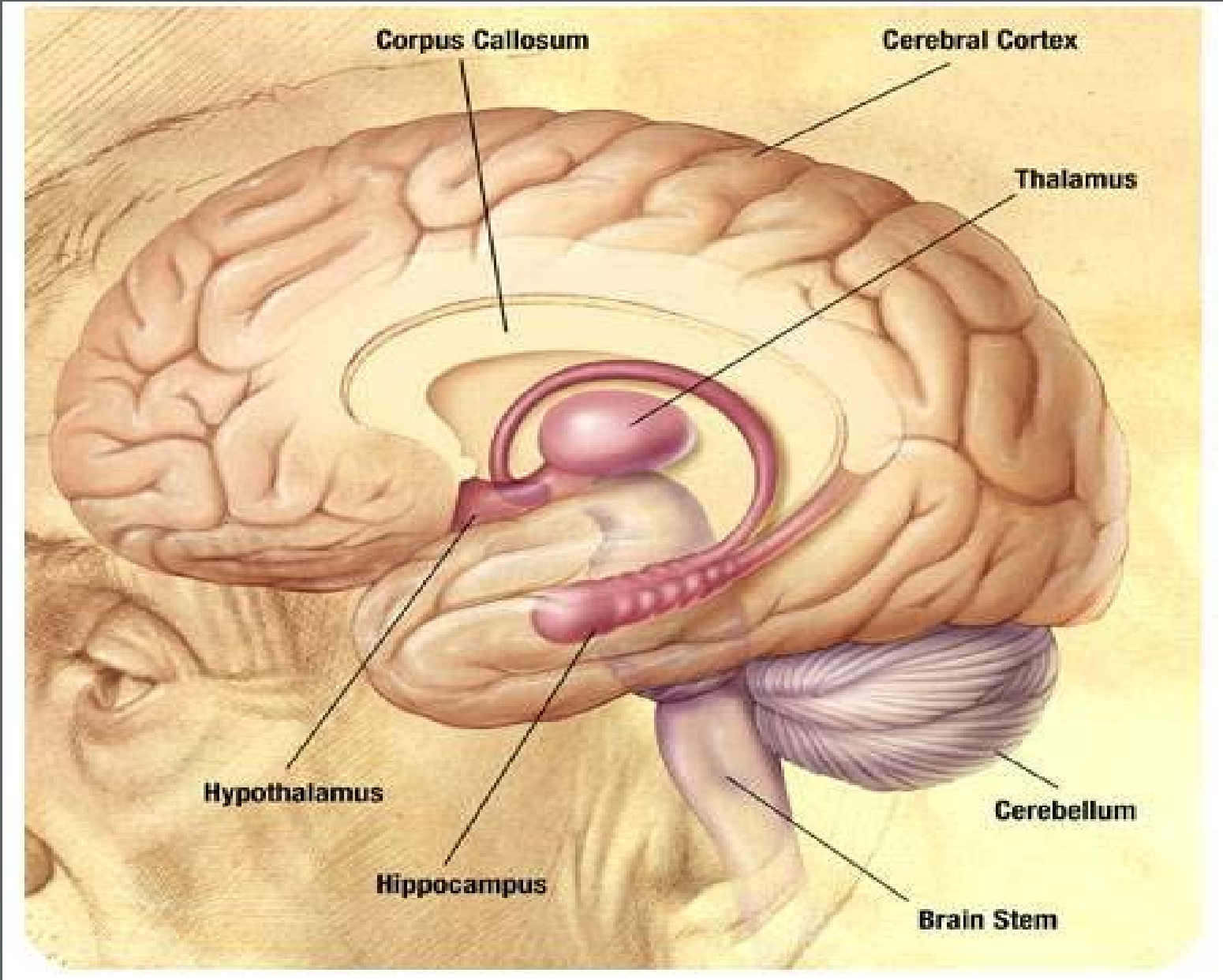
Along with research, we also provide evaluation and treatment for persons with dementia and their family members.

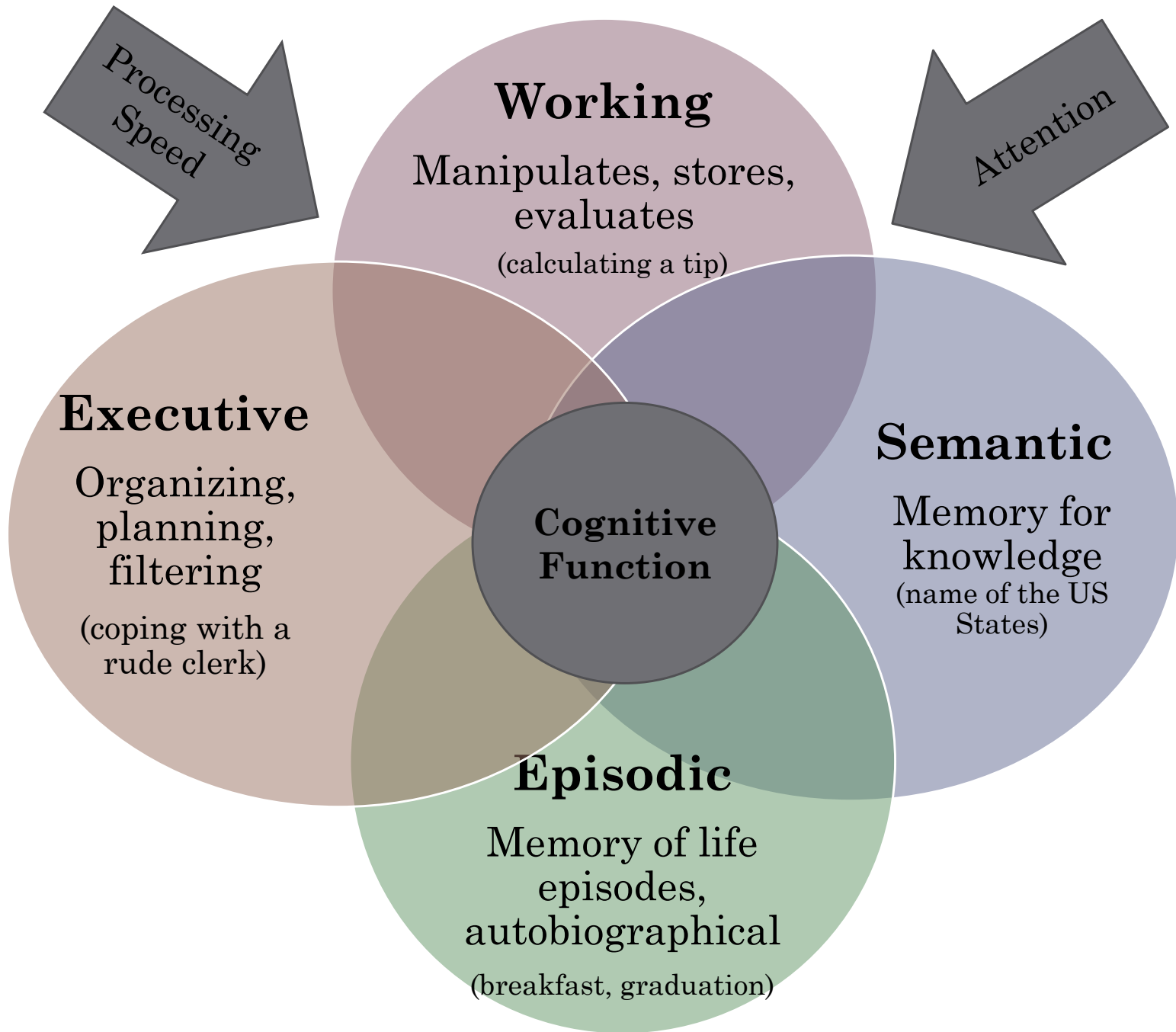
Outline

- Overview of normal aging
- Cognitive function
- Normal vs. Abnormal
- Memory and Parkinson's disease

Age-related Changes

- What is normal?

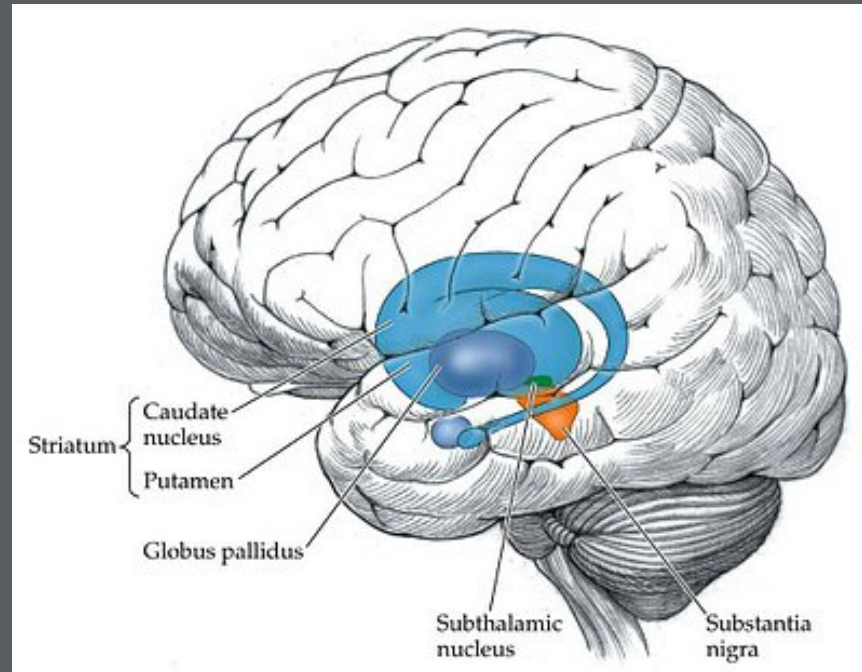




What is abnormal?

Parkinson's Disease

- There is a loss of dopamine producing neurons deep in the brain.
- PD motor signs emerge after 70-80% loss of dopamine producing cells.

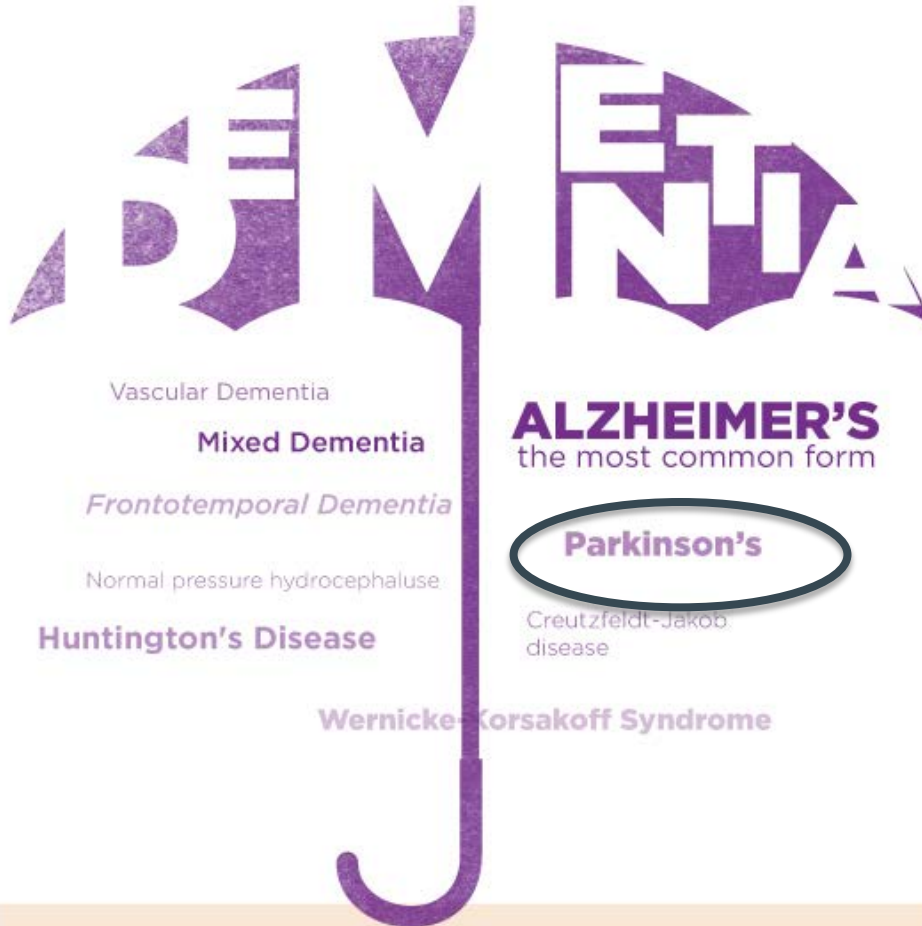


Parkinson's Disease Dementia

- Up to 50% of those with PD develop dementia
- Occurs in the later stages of PD
- Mild cognitive impairment may occur earlier
- Tends to affect executive function first



What's the difference between **ALZHEIMER'S** and **DEMENTIA**?



Dementia is an umbrella term that describes a wide range of symptoms including memory loss and mental decline. Alzheimer's is the most common form of dementia, but there are many others.

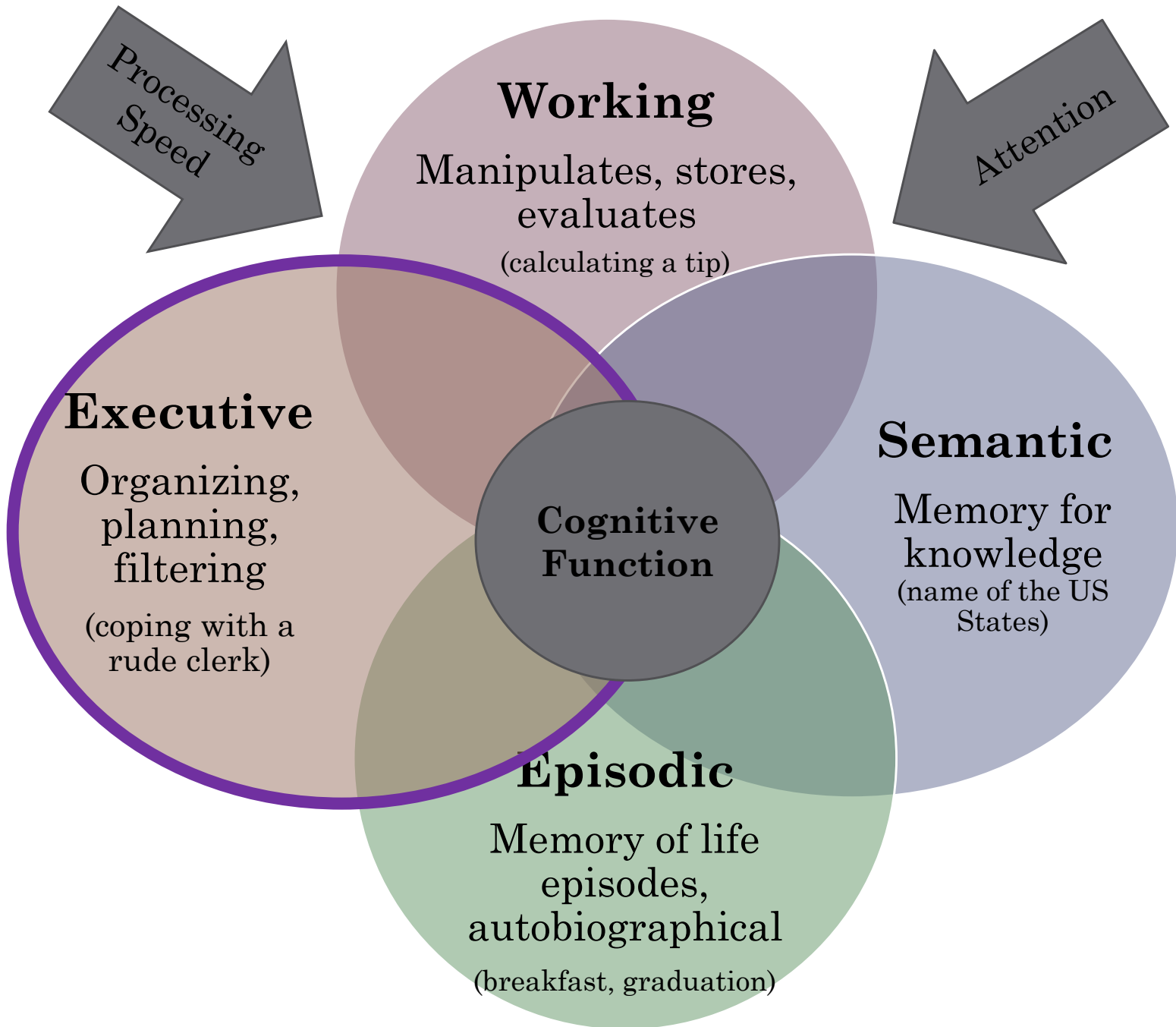
Learn more at alz.org/relateddementias

Lewy Body Dementia



PD Dementia vs. Lewy Body Dementia

	PD Dementia	LBD
1st Symptom	Movement disorder	Cognitive Disorder or neuropsych symptoms
2nd Symptoms	Cognitive disorder with neuropsych symptoms	Movement disorder



Treatment for PD Dementia

- No Cure
- Medications: Rivastigmine
 - Increases choline in the brain
 - Can help with behavior, attention and hallucinations
 - FDA approved for PDD



What does this mean? Should I worry?

Psychological Changes

Personality typically remains stable over time:

- Neuroticism, extroversion, openness, agreeableness, conscientiousness (NEO Personality Inventory).
- When personality does change, pay attention
 - Depression
 - Dementia
 - Delirium
 - Substance abuse

Concerning Changes

Poor judgement

Inability to manage a budget

Losing track of the season

Difficulty having a conversation

Misplacing things and being unable to retrace your steps

Typical Changes

Making a bad decision once in a while

Missing a monthly payment

Forgetting what day it is, but remembering later

Sometimes forgetting what word to use

Losing things from time to time

Review

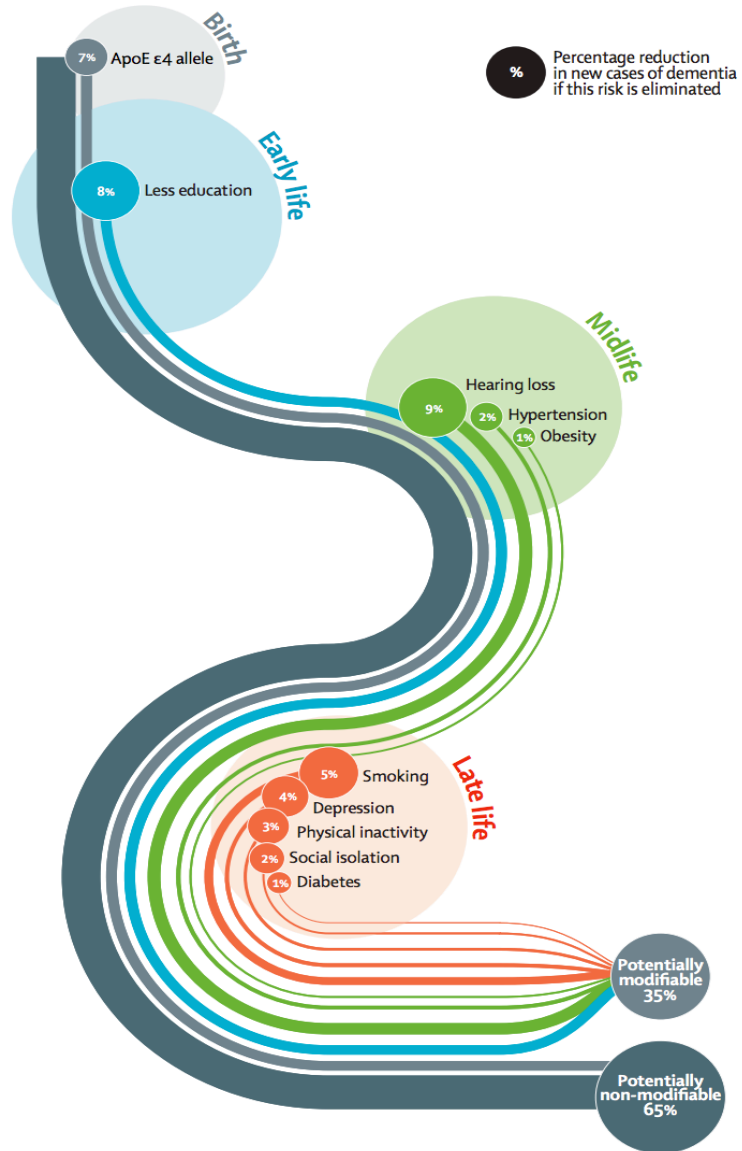
- Some changes are normal: Slower processing speed, occasional word-finding difficulties, losing the keys now and then
- Worry when you see:
 - Personality change
 - Functional change
 - Worried family

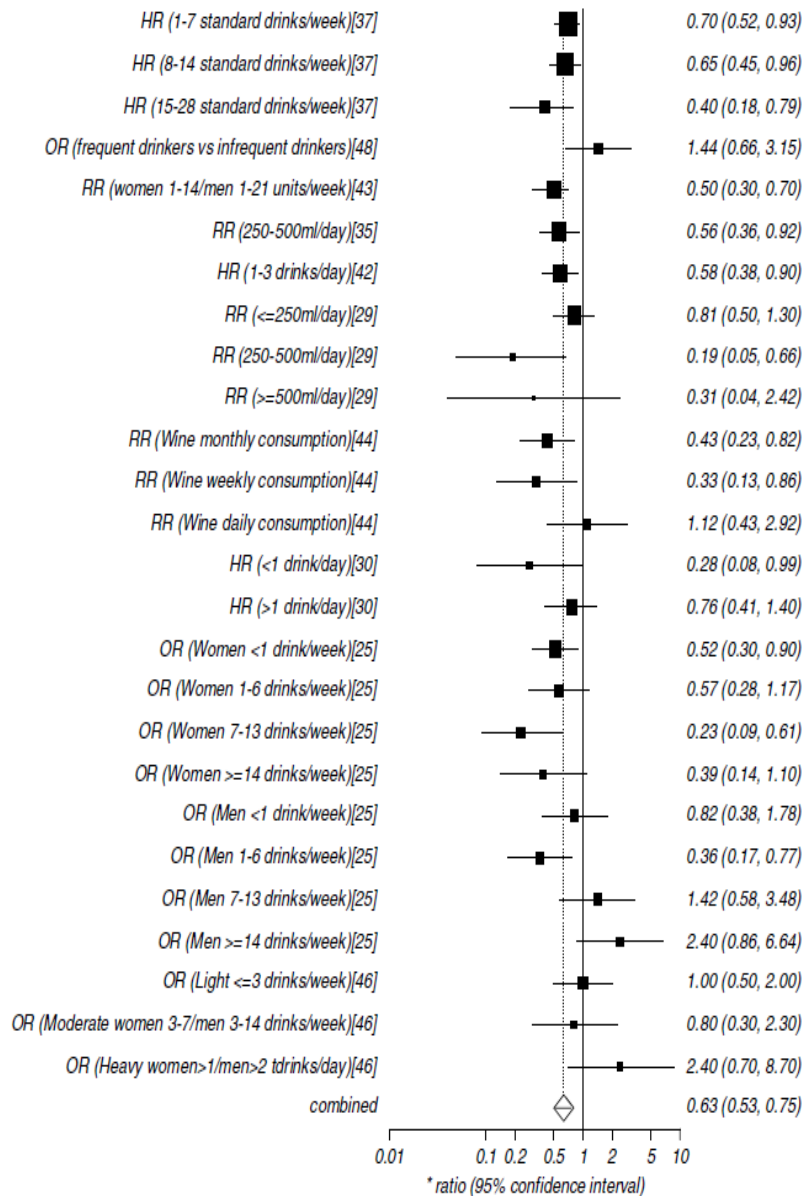
Practical First Steps

- Substance use
- Hearing
- Vision
- Exercise

Risk factors for dementia

The Lancet Commission presents a new life-course model showing potentially modifiable, and non-modifiable, risk factors for dementia.





Alcohol associated with decreased risk Alcohol associated with increased risk



Alcohol intake and dementia

Peters, et al. Age and Ageing 2008

Cognition and Hearing

- Greater hearing loss associated with lower cognitive scores
- Reduction in cognitive performance associated with a 25dB loss was equivalent to the reduction associated with an age difference of 7 years.
- Hearing aid use was positively associated with cognitive functioning

Pocket Talker



Mediterranean Diet Pyramid

A contemporary approach to delicious, healthy eating

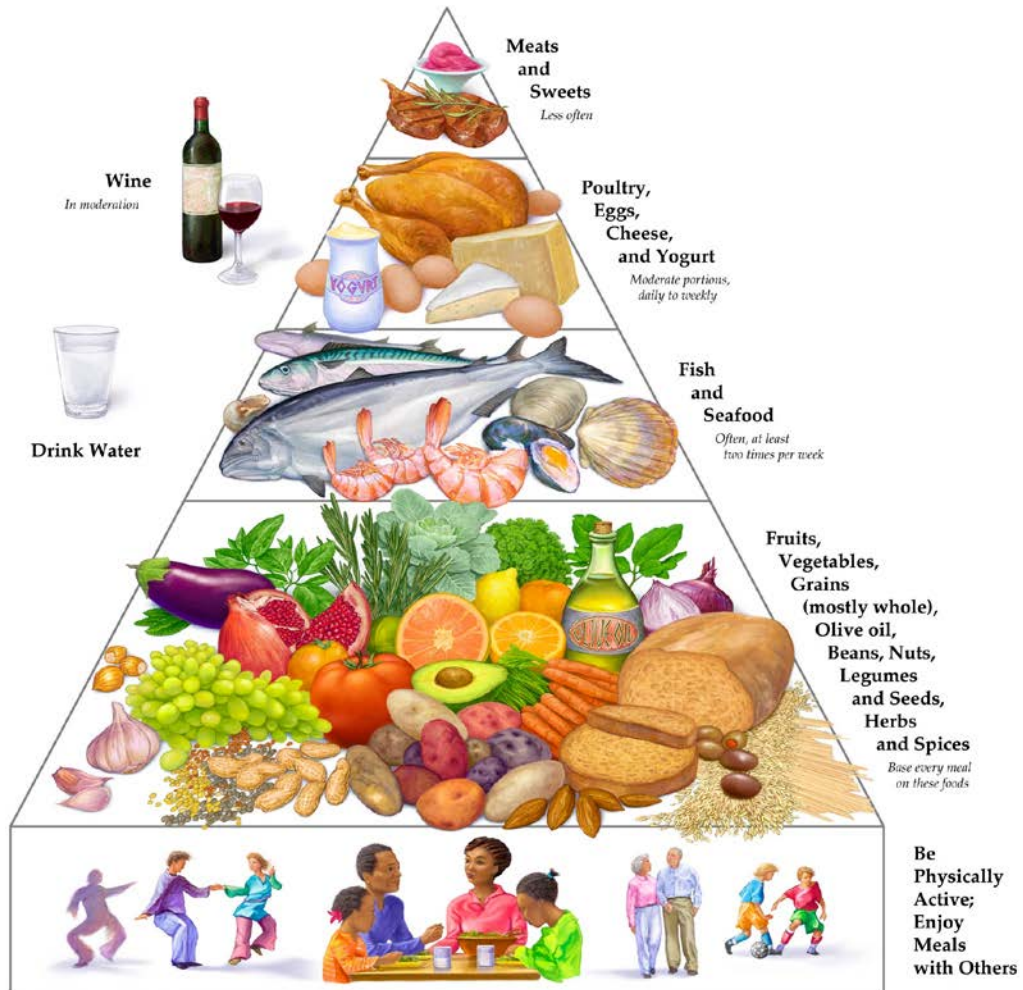
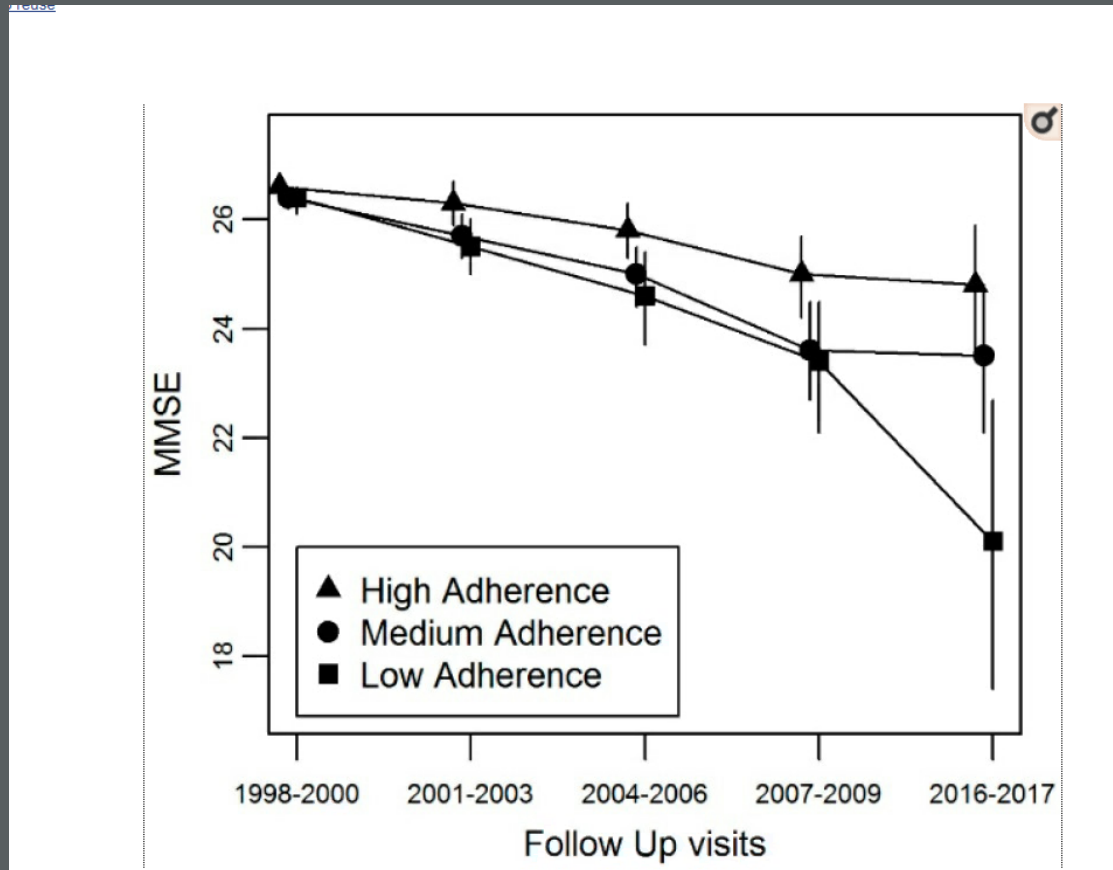


Illustration by George Middleton

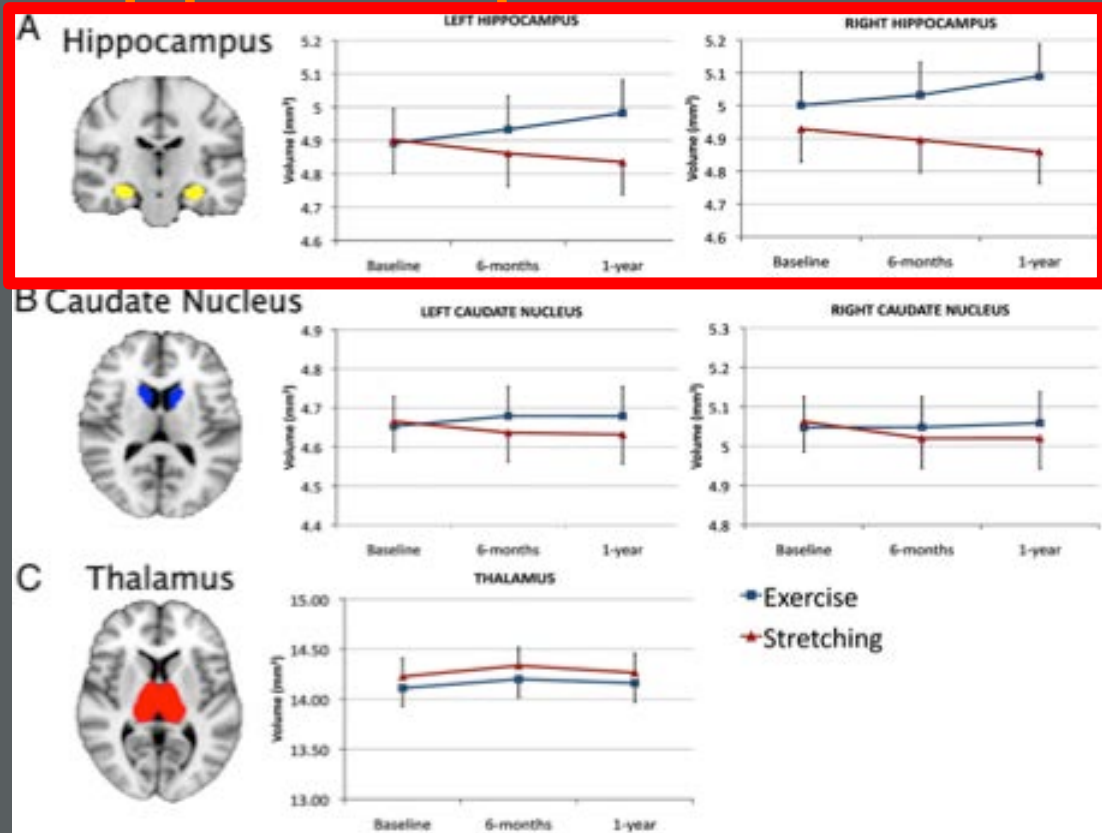
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Mediterranean Diet



RTC: Exercise and hippocampal volume



120 older adults randomized to:

1. Aerobic exercise group: moderate intensity 3 days/week (walking x 40 minutes)
2. Stretching control group

Exercise: Tai Chi

Meta-analysis: 28 studies, 2553 participants

Tai Chi improves cognitive function in persons with and without without cognitive impairment

- ✓ Moderate aerobic activity
- ✓ Agility and mobility
- ✓ Learning and memorization
- ✓ Sustained attention
- ✓ Mediation and relaxation
- ✓ Social activity

Leisure Activity

- 124 participants over 5 years
- “Among leisure activities, reading, playing board games, playing musical instruments, and dancing were associated with a reduced risk of dementia...”

Verghese 2013



Piano. Push. Play



Sleep

- Risk of mild cognitive impairment
 - Less than 6.5 hours of sleep/night
 - Excessive daytime sleepiness
- Limited risk
 - Insomnia
- Protective
 - Daytime naps



Sleep in Older Adults

- Quite variable
- More “frayed,” fragmented
- Older adults report feeling more sleepy during the day.
- More REM sleep
- Feel less rested
- Circadian rhythm shifts



Breathing Disorders and Cognitive Impairment

Treatment with CPAP can improve cognition



“Safer” Sleep Medications?

“The use of medications with anticholinergic activity increases the cumulative risk of cognitive impairment and mortality.” (Fox, 2011, *Journal of the American Geriatrics Society*)



Review

- Some memory changes are normal with aging
- Some are not
- If you are concerned, make an appointment for an evaluation
- If you are not concerned, listen to your friends and family
- Take action to preserve your memory and your health

Help protect your memory:

- Exercise! 40 minutes, 3-4 times/week
- Tai Chi, ballet, juggling
- Eat fruits and vegetables
- Avoid smoking
- Treat hearing loss (even minor)
- Assess and treat sleep concerns
- Spend enjoyable time with family and friends

Myth

Your doctor can predict your future. Many people with PD ask their doctor to predict their prognosis.

Reality

PD is highly variable from person to person. Even a PD expert has no way of knowing what the future holds for an individual with PD.

TIP: You can help to change your future.





Thank You