Aging What It Is and What It Is Not

Maximilian Fuhrmann, PhD, ABPP
Clinical Psychologist
Gerontologist

• Maximilian E. Fuentes Fuhrmann PhD, ABPP is a licensed clinical psychologist with extensive experience in the assessment and psychotherapeutic treatment of older adults. In 2016, he was credentialled by the American Board of Professional Psychology (ABPP) in their new area of geropsychology. He received his PhD from the renowned Clinical-Aging Psychology program at USC. For over 30 years, he has maintained a private practice in Southern California, specializing in geriatrics. For older adults, he provides screenings and psychotherapy for depression and anxiety. He offers counseling and referrals to adult children who struggle to care for their elderly parents and relatives.

In 2022, he co-authored, with Jeff Shevlowitz, Pandemic Schmandemic, describing the incredible resilience the seniors are showing in the face of the pandemic. In 2006, he also co-authored, with Jeff Shevlowitz, Sagacity: What I Learned from My Elderly Psychotherapy Clients. In 2014, he co-authored Lessons Learned on the Path to Filial Maturity with Brynn Craffey, which addresses how adult children struggle to help their elderly parents, especially when the parents identify as gay, lesbian or transgender. He hopes to turn his podcast **Age Well with Dr. Max,** available on YouTube, to a broader mainstream television audience. He has recent publications in Authority, Next Avenue, Hitched & Divorced magazines. He has been interviewed on radio/podcasts Vegas Never Sleeps, The Brain and Lee Show, Dr. Health Radio with David Snow and Searching for Integrity.

To access free publications and podcasts please see

educational website: www.agewelldrmax.com

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Facts on Aging Quiz

What do you believe you already know?

Facts on Aging Quiz

True or False?
The terms “old,” “older” & “aged” refer to people over 65 years of age.

TRUE 1. All five senses tend to decline in old age.

FALSE 2. The prevalence of depression and anxiety increase with age.

TRUE 3. Many health symptoms are related to disuse in later life not aging.

TRUE 4.Reaction time decreases by almost 3 seconds from age 20 to 65. .

FALSE 5. It takes less time for a person to learn something new in later life.

Adapted from : Palmore, E.B. (2013). Ageism: Comes of age, *Gerontologist, 43*(3): 418-420.

“Normal” Biological Aging Changes by Decade

40s

- Body burns 120 fewer calories a day than at age 30
- Decrease in height begins - may shrink 1/16th of an inch a year
- Farsightedness may begin? TV changed this!

50s

- Menopause and andropause decrease sex hormone levels
- Lessening ability to see contrast, in dim light or glare
- Sarcopenia is evident
- Vulnerability to illness is heightened

60s

- Decrease in hearing consonants and other high frequency sounds
- Pancreas is less efficient, blood sugar levels may rise
- Wear and tear of cartilage leads to stiffening of joints
- Skin can become less elastic, dryer and thinner

Stefanacci, R.G. (2024). Changes in the body with aging. Merck Manual
https:/www.merckmanuals.com/professional

“Normal” Biological Aging Changes by Decade

70s
- Blood pressure may be 20-25% higher than in the 20s
- Reaction time is 3 seconds slower than in the 20s
- Short term memory storage requires more attention
- Sweat glands shrink and thermoregulation is not as efficient

80s
- Bone mass in hips and upper legs declines contributing to fractures
- 50% may develop Alzheimer’s Disease
- Heat rate at maximum exertion is 25% slower than at age 20
- We continue to become more like ourselves

90s -100s-110s-120s?
- Mild disposition, tranquil character
- Remain physically and mentally active
- Take 1-2 naps with 4-6 hours of sleep at night
- Stay engaged in outside world

Stefanacci, R.G. (2024). Changes in the body with aging. Merck Manual https:/www.merckmanuals.com/professional

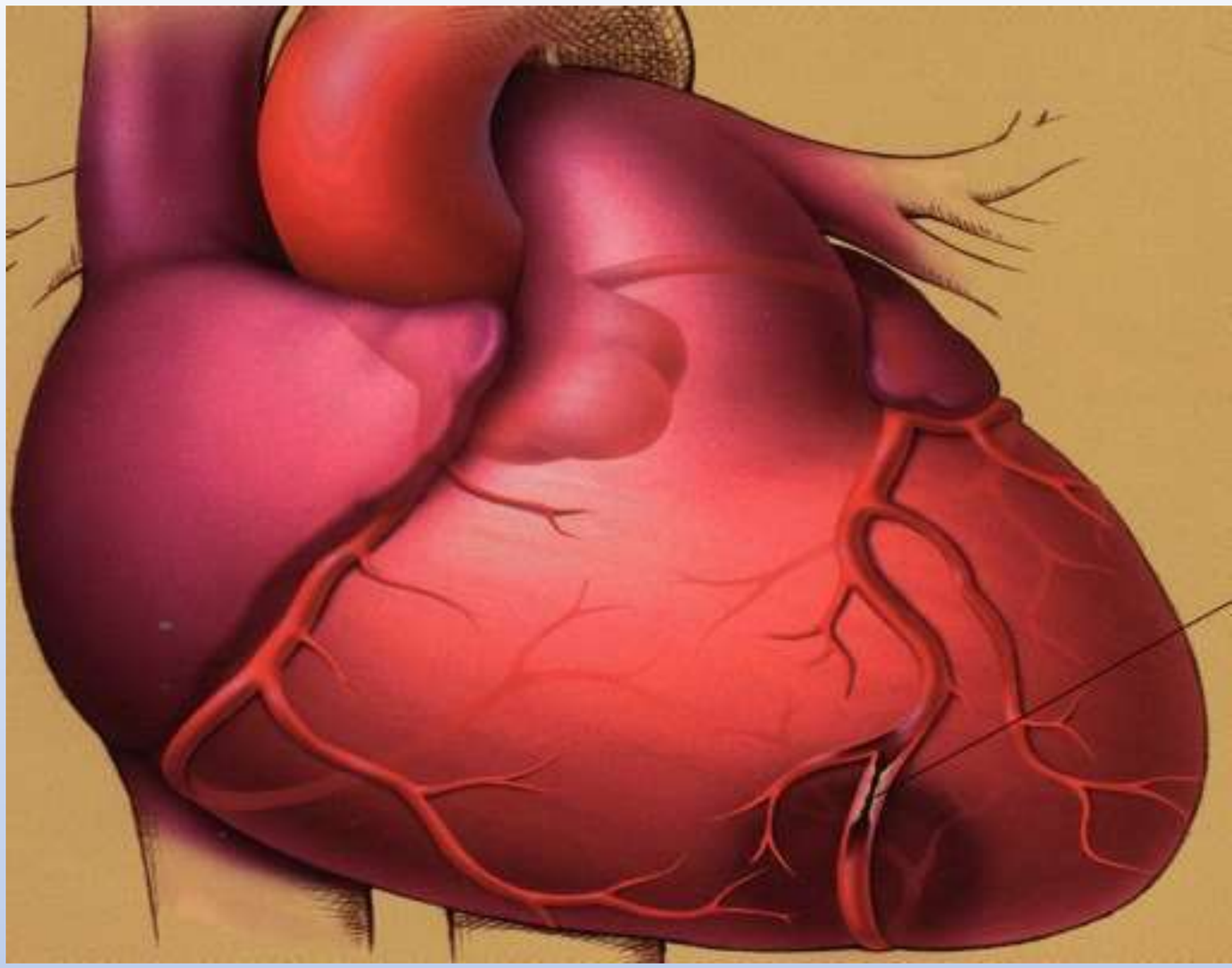
Age Related Changes Altering Drug Metabolism & Sensitivity

YOUNG AT HEART
Slightly older
in other places.

a. Body composition

- Decreased lean body mass
- Increased proportion of body fat
- Decreased amount of body water

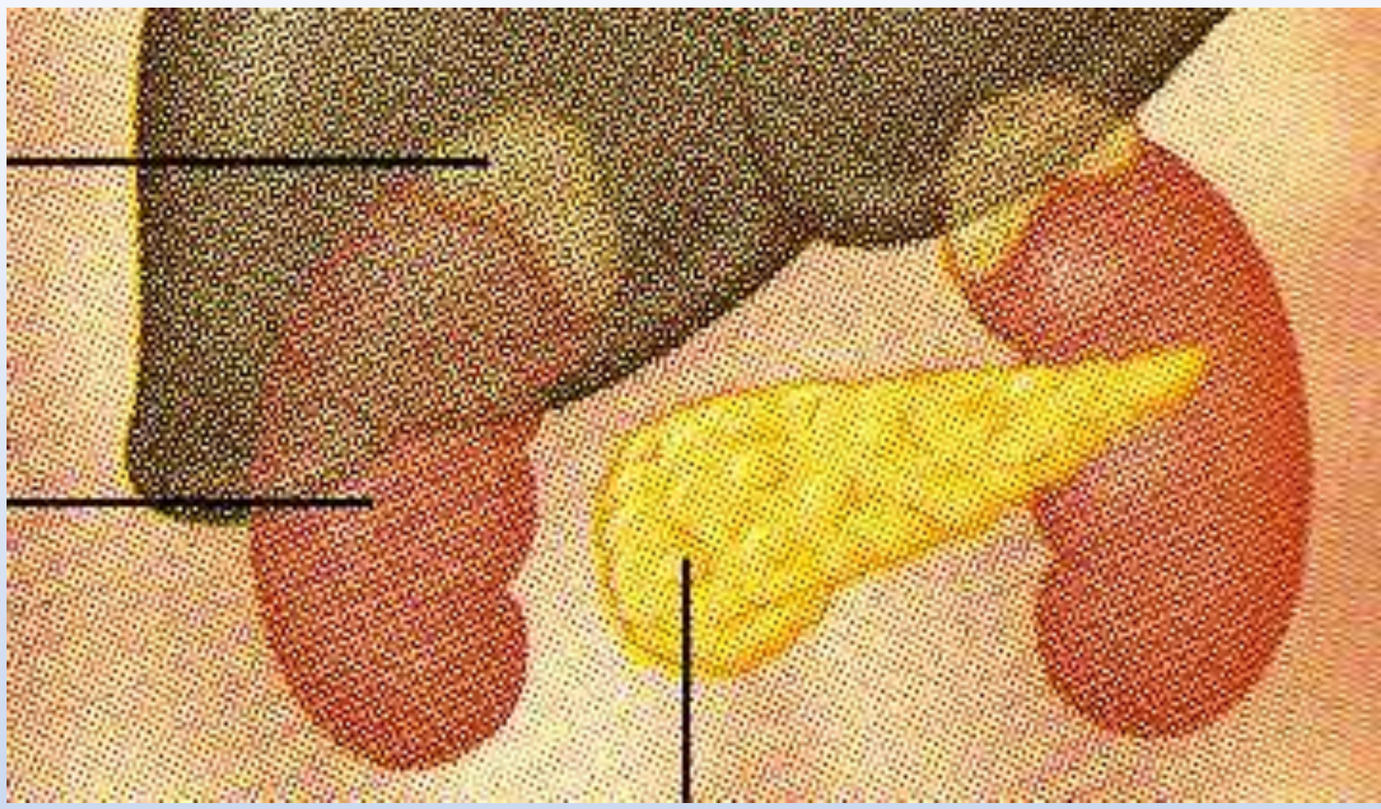
Stefanacci, R.G. (2024). Changes in the body with aging. Merck Manual
https:/www.merckmanuals.com/professional



b. Heart and blood vessels

- ❖ Decreased heart response to stress
- ❖ Increased size of heart
- ❖ Decreased oxygen delivery to organs

Stefanacci, R.G. (2024). Changes in the body with aging. Merck Manual https:/www.merckmanuals.com/professional



c. Kidneys

- ✓ Decrease in number of blood filtering components (e.g. potential for build up of medications)
- ✓ Decrease in blood flow

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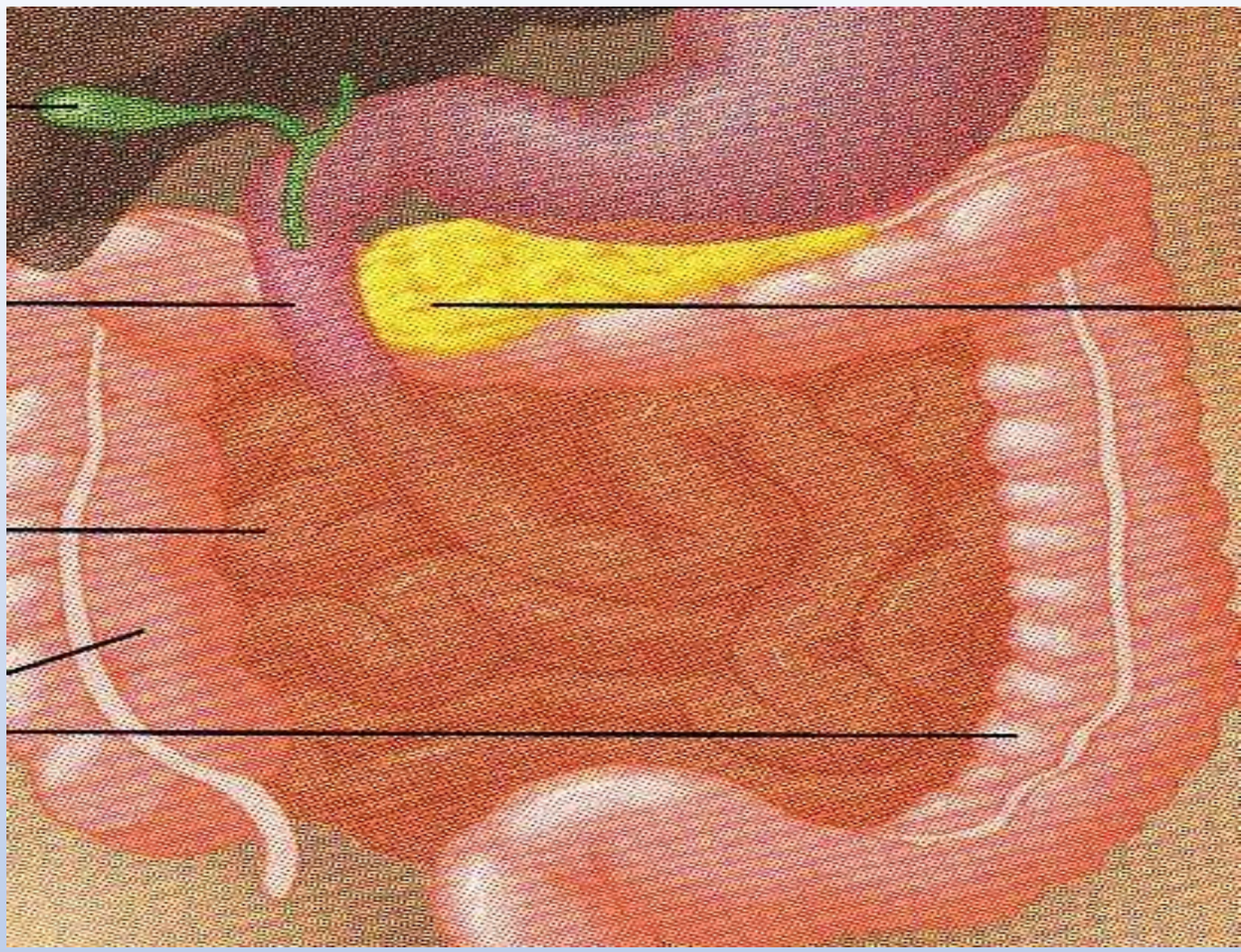
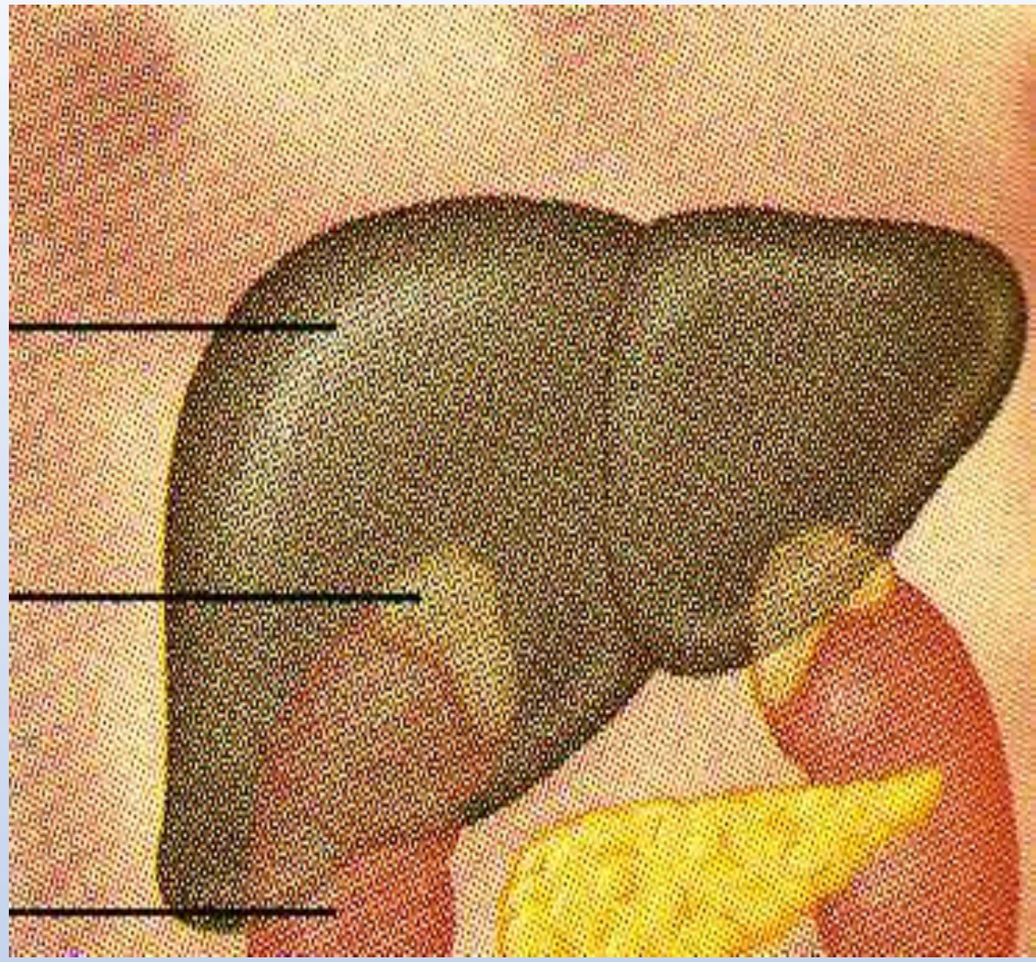


d. Digestive organs

- Slowed stomach emptying
- Decreased absorption

Stefanacci, R.G. (2024). Changes in the body with aging. Merck Manual https:/www.merckmanuals.com/professional



e. Liver

- Altered (i.e. slowed) drug metabolism
- Diminished blood flow

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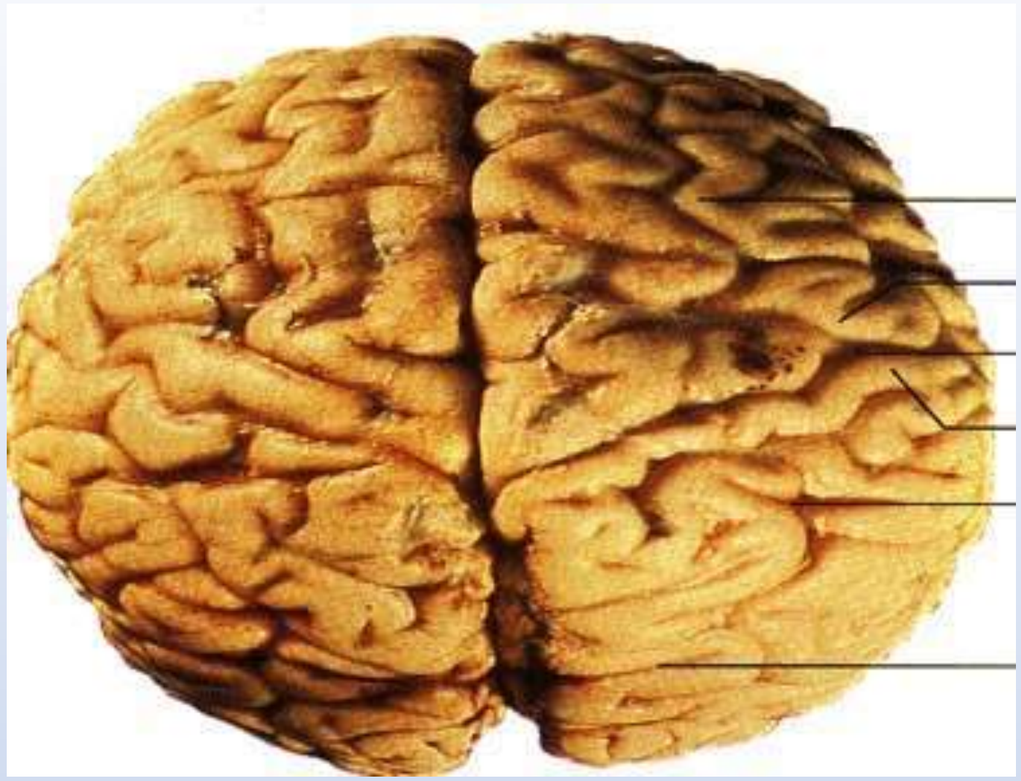
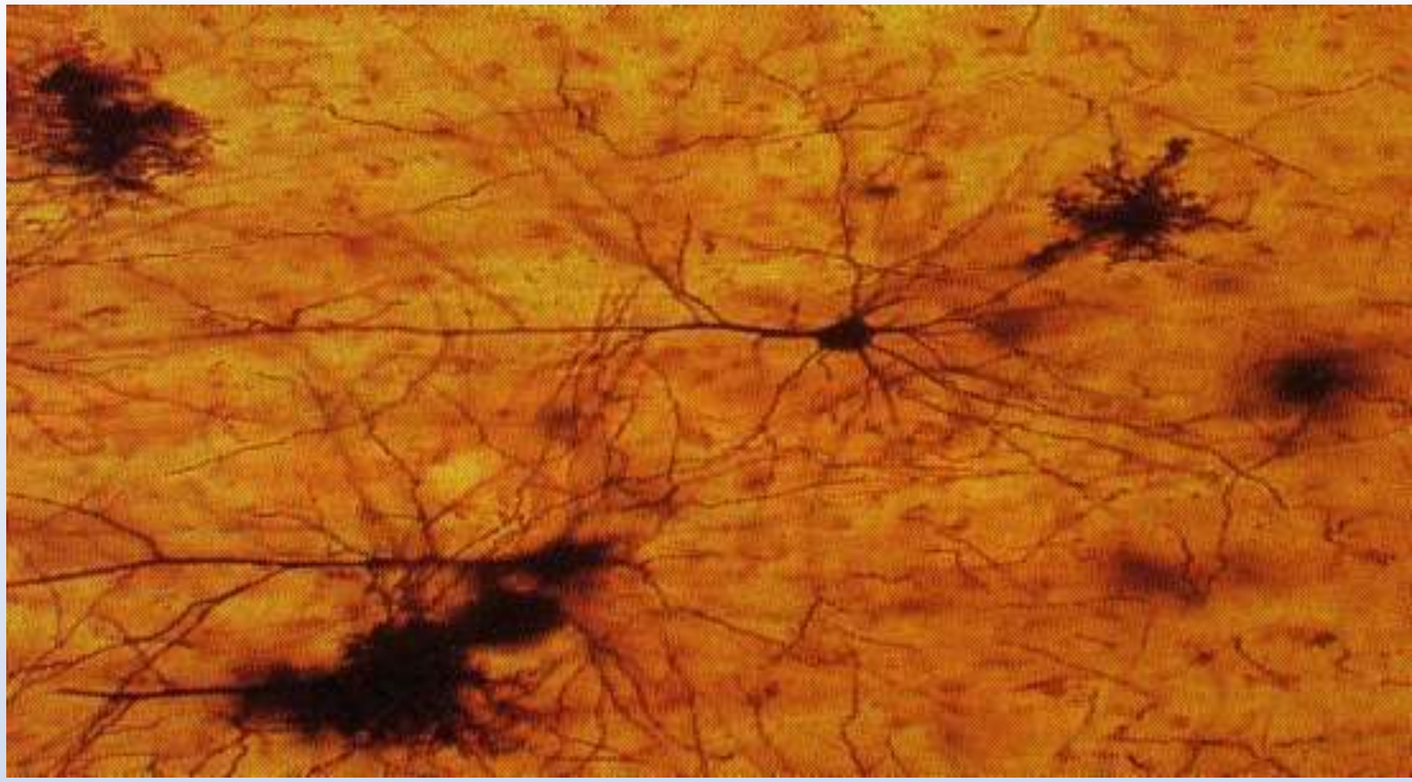


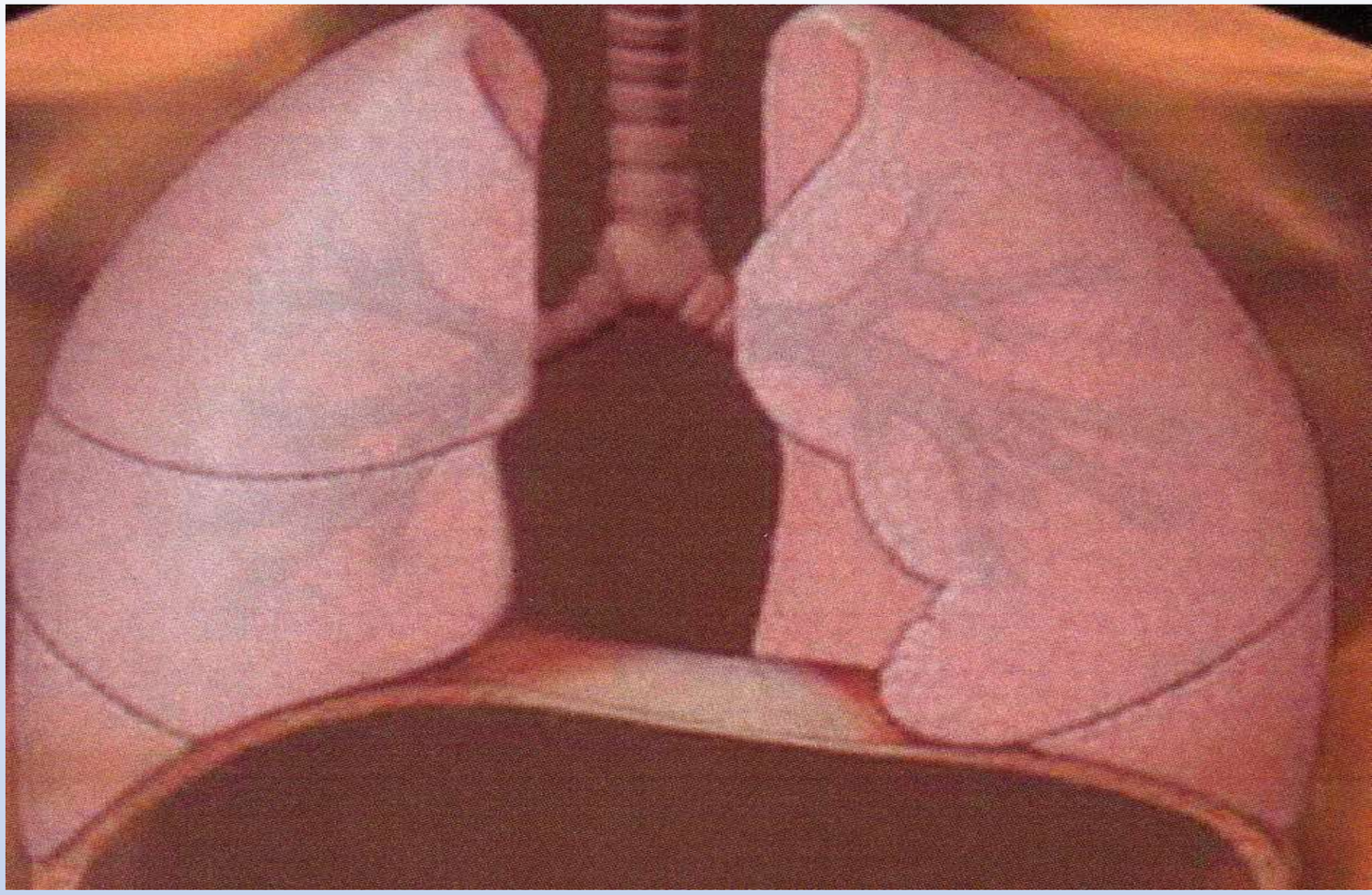


f. Nervous System

- Decreased coordination and balance
- Slowing of reflexes (e.g. with increased tendency to fall or have motor vehicle accidents)
- Decreased threshold for negative side effects of medications (e.g. those prescribed for sleep & pain may severely decrease alertness for danger)

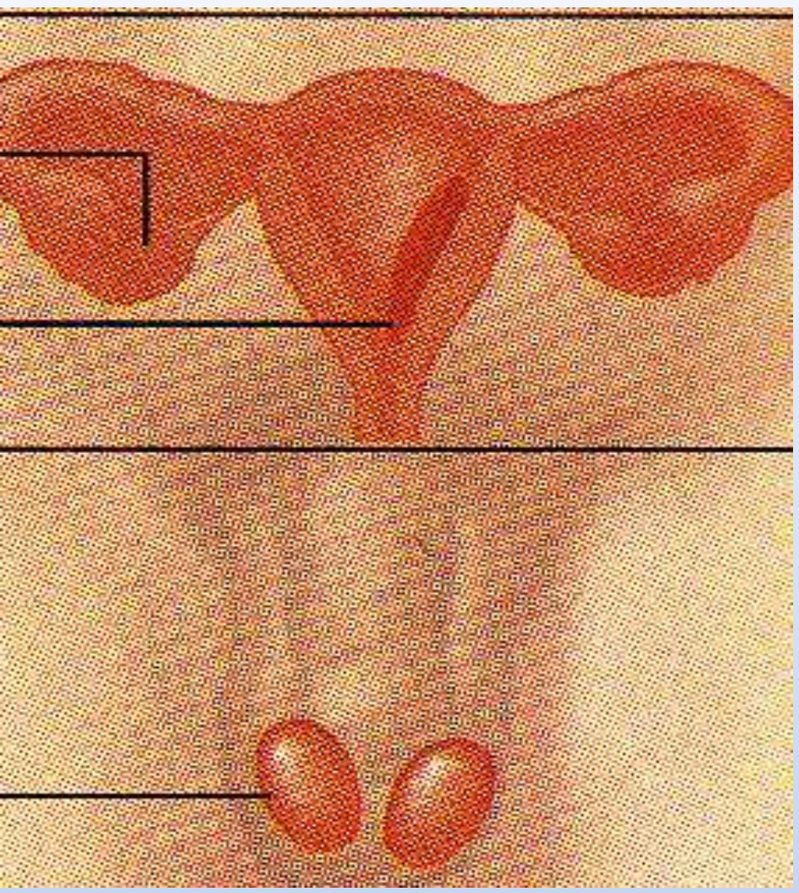
Stefanacci, R.G. (2024). Changes in the body with aging. Merck Manual https:/www.merckmanuals.com/professional

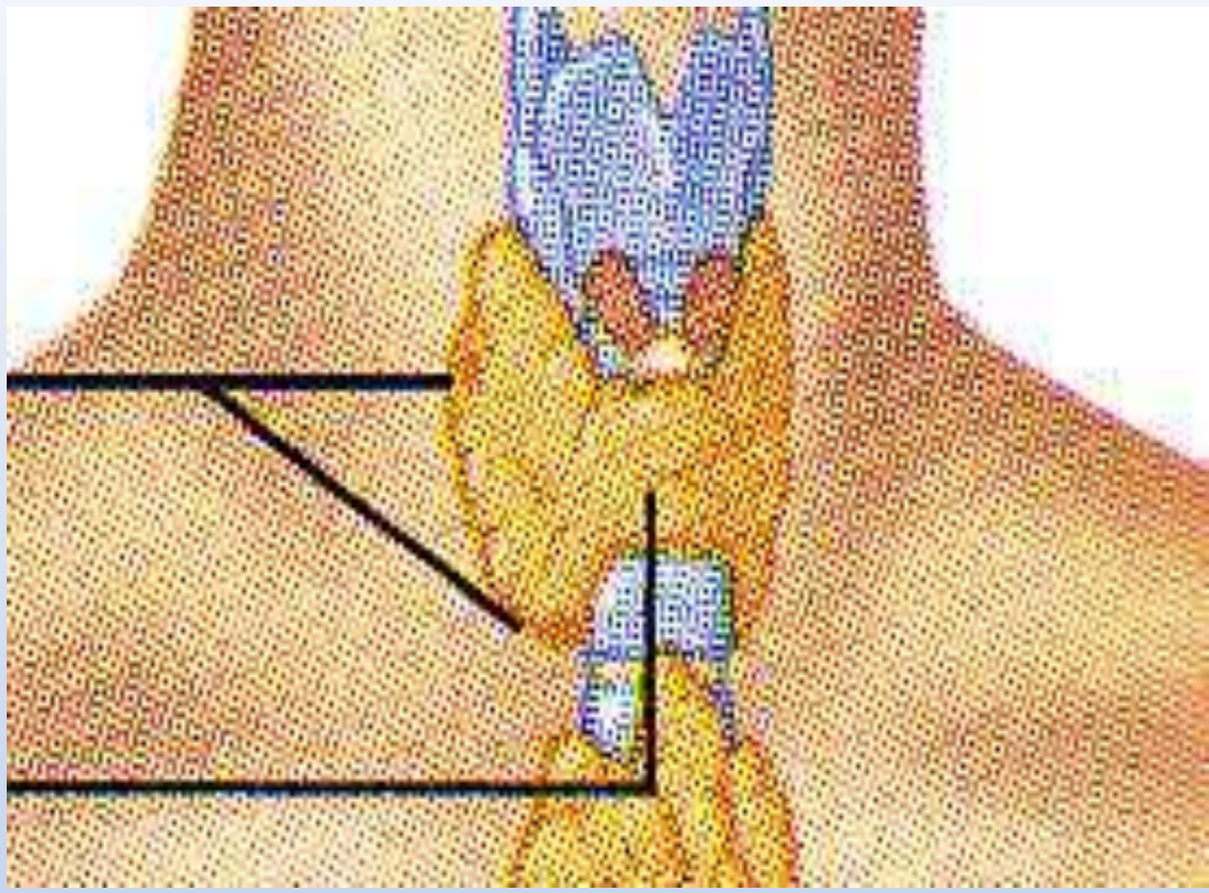
g. Lungs



- Decreased lung elasticity - beware of stairs!
- Decreased clearance of irritants (e.g. smog) & fluids (e.g. humidity in air near ocean)
- Increased risk for respiratory depressant effect of medications (especially narcotics and sleeping pills)

Stefanacci, R.G. (2024). Changes in the body with aging. Merck Manual https:/www.merckmanuals.com/professional





h. Endocrine Organs and their Potential Effects upon Mood

- ❖ Decrease in sex hormone production (e.g. estrogen, testosterone and impact of hormone replacement therapy)
- ❖ Change in thyroid function

Stefanacci, R.G. (2024). Changes in the body with aging. Merck Manual https:/www.merckmanuals.com/professional

Shaky balance, stiffness or frequent falling -
6 months of Tai Chi improved balance, gait and functional reach in 250 adults aged 70-92

Cardiovascular disease, diabetes, low and high blood pressure - diet, exercise, medications, herbs, naps

Vision - lighting, no stairs (or take off bifocals), decrease glare in home

Medications (especially narcotics & sedatives) - avoid, if possible, go to geriatrician

Internalized ageism - be proud of your age and wisdom,
hire a younger person!

Chen, W., Li, M., Li, L., Lin, Y., & Feng, Z. (2023). Tai Chi for fall prevention and balance improvement in older adults: A systematic review and meta-analysis of randomized controlled trails. *Frontiers of Public Health.* https://doi.org/10.3389f/pubh2023.1236050

Working with older adults. What mental health providers should know.(2024). https://www.apa.org/pi/aging/resources/guides/practitioners-should-know

Cognitive Concerns of Older Adults

What Aging Is

- Forgetting where you left your glasses or keys
- Repeating a story to a friend or partner that you had previously told them
- Forgetting what you ate for breakfast yesterday
- Using calendars and lists as a memory aid.

- Forgetting that you wear glasses or what keys are for
- Repeating the same story over and over to the same person on the same day
- Forgetting that you ate breakfast 15 minutes ago
- Do not understand the nature of a calendar

Compiled from: Whitbourne, S.K. & Whitbourne, S.B. (2020) *Adult Development and Aging; Biopsychosocial Perspectives* (7th Edition). Wiley.

Normal and Abnormal Memory Loss

- Being disoriented for a moment upon waking in a hotel when traveling
- Forgetting to turn off a boiling pot and burning the pot a couple of times
- Sometimes forgetting where you parked your car at the mall
- Worrying that you are having memory problems

- Getting lost in your home of many years
- No memory of putting a pot on the stove or of almost burning down the house
- Forgetting that you drove to the mall or that you have a car
- Gradually unaware and uncaring that you are having memory problems

Compiled from: Whitbourne, S.K. & Whitbourne, S.B. (2020) *Adult Development and Aging; Biopsychosocial Perspectives* (7th Edition). Wiley.

DSM V Criteria for Major Neurocognitive Disorder

In 2023, 55 million people world wide were estimated to have neurocognitive disorders costing 1.3 trillion US dollars globally

Significant decline in cognitive functioning

Neuropsychological testing outcome shows substantial decline

Cognitive deficits interfere with independently completing ADLs

Impairments not explained by delirium or other mental illness

American Psychiatric Association. (2013). *Diagnostic and Statistical Manual of Mental Disorders (5th edition).*

World Health Organization. (2023). Dementia fact sheet. https://www.who.int/news-room/fact-sheets/detail/dementia

DSM V Criteria for Minor Neurocognitive Disorder

Modest decline in cognitive functioning

Neuropsychological testing outcome shows mild decline

Cognitive deficits DO NOT interfere with independently completing ADLs

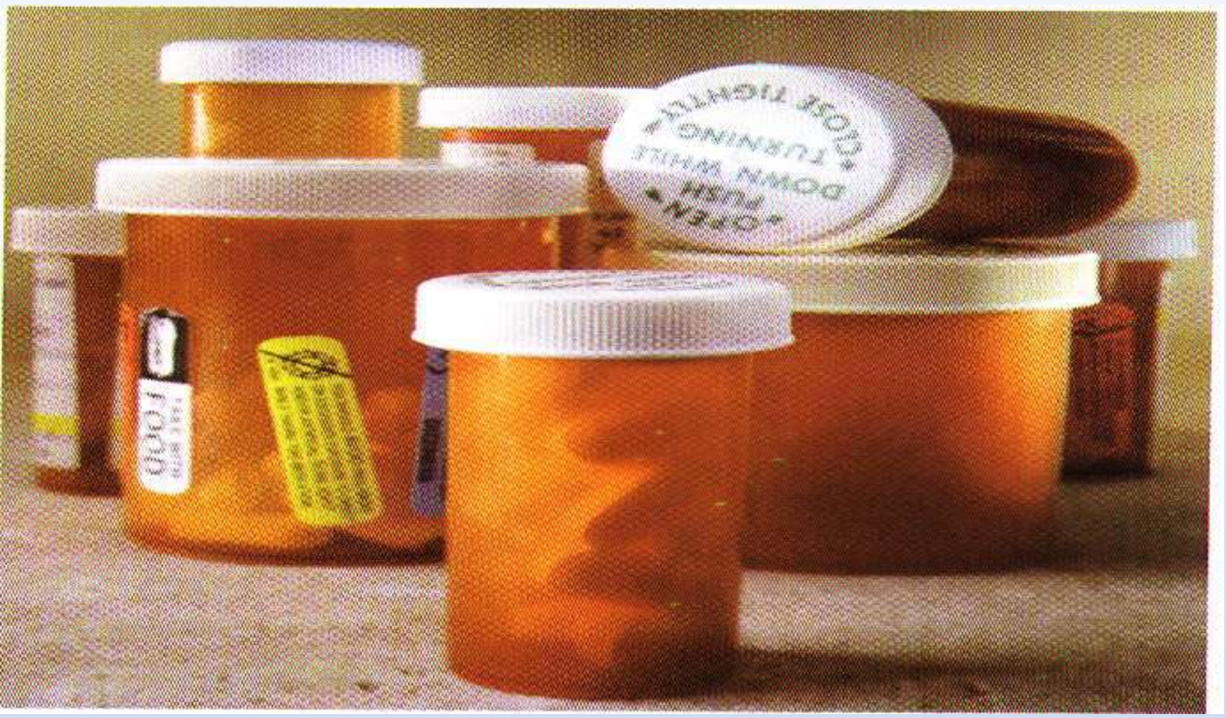
Impairments not explained by delirium or other mental illness

American Psychiatric Association. (2013). *Diagnostic and Statistical Manual of Mental Disorders (5th edition).*

Common Reversible and Treatable Etiologies of Neurocognitive Disorders

Arvanitakis, Z., Shah, R.C., & Bennet, D.A. (2019). Diagnosis and management of dementia: A review. *JAMA 2019 Oct 22, 322*(16*)* 1589-1599. https://doi.org/10.1001/jama2019.4782

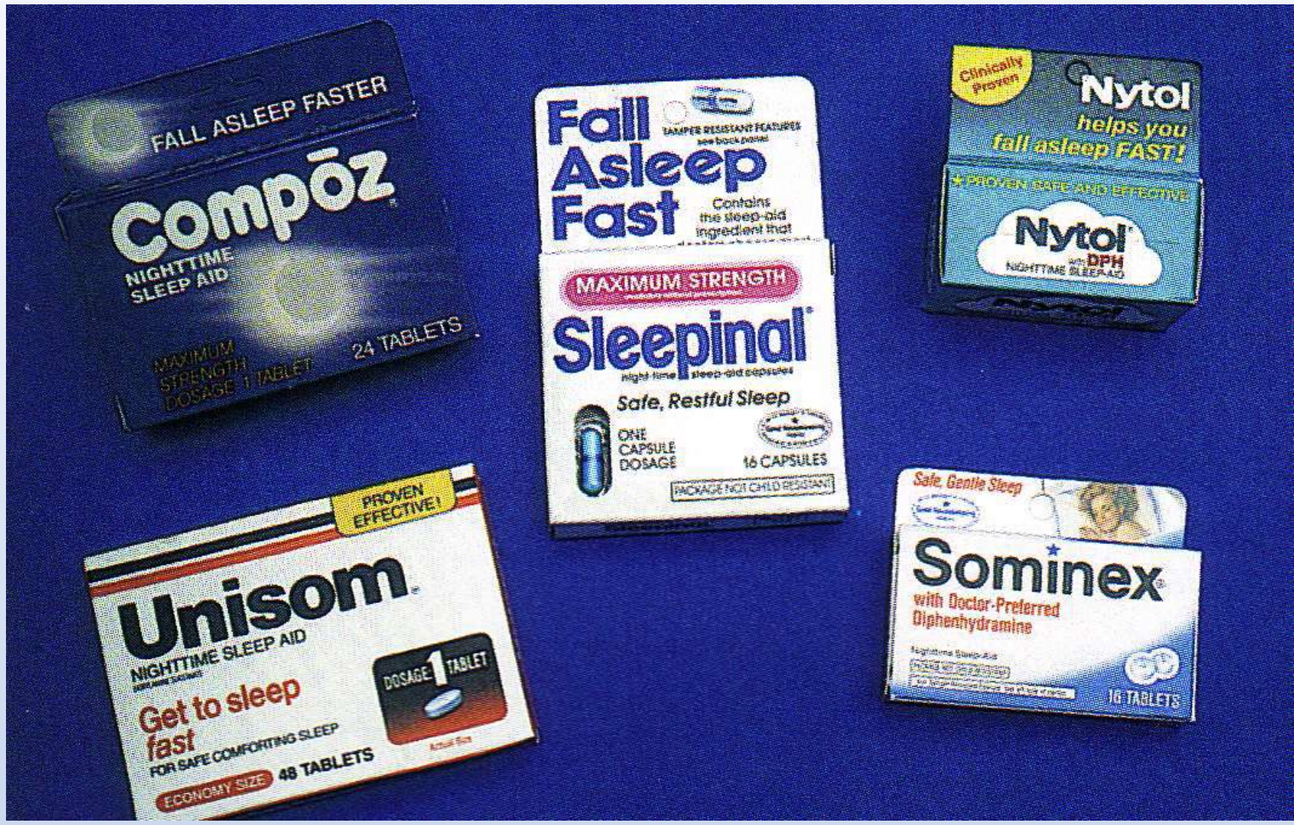
Assessing Cognitive Impairment in Older Adults (2023) Retrieved from https://www.nia.nih.gov/health/health-care-professionals-information/assessing-cognitive-impairment-older-patients



Drug Use - Prescription & Over the Counter Medications

- Anti-hypertensives
- Narcotics
- Anti-convulsants (neurontin, depakote)
- Allergy medications
- Acetaminophen & other non-narcotic pain relievers

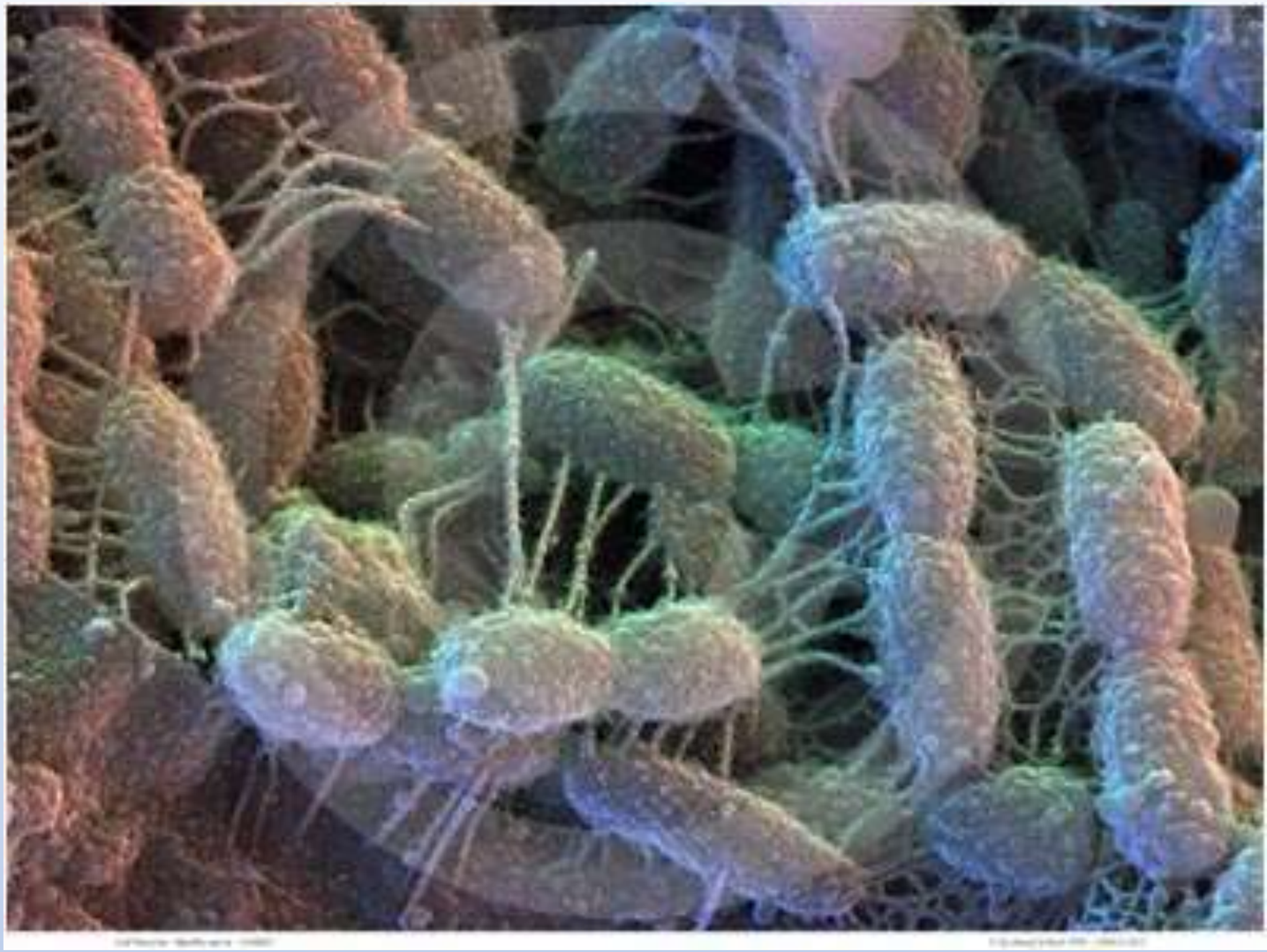
Drug Use - Prescription & Over the Counter Medications

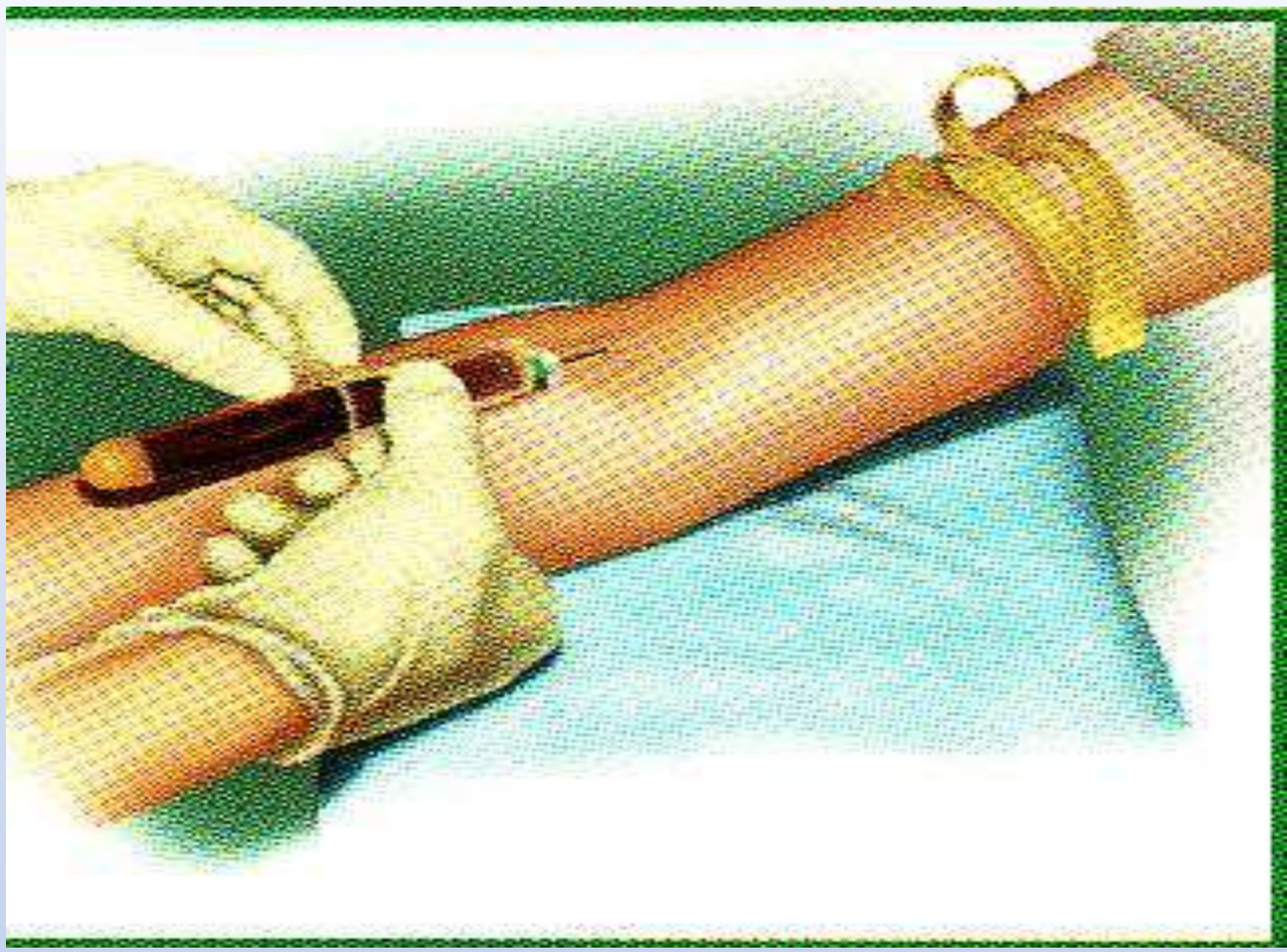


- Sleeping pills & sedatives
- Anxiolytics (klonopin, xanax, ativan)
- Laxatives
- Supplements (melatonin, herbs, etc.)?

Infections from:

- Influenza
- Pneumonia
- Blood
- Urinary Tract (especially in elderly women)
- Kidney
- Digestive Tract
- Sinus





Endocrine Disorders-
check the following:

- ❖Thyroid gland
- ❖Sex hormones
- ❖Blood volume (including anemia and polycythymia)
- ❖Glucose & insulin difficulties

Nutritional Disorders & Deficiencies

- Protein
- Vitamin B1
- Folate
- Malnutrition

Lab tests may reveal

Metabolic & Electrolyte Imbalances
oCalcium
oSodium
oPotassium

Toxicity

- ✓Natural gas
- ✓Pesticides
- ✓Other environmental & occupational exposure (e.g. carpet cleaning solvents)
- ✓ Mold
- ✓ Fungus

Case Vignettes
Five & Six

CASE NUMBER THREE

Dr. Ramadi is a psychologist, who works for a county agency. He has one younger sister, whom he describes as having a “borderline personality disorder”. He came to the U.S. from Iran when he was 16 years old. He is 60 and has been married for 30 years. He has three grown stepchildren. He has been estranged from his parents “for most of my life”. However, he is now reaching out for help in caring for them. His father has been hospitalized for a variety of physical illnesses and his mother reportedly has a possible dementing illness.

1) What assistance could you offer to Dr. Ramadi?

2) Could you do anything directly to help his parents?

3) How do you feel upon hearing about his situation? How might these feelings affect your ability to answer #1 and #2?

CASE NUMBER **FOUR**

Mrs. Yamamoto, a lesbian identified Japanese-American, is 80 years old and has adult onset diabetes, mood swings, short term memory loss and is 30 pounds overweight. The client's primary care physician has referred this person to you, hoping that you can help with diet, exercise and medication compliance.

1) What else would you like to know about this individual in order to evaluate if you could help the physician with her care?

2) What sort of approach would you use to address the presenting issues?

3) How do you feel upon hearing about his situation? How might these feelings affect your ability to answer #1 and #2?

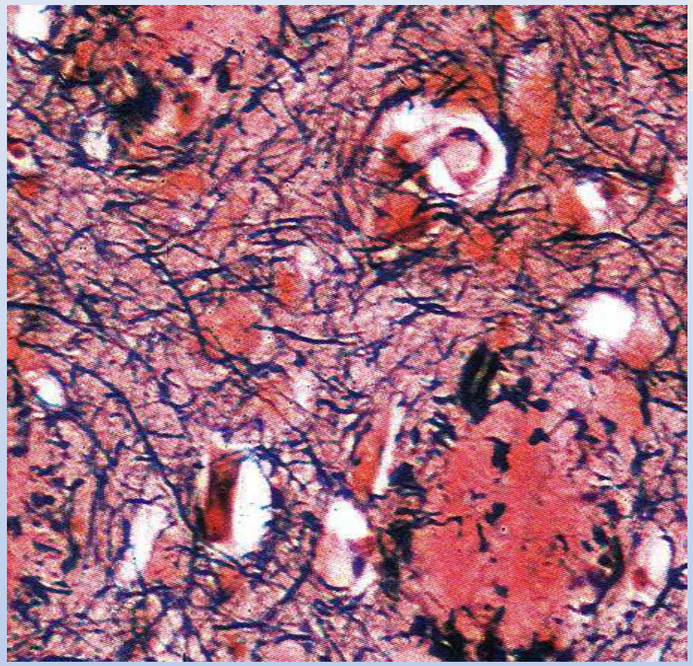
Types of Neurocognitive Disorders

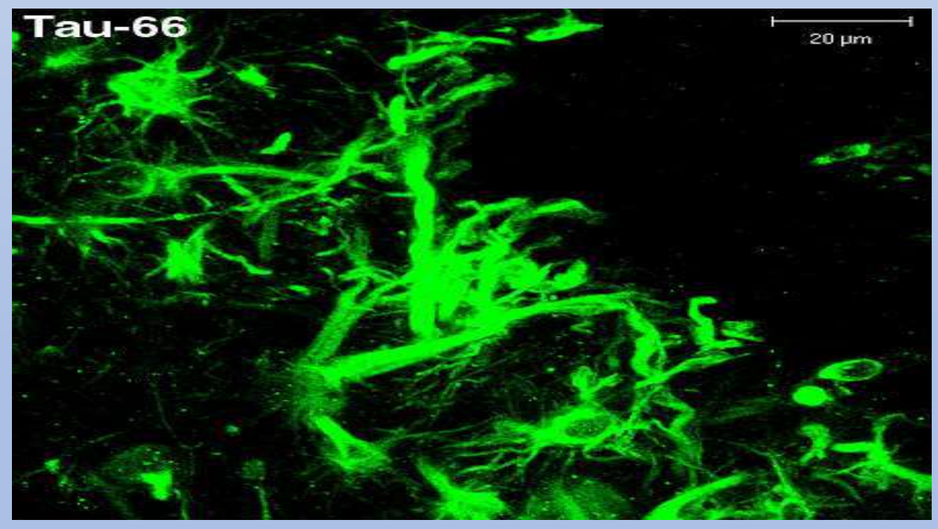
Arvanitakis, Z., Shah, R.C., & Bennet, D.A. (2019). Diagnosis and management of dementia: A review. *JAMA 2019 Oct 22, 322*(16*)* 1589-1599. https://doi.org/10.1001/jama 2019.4782

Alzheimer's Disease - is it more than one illness?

What causes/contributes to it?

a. genes: APP, PSEN1, PSEN2, APOE
b. clumping of beta amyloid protein
c. tangling of tau
d. reduced levels of insulin & insulin receptors
e. glutamate?
f. vascular inflammation?
g. loneliness?
h. pessimism?

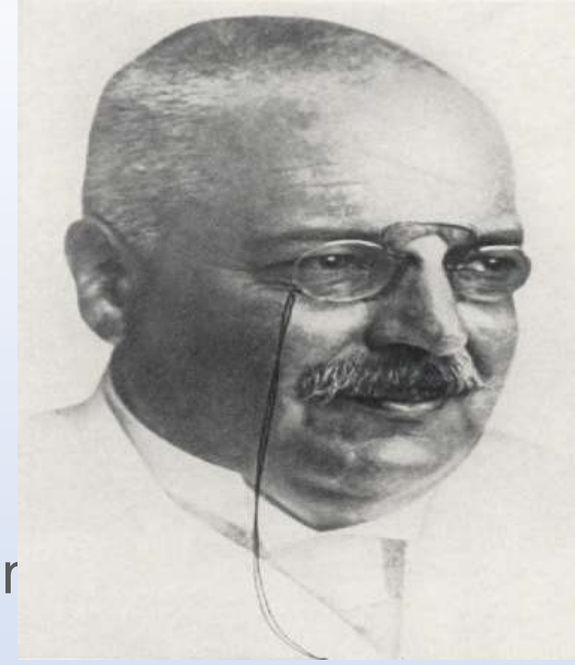




Attia, P., & Gifford, B. (2023*). Outlive: The science and art of longevity.* Harmony Publishing.

Alzheimer's and dementia (2024) National Institute on Aging https://www.nia.nih.gov/health/alzheimers-and-dementia?page=0

Alzheimer’s Disease



Early stage symptoms

a. Forgets names and words; might make up words, or quit talking to avoid r
b. Repeats questions, phrases or stories, in the same conversation
c. Forgets their own history, recent personal events, and current events
d. Less able to plan, organize, or think logically
e. Increasing difficulty with routine tasks such as planning dinner, grocery shopping, paying bills
f. Increasingly unable to make decisions; defers to others’ choices

Mid stage symptoms

a. They forget recent events and can forget their own history
b. When they can’t remember something, they may make up something instead
c. Increasing difficulty in sorting out names and faces of family and friends, but can still distinguish familiar from unfamiliar faces
d. They still know their own name, but no longer remember their own address or phone number
e. They can lose track of their own possessions and may take others’ belongings

End stage symptoms

No longer recognizes familiar people including long term partner or spouse or children

Attia, P., & Gifford, B. (2023*). Outlive: The science and art of longevity.* Harmony Publishing.

Alzheimer’s and dementia (2024) National Institute on Aging https://www.nia.nih.gov/health/alzheimers-and-dementia?page=0

Alzheimer ‘s Disease

Potential treatments which may slow down progression or manage symptoms

a. medications (e.g. Glutathione, Razadyne, Namenda, Exelon, Aricept, Namzaric)

b. dementia adult day care

c. memory care unit

Attia, P., & Gifford, B. (2023*). Outlive: The science and art of longevity.* Harmony Publishing.

Alzheimer’s and dementia (2024) National Institute on Aging https://www.nia.nih.gov/health/alzheimers-and-dementia?page

Vascular Dementia

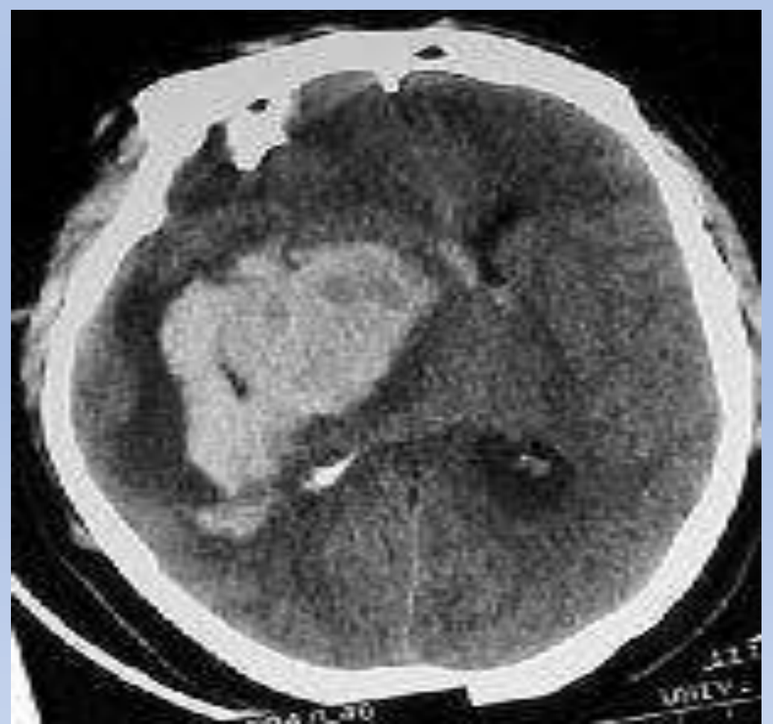
What causes/contributes to it?

a. genes & lifestyle issues putting one at risk for high blood pressure, high cholesterol and cardiovascular disease and other vascular illnesses

b. ongoing cerebrovascular disease involving blood flow to and throughout the brain which can cause transient ischemic attacks and strokes (cerebrovascular accident). A stroke can be from blockage of blood flow or hemorrhaging

Sanders, A.E., School C. & Kalish, V.B. (2023) *Vascular dementia*. Statpearls Publishing

Vascular dementia: Causes, symptoms and treatrments.(2021). https://www.nia.nih.gov/health/vascular-dementia/vascular-dementia-causes-symptoms-and-treatments



Vascular Dementia

Symptoms

a. Immediate and short term memory difficulties
b. Slurred speech
c. Language problems
d. Abnormal behavior for the person
e. Dizziness
f. Leg or arm weakness
g. Lack of concentration
h. Wandering or getting lost in familiar surroundings
i. Moving with rapid, shuffling steps
j. Loss of bladder or bowel control
k. Laughing or crying inappropriately
l. Difficulty following instructions
m. Problems handling money

There is a loss or lessening of function in area of the brain affected by the stroke(s) (e.g. loss of vision in left eye from right sided stroke in area of the brain responsible for vision).

Sanders, A.E., Schoo C. & Kalish, V.B. (2023) *Vascular dementia.* Statpearls Publishing

Vascular dementia: Causes, symptoms and treatrments.(2021). https://www.nia.nih.gov/health/vascular-dementia/vascular-dementia-causes-symptoms-and-treatments

Vascular Dementia

Potential treatments

a. Medications (e.g. anti-hypertensives, statins)

b. Dietary or nutritional consult

c. Exercise program designed to decrease inflammation and improve cardiovascular and cerebrovascular functioning

d. Cardiovascular or stroke rehabilitation - inpatient and outpatient

Sanders, A.E., Schoo C. & Kalish, V.B. (2023) *Vascular dementia*. Statpearls Publishing

Vascular dementia: Causes, symptoms and treatrments.(2021). https://www.nia.nih.gov/health/vascular-dementia/vascular-dementia-causes-symptoms-and-treatments

Lewy Body Dementia

What causes/contributes to it?

Lewy Bodies are abnormal structures in the mid-brain: microscopic alpha-synuclein protein deposits found in nerve cells that disrupt the brain's normal functioning, causing it to slowly deteriorate. They were first discovered in 1912 by Frederick Lewy, a colleague of Alois Alzheimer (for whom Alzheimer's disease is named).

People with Lewy Body Disease have Lewy Bodies in both the mid-brain and cortex. Lewy Body Disease patients often have the plaque characteristic of Alzheimer's disease, while people with Alzheimer's may also have cortical Lewy Bodies. This overlap leads to frequent misdiagnosis.

Haider, A., Spurling, B.C., & Sanchez-Manso, J.C. (2023). *Lewy Body Dementia* StatPearls Publishing

What is Lewy Body Dementia? Causes, symptoms and treatments (2024). National Institute on Aging. https://www.nia.nih.gov/health/lewy-body-dementia/what-lewy-body-dementia-causes-symptoms-and-treatments

Lewy Body Dementia

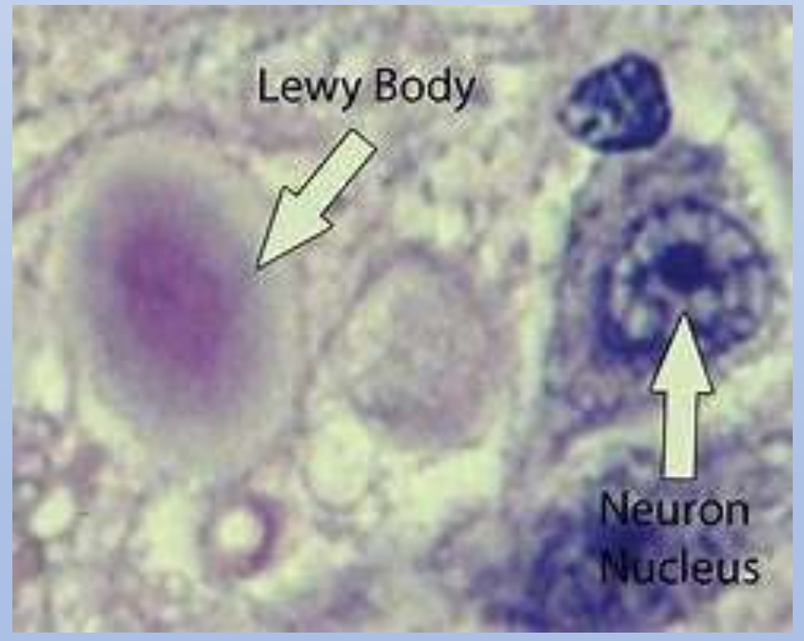
Symptoms

a. Mental or cognitive decline (e.g. reduced alertness and lowered attention span)

b. Recurrent visual hallucinations, usually related to people or animals - these hallucinations occur in 80% of persons with DLB, often at night

c. Poor response to antipsychotic medications known as neuroleptics, which are usually given to people with mental health problems

d. In the case of a person with LBD, however, this class of drugs may actually amplify rigidity and confusion, and can even cause sudden death from the neuroleptic malignant syndrome



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Lewy Body Dementia

Potential treatments

a. very low dose tranquilizers & anti-psychotics
b. anti-psychotics
c. medications for Alzheimer's and Parkinson's diseases
d. day care
e. memory care unit
f. assessment of environmental triggers of agitation

Haider, A., Spurling, B.C., & Sanchez-Manso, J.C. (2023). *Lewy Body Dementia* StatPearls Publishing

What is Lewy Body Dementia? Causes, symptoms and treatments (2024). National Institute on Aging. https://www.nia.nih.gov/health/lewy-body-dementia/what-lewy-body-dementia-causes-symptoms-and-treatments

Normal Pressure Hydrocephalus

What causes/contributes to it?

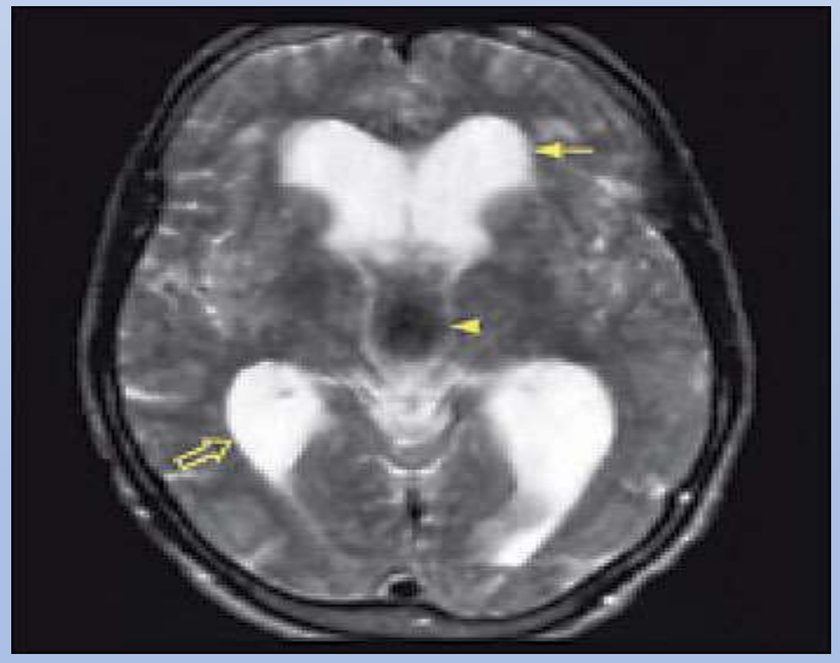
Increase in spinal fluid exerting pressure on the brain and brain stem, even though the pressure reading on a lumbar puncture may have a normal reading

Symptoms

Initial symptoms can be bladder incontinence, gait disturbance

Potential treatment

Insertion of shunt to drain fluid from the brain to the abdomen, which may help more with gait and bladder control than cognition



Das, J.M., Biagioni (2023). *Normal Pressure Hydrocephalus*. Statpearls Publishing

Normal Pressure Hydrocephalus (2024). National Institute of Neurological Disorders and Stroke https://www.ninds.nih.gov/health-information/disorders/normal-pressure-hydrocephalus

Wernicke-Korsakoff syndrome

What causes/contributes to it?

History of chronic, long-term alcoholism and subsequent thiamine deficiency

Symptoms

Confabulation, eye movement abnormalities, loss of muscle coordination, appearance of malnutrition in addition to neuro-cognitive disorder symptoms

Potential treatments

Treatment of thiamine deficiency? Substance abuse treatment program

Akhouri, S., Kuhn, J., Newton, E.J. (2023). *Wernicke Korsakoff Syndrome* Statpearls Publishing

Wernicke Korsakoff Syndrome (2024). National Institute of Neurological Disorders and Stroke https://www.ninds.nih.gov/health-information/disorders/normal-pressure-hydrocephalus

Other Neurocognitive Disorders

What causes/contributes to them?

Parkinson's, Huntington's, or Prion diseases, Down's syndrome, HIV/AIDS, Frontotemporal lobar degeneration, Traumatic Brain Injury, (including CTE), Long Covid?

Symptoms

In general, increasing intensity and frequency of behavioral symptoms compared to other neurocognitive disorders and potential of earlier life onset (e.g. Down's syndrome)

Potential treatments

Treatment of the primary etiology, when possible

Dementias (2024). National Institute of Neurological Disorders and Stroke tps://www.ninds.nih.gov/health-information/disorders/dementias#toc-other-neurodegenerative-diseases-and-conditions-that-include-dementia-or-dementia-like-symptoms