



What's the risk?

A discussion about individual risk factors and lifestyle modifications

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No Disclosures

Why?



“Knowledge is Power”

“Now you Know... And knowing is half the battle”

“Because I’m worth it”; “Because you’re worth it”; “Because we're worth it”

Dementia

Dementia is a group of
brain diseases that
long term loss of
Dementia becomes
process in the brain

A general term for a group of disorders that cause progressive decline in cognition, causing memory problems, trouble with thinking, reason, judgement, behavioral changes, difficulty with basic and instrumental activities of daily living.

How it may look...

Cognitive decline: memory loss, difficulty with language (word finding, understanding, expressing), problem solving and decision-making

Changes in behavior: confusion, disorientation, personality changes, agitation, aggression, sleep disturbance, anxiety/depression, repetition, social withdrawal

Difficulty with ADLs: basic adls (eating, toileting, mobility, bathing, dressing) to instrumental adls (inability to manage finances, to cook, to socialize, to manage medications, housekeeping, moving from bed to bath, incontinence, shopping)

Types: Alzheimer's, Vascular Dementia, Lewy body Dementia, Frontotemporal, Mixed Dementia, Parkinson's Disease, Creutzfeldt-Jakob Disease, Normal Pressure Hydrocephalus, HIV Associated Dementia, Alcohol-Related Dementia, Chronic Traumatic Encephalopathy

Dementia is **NOT** a normal part of aging!

Risk Factors...

Modifiable Risk Factors

Risk factors that can be changed or controlled by medications, medical interventions or lifestyle modifications.



Non-modifiable Risk Factors

Risk factors that are determined by genetics or things things that are outside of our control



*Social determinants of Health, include both modifiable and nonmodifiable risk factors. Socioeconomic status, education, neighborhoods, access to healthcare, health disparities, etc., are associated with higher risks of dementia.

Non-Modifiable Risk Factors

AGE: risk of dementia increases with age

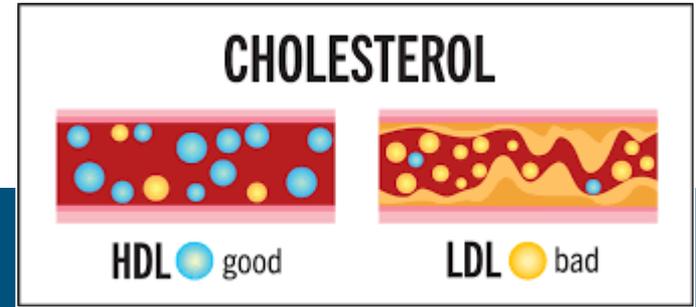
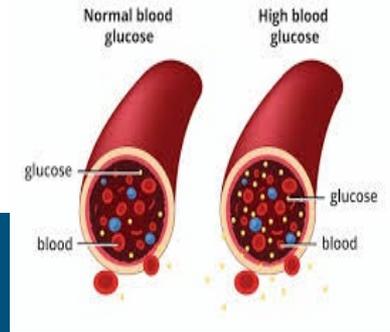
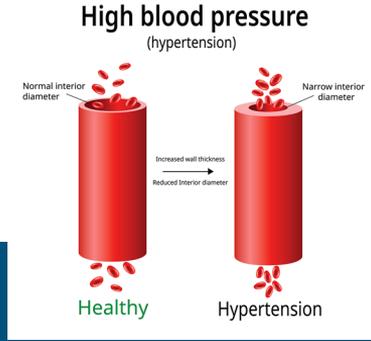
SEX: both men and women have an increased risk of dementia; in the U.S. women make up $\frac{2}{3}$ of patients with dementia; studies show that the most common reason is that women living longer

RACE/ETHNICITY: studies have shown that African Americans and Hispanic Americans have a higher risk of dementia; African Americans are twice as likely and Hispanic Americans are 1 $\frac{1}{2}$ times as likely to develop dementia, in comparison Caucasian Americans

FAMILY HX/GENETICS: While most cases are not genetic, family history of dementia, increases the risk of development; mutations in specific genes like APOE, APP, PSEN1, PSEN2 and others are associated with development of Alzheimer's and other types of dementia

HX OF STROKE/TIA: significantly increase risk of dementia, due to damage to brain tissues and blood vessels

Modifiable Risk Factors (Medical)



High Blood Pressure

Damages blood vessels; reduces blood flow; impairs brain function; leading to cognitive decline and vascular dementia

Goal Blood Pressure

<130/80 mmHg

Diabetes

Causes insulin resistance; high blood sugar; damages vessels;

Target Blood Sugar

80-130 mg/dL before meals

<180 mg/dL 2 hours after meals

High Cholesterol

Causes plaque buildup, decreasing blood flow to the brain

Goal LDL

<100 mg/dL

Goal HDL

>60 mg/dL

Hearing loss...

- Studies have shown that people with hearing loss have a 37% higher risk of developing dementia, compared to persons with normal hearing.
- May lead to changes in brain function and structure, increasing risk dementia;
- May decrease socialization, which can worsen cognitive decline;
- Treating hearing loss may prevent or delay the onset of dementia



Vision Loss...

- Studies have shown that there is a link between vision loss to increased risk of developing dementia;
- May be an early indicator;
- May precede memory problems;
- Cataracts;
- Age-related macular degeneration;
- Glaucoma;
- Diabetic retinopathy;
- Treating or preventing may reduce risk of dementia

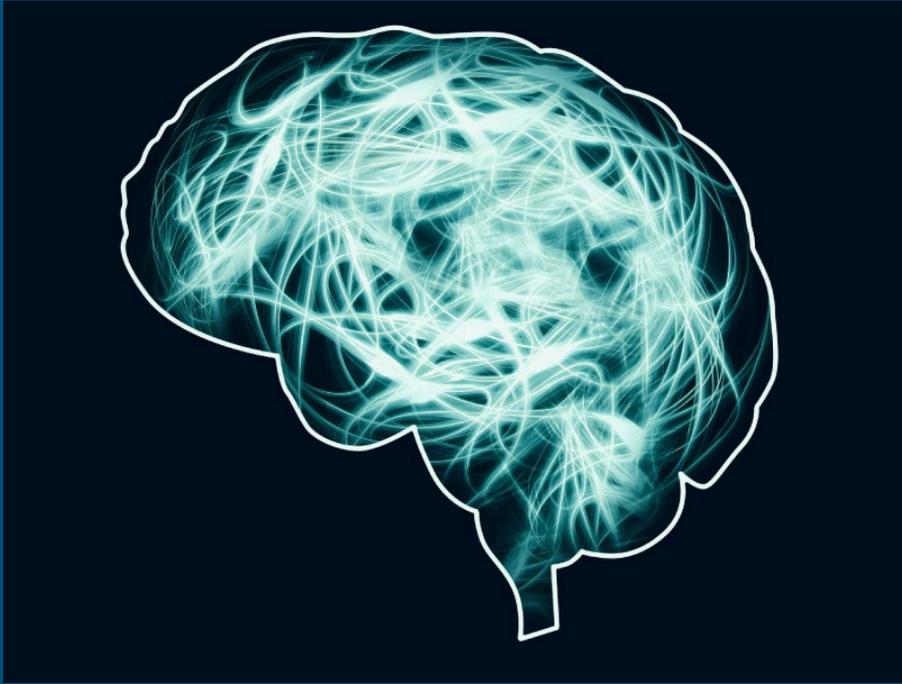


Depression/Anxiety...

- Studies have shown, that both of these, if diagnosed in midlife or later, carry a significantly higher risk for development of dementia later in life
- The presence of chronic stress, depression and anxiety can trigger inflammation which may cause neurodegeneration
- Stress and depression, both, increase cortisol levels, which in turn can damage to the hippocampus; the hippocampus is region of the brain necessary for memory and cognitive function
- Stress and anxiety could cause disruption of neurotransmitters (the chemical messengers at the end of nerves, facilitate communication between nerves; this communication is crucial for cognitive function and if not function properly, can contribute to neurodegeneration
- Depression may increase the risk of vascular disease which could lead to vascular dementia
- If diagnosed close dementia diagnosis, it's possible that it was an early symptom of dementia
- Early intervention and treatment are vital to reducing the risk of dementia



Smoking Cessation



-Smoking damages blood vessels; damaged blood vessels, increase the risk of stroke and other vascular/cardiovascular problems that can contribute to dementia

-It increases oxidative stress, by producing chemicals that the body is unable to neutralize; these chemicals damage brain cells and increase inflammation; this inflammation can lead to cognitive decline

-Nicotine and other toxins in cigarettes, build up in the brain, subsequently, impairing brain functions

-When a person quits smoking, it is one of the most effective ways to reduce their risk for development of dementia; the earlier a person quits, the greater the reduction in risk

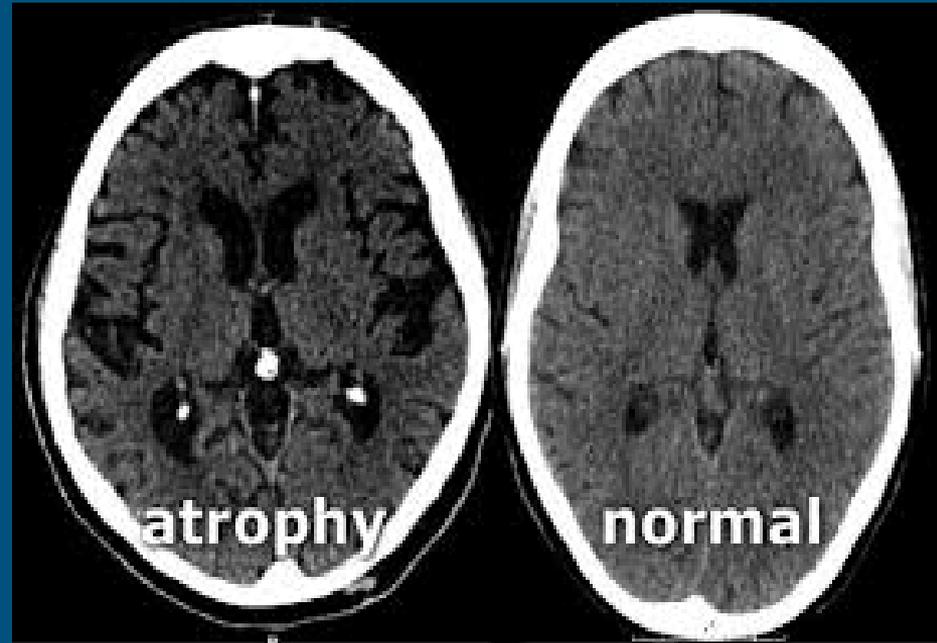
Limiting Alcohol consumption

-heavy/regular consumption, compared to moderate or no alcohol, is damaging to brain, leading to memory loss, difficulty with thinking and problem solving

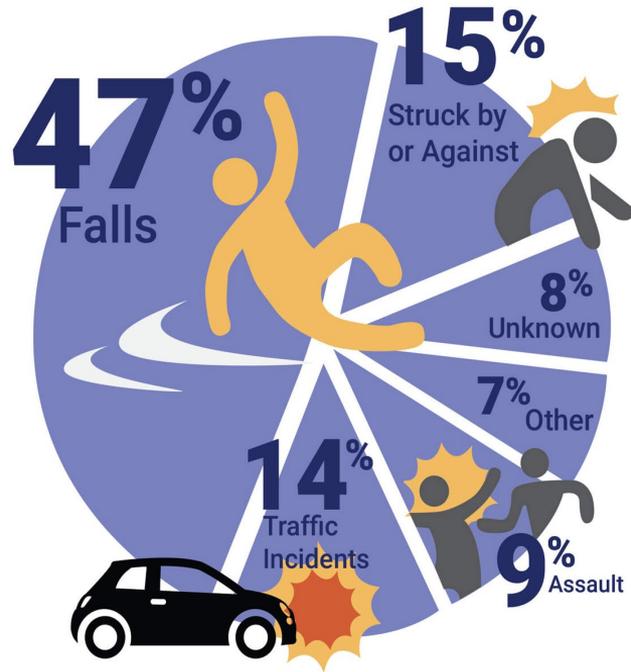
-heavy/regular use leads to shrinkage of the brain areas involved in memory and cognition

-heavy/regular use can accelerate the aging process in the brain, leading to dementia

-heavy/regular use can lead to nutritional deficiencies, such as thiamine (vit. B1), which can lead to brain damage and dementia



Leading Causes Of Traumatic Brain Injury



Head Injury

-Those with moderate to severe traumatic brain injuries, have increased risk of developing dementia; the more severe, the greater the risk

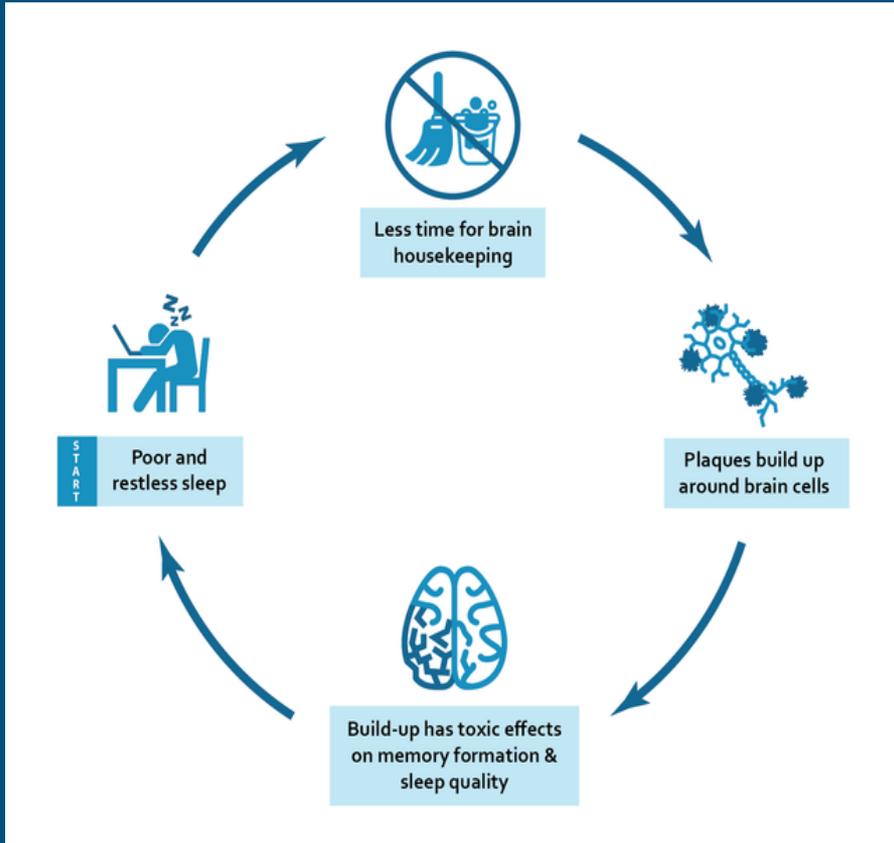
-Persons with repeated injuries, have an increased risk

-The exact mechanisms for why TBIs can contribute to dementia development, are still being researched; but it may be related to damage, inflammation, and the accumulation of abnormal proteins

-Risk of developing dementia can persist for years/decades after the injury

-Preventative measures: seat belts, helmets, assistive devices, furniture/rug arrangement

Sleeping



-Inadequate duration of sleep, poor quality of sleep and sleep disturbances, all increase the risk of developing dementia

-Healthy brain function requires healthy sleep; there are 4-6 sleep stages; stages 3 and 4 are thought to be the most important (deep sleep and dream (REM) sleep); the body restores itself during these stages

-People with dementia spend more time in early sleep stages and less in the later stages

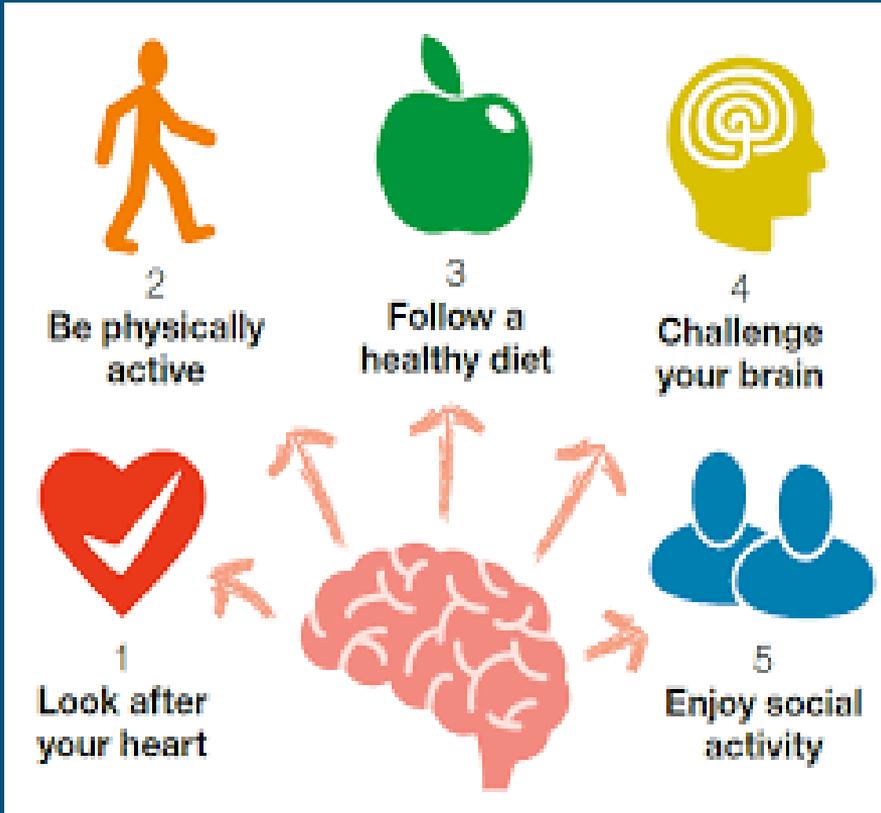
-Recommendations are: 7-9 hours (26-64) and 7-8 hours (64 and older), of continuous, uninterrupted of sleep at night

-One way to improve the quality of sleep is to practice sleep hygiene; try to avoid caffeine, eating, alcohol consumption or use of laptops or phones at bedtime

-Create a relaxing environment (bedding, room temperature, aroma therapy)

-Take care of your mental health and speak with your health care professional

Lifestyle Modifications



1. Blood pressure, Blood sugars and cholesterol
2. 2.5 hours of moderate or 75 minutes of vigorous per week; maintaining a healthy weight; elevated BMI increases risk of diabetes, hypertension, cardiovascular problems; goal <25 , >18.5
3. Whole foods, fruits, veggies, nuts, seeds, lean protein, olive and canola oil
4. Puzzles, games, new hobbies, lifelong learning
5. Stay connected with friends, family, church, club memberships is beneficial to brain health; improves cognitive function, quality of life, emotional well being, maintains communication skills, increase functional independence

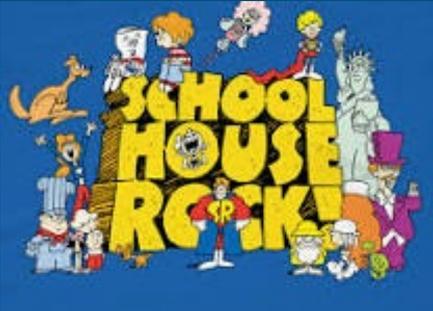
Remember, that nothing in your body is an island unto itself. You may have multiple diagnoses and treatment plans; and many of these may overlap. But it's still just one body.



I encourage you, take the time to discover and understand your individual risk factors, so that you are better equipped to partner with your providers.

This alliance will allow you to become *aware of* and *equipped for* the things that you can not change; and *empower you* to know, understand and gain control over the things that you can.

Thank You



Because you're
worth it

References

- Alzheimer Society. (2023). *Risk factors for dementia*. Alzheimer Society of Canada. <https://alzheimer.ca/en/about-dementia/how-can-i-reduce-risk-dementia/risk-factors-dementia>
- Aunsmo, R. H., Strand, B. H., Anstey, K. J., Bergh, S., Kivimäki, M., Köhler, S., Krokstad, S., Livingston, G., Matthews, F. E., & Selbæk, G. (2024). Associations between depression and anxiety in midlife and dementia more than 30 years later: The HUNT Study. *Alzheimer's & Dementia: Diagnosis, Assessment & Disease Monitoring*, 16(4). <https://doi.org/10.1002/dad2.70036>
- Ayman El-Menyar, Al-Thani, H., & Mohamed Farouk Mansour. (2024). Dementia and traumatic brain injuries: underestimated bidirectional disorder. *Frontiers in Neurology*, 14. <https://doi.org/10.3389/fneur.2023.1340709>
- Barnes, L. L., Klodian Dhana, Liu, X., Carey, V. J., Ventrelle, J., Johnson, K., Hollings, C. S., Bishop, L., Laranjo, N., Stubbs, B. J., Reilly, X., Agarwal, P., Zhang, S., Grodstein, F., Tangney, C. C., Holland, T. M., Aggarwal, N. T., Konstantinos Arfanakis, Martha Clare Morris, & Sacks, F. M. (2023). Trial of the MIND Diet for Prevention of Cognitive Decline in Older Persons. *The New England Journal of Medicine*, 389(7). <https://doi.org/10.1056/nejmoa2302368>
- Bryant, E. (2021, April 27). *Lack of sleep in middle age may increase dementia risk*. National Institutes of Health (NIH). <https://www.nih.gov/news-events/nih-research-matters/lack-sleep-middle-age-may-increase-dementia-risk>
- kconvery. (2021, August 31). *Understanding the Connection Between Sleep and Dementia*. Harvard Pilgrim Health Care - HaPi Guide. <https://www.harvardpilgrim.org/hapiguide/understanding-the-connection-between-sleep-and-dementia/>
- Low, A., Prats-Sedano, M. A., McKiernan, E., Carter, S. F., Stefaniak, J. D., Nannoni, S., Su, L., Dounavi, M.-E., Muniz-Terrera, G., Ritchie, K., Lawlor, B., Naci, L., Malhotra, P., Mackay, C., Koychev, I., Ritchie, C. W., Markus, H. S., & O'Brien, J. T. (2022). Modifiable and non-modifiable risk factors of dementia on midlife cerebral small vessel disease in cognitively healthy middle-aged adults: the PREVENT-Dementia study. *Alzheimer's Research & Therapy*, 14(1). <https://doi.org/10.1186/s13195-022-01095-4>
- NHS. (2023, August 18). *Can Dementia Be Prevented*. Nhs.uk. <https://www.nhs.uk/conditions/dementia/about-dementia/prevention/>
- Soons, L. M., Deckers, K., Tange, H., Martin, & Köhler, S. (2024). Associations of hearing and visual loss with cognitive decline and dementia risk: a 25-year follow-up of the Maastricht Aging Study. *Age and Ageing*, 53(12). <https://doi.org/10.1093/ageing/afae271>
- Tang, H., Shaaban, C. E., DeKosky, S. T., Smith, G. E., Hu, X., Jaffee, M., Salloum, R. G., Bian, J., & Guo, J. (2024). Association of education attainment, smoking status, and alcohol use disorder with dementia risk in older adults: a longitudinal observational study. *Alzheimer's Research & Therapy*, 16(1). <https://doi.org/10.1186/s13195-024-01569-7>
- Zheng, L., Liao, W., Luo, S., Li, B., Liu, D., Yun, Q., Zhao, Z., Zhao, J., Rong, J., Gong, Z., Sha, F., & Tang, J. (2024). Association between alcohol consumption and incidence of dementia in current drinkers: linear and non-linear mendelian randomization analysis. *EClinicalMedicine*, 76, 102810–102810. <https://doi.org/10.1016/j.eclinm.2024.102810>
- Zülke, A. E., Blotenberg, I., Luppia, M., Margrit Löbner, Döhring, J., Williamson, M., Kosilek, R. P., Michel, I., Oey, A., Brettschneider, C., Jochen Gensichen, Czock, D., Wiese, B., Hans-Helmut König, Frese, T., Kaduszkiewicz, H., Hoffmann, W., René Thyrian, & Riedel-Heller, S. G. (2024). Dietary changes following a lifestyle-based intervention for dementia risk reduction – results from the AgeWell.de study. *European Journal of Nutrition*, 64(1). <https://doi.org/10.1007/s00394-024-03563-z>