

# DEMENTIA RISK FACTORS

Cardiovascular disease has been the #1 cause of death worldwide for the last 100 years, but dementia is #4 in the US and #2 in the rest of developed countries. It's lower in the US because we have so much more vascular disease and cancer than anywhere else! Dementia is the most rapidly increasing chronic disease and is by far the costliest since people can live with it for many years and rely almost 100% on help from others. There are over 200 types of dementia. Alzheimer's Disease is the most common (60%), followed by Vascular Dementia, also called Multi-Infarct Dementia (20%). Other common types are Lewy Body Dementia, Fronto-Temporal Dementia, Alcohol Induced Dementia and Parkinson's Related Dementia.

Billions of dollars have been spent on developing drugs but not one has halted, let alone cured any form of dementia. At best, they slow progression, but side effects include bleeding in the brain and ministrokes which affect 10% of patients, and they are expensive costing about \$100,000 a year. Prevention is key and now is the time to start since the damage leading to dementia starts 30 years before symptoms develop.

A 2020 Lancet study by Gill Livingston, MD, which was updated in 2024, reviewed the factors contributing to dementia. 55% of the risk is attributable to age as well as genetics. But the other 45% of the risk is attributable to 14 "modifiable risk factors", ones we have direct control over.

Clearly, you can't do anything about age. But as we learn more about how our lifestyle choices can impact on how genes are expressed, even inherited genes are not as important as the modifiable risk factors. Lifestyle medicine pioneer Dr. Dean Ornish showed that in just a few weeks, improving lifestyle factors like diet, stress management, exercise and social interactions, can alter the expression of over 500 genes, inhibiting genes which cause harm and expressing protective genes. He also showed in a 2024 trial that those lifestyle changes, along with a few supplements listed at the end of this outline, actually **reverse** some early dementia symptoms. No drug or other intervention has ever done this before.

Below is the list of the risk factors which, if addressed at **any** age, positively impact cognitive decline.

**HEARING LOSS.** Not hearing well is very socially isolating, which is itself a risk factor for dementia. But the stress hearing loss puts on the brain is particularly bad. Someone in mid-life with only a mild untreated hearing loss doubles their risk of developing dementia. Moderate loss triples it and severe loss increases it 5x. Hearing aids reduce the risk and have also been shown to improve memory, balance and even reduce bone fracture risk. Those improvements can be seen in only a few weeks of consistent hearing aid use. The key consistent hearing improvement with consistent use. Not just "when you think you need them"!

**ELEVATED CHOLESTEROL.** Elevated LDL, the unhealthy molecule, impacts on the brain's vasculature in addition to directly impacting on various metabolic activities in the brain. Our cells make all the cholesterol we need. Our nutritional requirement for it is ZERO. Any additional cholesterol consumed adds to the body burden. The only source of cholesterol is meat, fish, dairy and eggs. There's none in plants.

**SOCIAL ISOLATION.** Humans evolved in societies. Social isolation is not sustainable for the vast majority of us. Lack of human interaction and stimulation is a significant factor in dementia. Being married, having a friend group, being involved in social organizations like religion or volunteering all lower dementia rates.

**EDUCATION.** The greater your education level early in life, the lower the risk. You may think it's too late but continuing to learn new skills as we age such as a new job, languages, musical instruments, sports... are very important when it comes to preventing or delaying cognitive decline and dementia.

**VISION LOSS.** Although seeing well is important overall, there is evidence that the dramatic increase in screen time, particularly our phones, significantly reduces the use of peripheral vision, which leads to much less visual cortex stimulation. Put down the phone, get outside to look around and fix your cataracts!

**AIR POLLUTION.** Poor air quality contributes to various conditions like dementia, heart disease and cancer. Breathing the air in Beijing, China causes the same health risks of smoking 1 pack of cigarettes a day! But it's not just pollution. Burning wood, candles, incense, scented garbage bags and laundry detergent, off gassing from carpet and furniture and indoor allergens cause inflammation and increase rates of chronic disease. Get a good HEPA air filter for your bedroom, even if you have a whole house filter.

**DEPRESSION.** The link is partly age and duration related. Changes in brain structure, such as the hippocampus, the memory center, are seen in chronic depression, making dementia worse. Although medications can be quite helpful, eating a low sugar/low processed food diet along with exercise, sunlight and social interaction have been shown to reduce depression symptoms and rates.

**TRAUMATIC BRAIN INJURY.** Concussions and other brain trauma such as bleeding or strokes, result in damage to brain tissue as well as disrupting millions of neuronal connections in the brain. Even the "minor" but recurrent trauma from heading a soccer ball or playing football has an effect. The frontal lobe of the brain, where decision making and emotions are controlled, doesn't finish developing until your mid-20s.

**HYPERTENSION.** The number one killer worldwide, elevated blood pressure, damages arteries leading to poor blood flow and reduced oxygen and nourishment supply to all our organs, including the inner ear and the brain. The second most common type of dementia is vascular dementia, a direct result of arterial disease affecting the brain. Reduce your salt intake, exercise, lose weight and take your medication.

**PHYSICAL INACTIVITY.** There is a clear relationship between lack of physical activity and dementia. And you don't need to run marathons, just stay active and move continuously. Additional exercise is certainly helpful though. Resistance exercises become more important as we age to maintain muscle mass, strength and balance. Stressed muscle cells produce brain stimulating compounds and also soak up excess sugar in the blood, reducing diabetes risks. Ultimately, do whatever you like, just do it regularly.

**SMOKING.** Every single aging and disease process is negatively impacted by this terrible habit. It impairs blood flow to all organs and introduces 100's of toxins which cause inflammation and cancer.

**DIABETES.** The most common complications and cause of death of diabetics is cardiovascular disease which also contributes to vascular disease in the brain. In addition, elevated blood sugars are toxic to all tissues and organs. Lastly, insulin, the main hormone involved in sugar uptake and storage, has a significant impact on brain tissue directly. Some forms of dementia are even called Type 3 Diabetes.

**OBESITY.** 75% of Americans have an unhealthy weight. Fat cells produce inflammatory compounds and hormones like estrogen. Even losing just a few pounds reduces dementia risk.

**ALCOHOL.** Simply put, alcohol is a toxin to every cell in your body, including brain cells. There is a clear relationship between excessive alcohol consumption (more than an average of 1 drink a day for women and 2 drinks a day for men) and worsening of all diseases, especially dementia.

**DENTAL HEALTH.** Inflammation caused by a poor diet and poor oral hygiene is important. Unhealthy bacteria from the mouth have been identified in the plaques in the brains of dementia patients. Brush and floss twice a day. Consider some gentle tongue scraping. See your dentist regularly. Don't use mouthwashes. They actually worsen diabetes and vascular disease. Avoid harsh toothpastes which kill off the helpful bacteria in the mouth. Avoid the compound SLS (sodium lauryl sulfate). A great toothpaste brand is Fygg. Avoid added sugars which promote unhealthy bacteria. Avoid processed foods, which are essentially bacteria-feeding sugar. Avoid snacking in general so your oral microbiome can rest and you are not constantly producing saliva which is acidic and full of digestive enzymes.

**SLEEP DURATION AND QUALITY.** Sleep is when our brain cleans up and removes the damaging inflammatory proteins which build up during the day. Sleep is also when memories are consolidated. Getting 7-8 hours of good quality sleep is crucial for physical and mental health. And sleep medications do not reduce the risks because, although they may cause you to sleep longer, sleep quality is still poor.

**STRESS.** To be alive is to be stressed. How we deal with stress is the key. If you deal with it poorly, excessive stress hormones and inflammatory compounds are produced, damaging the brain.

**PLASTICS.** Every organ in our body accumulates microplastic. The brain takes up 10x more than any organ. Recent studies indicate that people with dementia have 10x more microplastic in their brains than those who don't (100x more than other organs). We are not sure exactly what it does, but we know it definitely causes inflammation. NEVER cook or heat food or fluids in plastic. Avoid "to-go" cups, which are lined with plastic to make them waterproof. Avoid aluminum cans, which are lined with plastic to prevent rusting. Plastic beverage bottles and fish are the 2 biggest sources of plastics in our food. The air we breathe is also a significant source of plastic, so air filtration at home helps

**MEDICATIONS.** Common drugs linked to dementia include acid blockers like Nexium, Prilosec and Prevacid and antihistamines like Benadryl (diphenhydramine), often taken for sleep. Some statins like Lipitor can cause dementia-like symptoms but those symptoms are often reversible once discontinued.

### **TREATMENT**

Prevention is the key since, short of very aggressive lifestyle changes and a few supplements, NO drug has been developed to deal with dementia. Despite billions of dollars spent and countless attempts at creating an effective drug, there is nothing available to reverse, let alone cure any form of dementia. At best, the most recent drug approved, donanemab (Kisunla), which received full approval from the FDA in July 2024, slows progression of the most common form, Alzheimer's Disease. It is a monoclonal antibody which targets and helps clear amyloid plaques, slowing further progression of AD. But does nothing to deal with the damaging amyloid plaques already present. And the costs are significant. In addition to the price tag over \$100,000 a year, there are significant risks of intracranial bleeding and strokes.

**SUPPLEMENTS.** It's always better to get your nutrition from whole foods. Supplements are also completely unregulated, so it is important to make sure the supplements you take are as clean as possible and third party tested for contaminants and quality. That having been said, there are certain nutritional deficiencies which are common among most people and some supplements have been shown to be specifically helpful for brain and cognitive health. These include:

- A good multivitamin.
- Omega 3 fatty acids from algae, not fish, which is always contaminated with chemicals and plastics. Wild caught fish have a lot of Omega 3s, but they don't make it. They also get it from the algae they eat. Other healthy sources of Omega 3s are walnuts, flax seeds and even greens.
- CoQ10. Involved in cellular energy production, levels go down with age. This is very important to take particularly if you are on a statin, which reduce CoQ10 levels even further.
- Curcumin, the active ingredient in the root turmeric, reduces inflammation. It's better to get it from dried powder or the whole plant rather than a supplement.
- Vitamin D3, 3000-5000 IU/day. This hormone is deficient in 70% of Americans. It has many functions and deficiency increases risks of dementia by 40%.
- B12. Made by microbes in the soil, this vitamin is crucial for proper nerve function as well as how our bodies manage energy and transport oxygen to cells.
- Magnesium Glycinate. Magnesium is involved in over 300 cellular processes.
- Creatine. Also important in cellular energy management, levels of creatine gradually decrease with age. Take 5-10 grams a day

## **DIET and NUTRITION**

Although not listed as a specific modifiable risk factor in the study, diet is the **MOST** important of all our lifestyle habits. We eat and drink all the time. What you consume is the most significant factor affecting all chronic diseases, including those linked with cognitive decline and dementia.

- **EAT MORE PLANTS.** Focus on a predominantly whole food, plant-based diet. The main components of this include multiple servings a day of **FRUIT**, especially berries, **GREENS**, **CRUCIFEROUS VEGETABLES** like broccoli, cauliflower and Brussels Sprouts, **BEANS**, **WHOLE GRAINS**, **NUTS** and **SEEDS** and any other **VEGETABLES**. The more, the better. Only plants provide fiber which is key to gut health and our gut is where 70% of our immune system resides. 95% of Americans are deficient in daily fiber.
- **PROCESSED FOODS.** The more processed it is, the worse it is for you. There is a big difference between whole wheat and pastries made from wheat flour. If the label has more than 5 ingredients, you should avoid it. In fact, any ingredient label is a sign of added chemicals. There are over 10,000 chemicals in our food system. Almost none have been tested.
- **SALT.** Minimize added salt. 85% of the salt we consume comes from processed and canned foods, not the salt you add at home. Read labels. The highest sources of salt in Americans' diet is cheese and chicken. Salt raises blood pressure contributing to atherosclerosis and stimulates hunger.
- **SUGAR.** Minimize it, including honey and agave. Fructose is the most common contributor to fatty liver disease and honey has almost as much fructose as industrial high fructose corn syrup. And agave has twice as much fructose. Sugar causes inflammation throughout the body. Sweeteners, both natural and artificial, are no better, also triggering inflammation, mostly in the gut, and promoting continued craving of sweets.
- **FAT.** Reduce it. Especially saturated fat. Although some plants like avocado, nuts and seeds have a lot of fat, the proportion of healthier fats is much greater and the type of saturated fat is less harmful than the saturated fat from animal products. The majority of saturated fat comes from animal products like meat, fish, dairy and eggs. These increase inflammation and cause arterial narrowing throughout the body, including the brain. They also increase insulin resistance, worsening diabetes which also affects the brain. Some plants do have saturated fat, but its shape is different and healthier than animal saturated fat. Animal products also have trans fats. The only fat you need to worry about are the essential Omega 3 fatty acids. Most Americans are deficient. Although the highest concentration comes from fish, seafood is also very contaminated from chemicals and plastics. The best and healthiest source is where fish get it from anyway, algae.
- **CHOLESTEROL.** Our bodies, including the brain, make all the cholesterol we need. Any added cholesterol must be processed by the liver leading to larger amounts circulating and it deposits in your arteries. The only source of cholesterol in the diet comes from meat, fish, dairy and eggs. Plants don't have any cholesterol. And chicken has almost as much cholesterol as steak with only a little less fat. Chicken is actually the greatest source of saturated fat in the American diet.
- **WATER.** The brain loves water. It makes up 80% of it. Even a tiny drop in overall hydration impacts on cognitive function. Avoid sodas and even fruit juice, which is basically sugar water with all the fiber and other nutrients stripped away. Teas and coffees are great. Try to consume the cleanest water you can and avoid plastic bottles. Get a good home filter.