

Everything You Wanted to Know About Dementia

Dr. Smith **Live** with

72nd Episode

Topics:

- **What are the symptoms**
- **Causes of dementia**
- **Remedies for dementia and Alzheimer's disease**
- **Natural way of recovering from brain damage**
- **Why homocysteine is dangerous for your brain**
- **Factors contributing to high homocysteine levels**
- **Supplements that lower homocysteine levels**

“Remember, the dementia patient is not giving you a hard time. The dementia patient is having a hard time.” Author Unknown

Topic: [Everything You Wanted to Know About Dementia](#)

When: Thursday, June 9, 2022

Time: 8:00 pm

Symptoms

Dementia symptoms include impairments in thinking, communicating, and memory.

Subtle Short-Term Memory Changes. Trouble with memory can be an early sign of dementia. The changes are often subtle and tend to involve short-term memory.

- Difficulty finding the right words.
- Depression, for instance, is typical of early dementia.
- One typical type of personality change seen with dementia is a shift from being shy to outgoing.
- Apathy, or listlessness, commonly occurs in early dementia. A person with symptoms could lose interest in hobbies or activities.
- Confusion
- Being repetitive
- The sense of direction and spatial orientation commonly starts to deteriorate with the onset of dementia.

Causes for dementia

1. There is a possible connection between uncontrolled blood pressure and dementia. Important new studies link high blood pressure, especially in midlife, to an increased risk for dementia later in life.
 - a. Atherosclerosis: Matthias Rath: Vit. C, Proline, and Lysine will clean out the arteries; also Clinician's Preference (omega 6: omega 3)

Note: Alzheimer's disease disrupts both the way electrical charges travel within cells and the activity of neurotransmitters. 100 billion nerve cells and 100 trillion connections.

2. Chemotherapy will cause chemo brain (dementia):
3. Degeneration: Chronic inflammation

4. Statin drugs: lower cholesterol preventing your brain from healing.
 - a. The cortex shrivels up, damaging areas involved in thinking, planning and remembering.
 - b. Shrinkage is especially severe in the **hippocampus**, an area of the cortex that plays a key role in formation of new memories. Behavior center.
 - c. Plaques (beta-amyloid), abnormal sticky clusters of protein fragments, build up between nerve cells. Beta-amyloid comes from a larger protein found in the fatty membrane surrounding nerve cells.
 - d. A protein called tau helps the tracks stay straight.
 - e. Tau collapses into twisted strands called tangles. Nutrients and other essential supplies can no longer move through the cells, which eventually die.

4. Remedies for dementia and Alzheimer's disease; Dr. Miles Fielding
 - a. Coconut oil: research from Brown University regulates glucose; results in brain atrophy; insulin resistance.

Ketones from MCTs Stimulate the Growth of New Brain Cells

“Ketones are energy producing molecules made from fats. Our bodies can make them from stored fat or from special fats known as medium chain triglycerides (MCTs) found in coconut oil. Ketones are produced specifically by the body to feed the brain... Ketones not only supply a superior source of energy to the brain but trigger the activation of specialized proteins called brain derived neurotrophic factors that function in brain cell maintenance, repair, and protection. They also stimulate the growth of new brain cells to take the place of dead or dying cells. This allows healing and repair to take place. Ketones are ordinarily produced when blood glucose levels become low. Since glucose is the body's primary source of energy, when glucose levels fall, the body starts mobilizing stored fat to produce ketones to maintain adequate energy levels.”

Medium-chain triglycerides are very important for proper functioning of neurotransmitters in the brain and coconut oil is full of them. One particular thing I found out about MCTs is that they work synergistically with Omega-3 fatty acids liberating them from fat stores in the body and allowing them to be utilized by the brain more efficiently —

Coconut oil has high amounts of MCTs (Medium-Chain Triglycerides); it is rich in lauric acid and caprylic acid. Coconut oil reduces oxidative stress; it has powerful anti-fungal, antiviral, antimicrobial and anti-parasitic activity. It supports the immune system, is thyroid stimulating, controls blood sugar, improves cognition, repairs damaged tissues and supports healthy digestion. Coconut oil nourishes the brain; it helps with brain function, the repair and protection of the brain, facilitating proper functioning of neurotransmitters and more.

b. Tumeric:

c. Gingko Biloba

d. Bacopa

e. Butter (grass feed)

f. GABA

g. Animal-Based Omega-3 Fats

h. Vitamin D

i. DHA consumption reduced Alzheimer's risk by about a half.

j. Lowering homocysteine by giving appropriate supplemental levels of homocysteine lowering nutrients, including B6, B12 and folic acid, would reduce risk.

Ketones help repair the brain of dementia and Alzheimer's disease
Growth and differentiation factor 10 (GDF10) is a key player in repair mechanisms following stroke. GDF10 stimulates axonal sprouting, which is activated as the brain attempts to overcome the damage.

The Natural Way of Recovering from Brain Damage

The brain repairs itself naturally in three ways - collateral sprouting, substitution of function, and neurogenesis.

1. Collateral Sprouting happens when axons grow new branches to compensate with adjacent damaged and non-functioning neurons.

Picture a spider fixing a hole in its web.

2. Substitution of Function happens when the function of the damaged area is taken over by another area in the brain.

3. Neurogenesis happens when new neurons are generated in the brain. Gould and others (1999) documented thousands of new growing neurons in monkeys.

Demential statistics: 21 million to 53 million by 2053

People with Alzheimer's live an average of eight years, but some people may survive up to 20 years.

A diet that is high in fat (60-70% of calories), is almost by definition low in carbs, and this means that when eating a high fat diet, it is likely that one is at least partially and some of the time in a state of ketosis. For those of you who don't know, ketosis is what it is called when the body switches over from burning glucose (the kind of sugar our body uses as fuel) to burning an alternate fuel called ketones, which are made from the breakdown of fatty acids in the liver when glycogen (how the body stores glucose) levels are depleted.

Ketogenic diets also up regulate mitochondrial biogenesis – the process by which new mitochondria are formed inside of cells. So we have a more efficient fuel producing more energy and stimulating the growth of even more fuel engines (the mitochondria) – no wonder people report the effect

of a high fat diet being like ‘the lights were turned on’. The increase in the formation of mitochondria is especially beneficial when we take into account that mitochondrial damage and energy production failure are central components of many neurological disorders.

Glutamate toxicity can lead to neuronal injury and even neuronal death by creating free radicals and inhibiting mitochondrial function.

As foods ripen, the levels of free glutamate increase resulting in a richer, more flavorful taste. This is why foods naturally high in glutamate when ripe or mature, such as tomatoes, cheese and mushrooms, are used to enhance the taste and balance of savory recipes.

Food sources: Soy sauce (1264 mg/100g); Parmesan cheese(1680 mg/ 100 g); Roquefort cheese (1280 mg/100g); Fish sauces (1383 mg/100g); Walnuts (658 mg/100g); Cured ham (337 mg/100g).

Docosahexaenoic acid, or DHA, an omega-3 fat, is an essential structural component of both your brain and retina. Approximately 60 percent of your brain is composed of fats—25 percent of which is DHA. DHA is also an essential structural ingredient of breast milk,

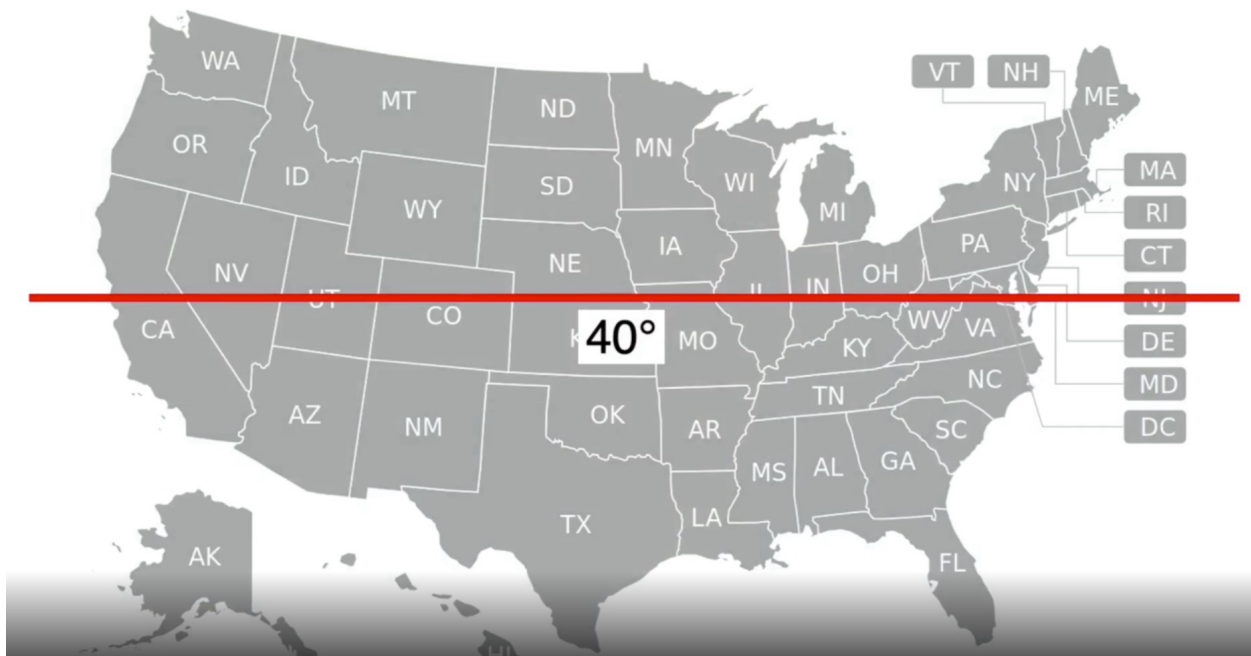
DHA levels have been linked to memory loss and Alzheimer's disease.

Activated vitamin D receptors increase nerve growth in your brain, and researchers have also located metabolic pathways for vitamin D in the hippocampus and cerebellum (muscle balance) of the brain, areas that are involved in planning, processing of information, and the formation of new memories.

The National Institutes of Mental Health recently concluded that it is vital that the mother get enough vitamin D₃ while pregnant in order for the baby's brain to develop properly. The child must also get enough vitamin D₃

after birth for "normal" brain functioning. In older adults, too, research has shown that low vitamin D₃ levels are associated with poorer brain function, and increasing levels may help keep older adults mentally fit.

Appropriate sun exposure would take care of these issues, as the sun is irreplaceable when it comes to the body's ability to produce adequate amounts of vitamin D₃.



Sun exposure above the 40 degree line is not sufficient to give one adequate levels of vitamin D₃.

Appropriate sun exposure is all it takes to keep your levels where they need to be for healthy brain function. If this is not an option, a safe tanning bed is the next best alternative, followed by a vitamin D₃ supplement. It now appears as though most adults need about 8,000 IU's of vitamin D₃ a day in order to get their serum levels above 40 ng/ml, which is the lowest they should be. Ideally, your serum levels should be between 50-70 ng/ml, and up to 100 ng/ml to treat cancer and heart disease. However, it's important to realize that there's no magic dosage when it comes to vitamin D₃. What's important is your serum level, so you need to get your vitamin D₃ levels tested to make sure you're staying within the optimal and therapeutic ranges as indicated below.

**VITAMIN D LEVELS
25 HYDROXY D**

Deficient	Optimal	Treat Cancer and Heart Disease	Excess
< 50 ng/ml	50-70 ng/ml	70-100 ng/ml	> 100 ng/ml

Multiply ng/ml by 2.5 to convert to nmol/litre

Homocysteine Reduction

Homocysteine is an amino acid made from a common dietary amino acid, methionine, that inflicts damage to the inner arterial lining (endothelium) and contributes to many diseases:

- cardiovascular disease
- congestive heart failure
- stroke
- migraines
- age-related macular degeneration
- hearing loss
- **brain atrophy**
- **Alzheimer's disease**

Fortunately, B vitamins like folate, vitamins B6 and B12, and other integrative interventions can reduce homocysteine and counteract this destructive process.

Causes of High Homocysteine Levels (Hyperhomocysteinemia)

Many factors contribute to high homocysteine levels:

- Insufficient folate, vitamin B6, vitamin B12, betaine, vitamin B2, and magnesium
- Prescription drug use (including cholestyramine, colestipol, fenofibrate, levodopa, metformin, methotrexate, niacin, nitrous oxide, pemetrexed, phenytoin, sulfasalazine)
- High-methionine diet (including red meat and dairy products)
- Smoking
- Coffee
- Alcohol consumption
- Advancing age

- Obesity
- Genetic variant that causes an impaired ability to metabolize active folate from folic acid

Note: Life Extension believes that the optimal range for homocysteine levels is $<7-8 \mu\text{mol/L}$, much lower than the currently accepted $<15 \mu\text{mol/L}$.

Dietary and Lifestyle Changes

Several dietary and lifestyle changes can help reduce chronic inflammation:

- Avoid methionine-rich foods like red meat and dairy products
- Exercise, as patients in a cardiac rehabilitation program showed a reduction in homocysteine from exercise alone
- Decrease or eliminate alcohol and smoking

Integrative Interventions

- **B vitamins:** Folate, along with vitamins B6 and B12, has been shown in numerous studies to help lower homocysteine levels. The active form of folate, L-methylfolate, can achieve plasma folate levels up to 700% higher than synthetic folic acid and therefore may be more effective at lowering homocysteine levels.
- **Betaine** (trimethylglycine) and Choline: Higher intakes of TMG and choline (which is converted to TMG in the body) are related to lower circulating homocysteine concentrations.
- **N-acetyl L-cysteine** (NAC): NAC may displace homocysteine from its protein carrier, which lowers homocysteine and promotes the formation of cysteine and glutathione, a powerful antioxidant.

- **S-adenosylmethionine (S-AdoMet)**: Supplementing with S-AdoMet promotes the conversion of homocysteine to cysteine, which is then converted to glutathione and lowers homocysteine levels.
- **Taurine**: Research suggests taurine can block methionine absorption (which is converted to homocysteine in the body) and produce a significant decline in homocysteine levels in 4 weeks.

Interestingly, infrared light through the ears can stimulate neurogenesis of brain neurons.