

Genetic Lifehacks

Learn. Experiment. Optimize.

Hi everyone,

Genetic Lifehacks is all about optimizing health and preventing the diseases to which you may be genetically susceptible.

It's a great goal, but the boogeyman at the end of the path for many of us is one with few solutions: *Alzheimer's disease*.

Worldwide, lifespan has increased quite a bit over the last couple of decades. A decrease in smoking has lowered the rate of lung cancer and heart disease deaths. HIV medications and tuberculosis vaccines have had a huge impact in many nations. In the US, the CDC estimates that the flu vaccine alone averted >50,000 deaths over the past decade. [\[ref\]](#)

The increase in lifespan has brought with it a shift to deaths from non-communicable diseases. The WHO puts deaths from Alzheimer's disease as the #2 cause of death for 2019, with 87 deaths/100K in the US. That rate is almost triple what it was in 2000, with only part of the increase explained by the two-year gain in average life expectancy. [\[ref\]](#)

While research has focused for decades on reducing amyloid-beta plaque to cure Alzheimer's, clinical trials for this have repeatedly failed. Recently, the focus has broadened to include many other targets such as reducing inflammation, decreasing cellular senescence, and increasing mitochondrial function in the brain.

Today's featured article is about a way to increase neurogenesis in the brain regions impacted by dementia. It may seem a bit 'out there', at first glance, but the science behind it is fascinating! And stay tuned, I have more articles on the way about different approaches to Alzheimer's prevention.

Gratefully yours,

Debbie

Alzheimer's Brain



LSD



Serotonin 2A receptor variants: psychedelics, brain aging, and Alzheimer's disease

What do Alzheimer's disease and LSD have in common?

The serotonin 2A receptor...

Clinical trials are underway for using low-dose LSD or psilocybin, two psychedelic drugs that bind to the serotonin 2A receptor, to treat Alzheimer's disease.

This article digs into the current research on the serotonin 2A receptor, psychedelics, and genetic variants -- with a focus on brain aging and dementia.

[View your genes...](#)

What I've been reading:

1) [Environmental DNA Can Be Pulled from the Air](#)

Surrounding you (and everyone) is a cloud of bacteria, viruses, and even your own shed DNA. In a new study, researchers explain how they are able to detect an animal's DNA in both air samples from a burrow and from general room air where the animals have been housed.

The researchers think that airborne DNA sampling can be used for tracking endangered species - or for tracking down people, with forensic or public

health applications. Prior research shows that land animals, such as endangered species, can be tracked by looking for their DNA in nearby water bodies.

2) [Mice could someday become venomous, suggests study on the evolution of oral venom systems](#)

This is an interesting article on new research on the genes associated with venom production. It turns out that most of the same genes involved in producing venom are present in other animals, including mice, dogs, and humans. Instead of venom, though, the genes in this pathway are involved in saliva production.

3) [People With Dementia Are Twice as Likely to Get Covid](#)

Researchers analyzed the patient electronic health records of almost 62 million adults in the US. The results showed that dementia patients were at a two-fold increase in the risk for COVID-19. This two-fold increase in risk was after adjustments for age, sex, race, comorbidities, and nursing home stay. In the study, the mortality rate for people with dementia and COVID was around 20%. Why were people with dementia at a greater risk for COVID-19? The researchers point to previous studies showing that people with dementia have a leaky blood-brain barrier, which leads to increased bacterial and viral infections.

Genetic Lifehacks

Bozeman, MT

You received this email because you are a Genetic Lifehacks member.

[Unsubscribe](#)