

# New Insights Into Aging: Focus on 2022 Studies

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Benefits of Aging:


New Thoughts on  
Aging Well

You Have Two  
Ages.....



# What Is Aging?





How Many Cells Are  
You?

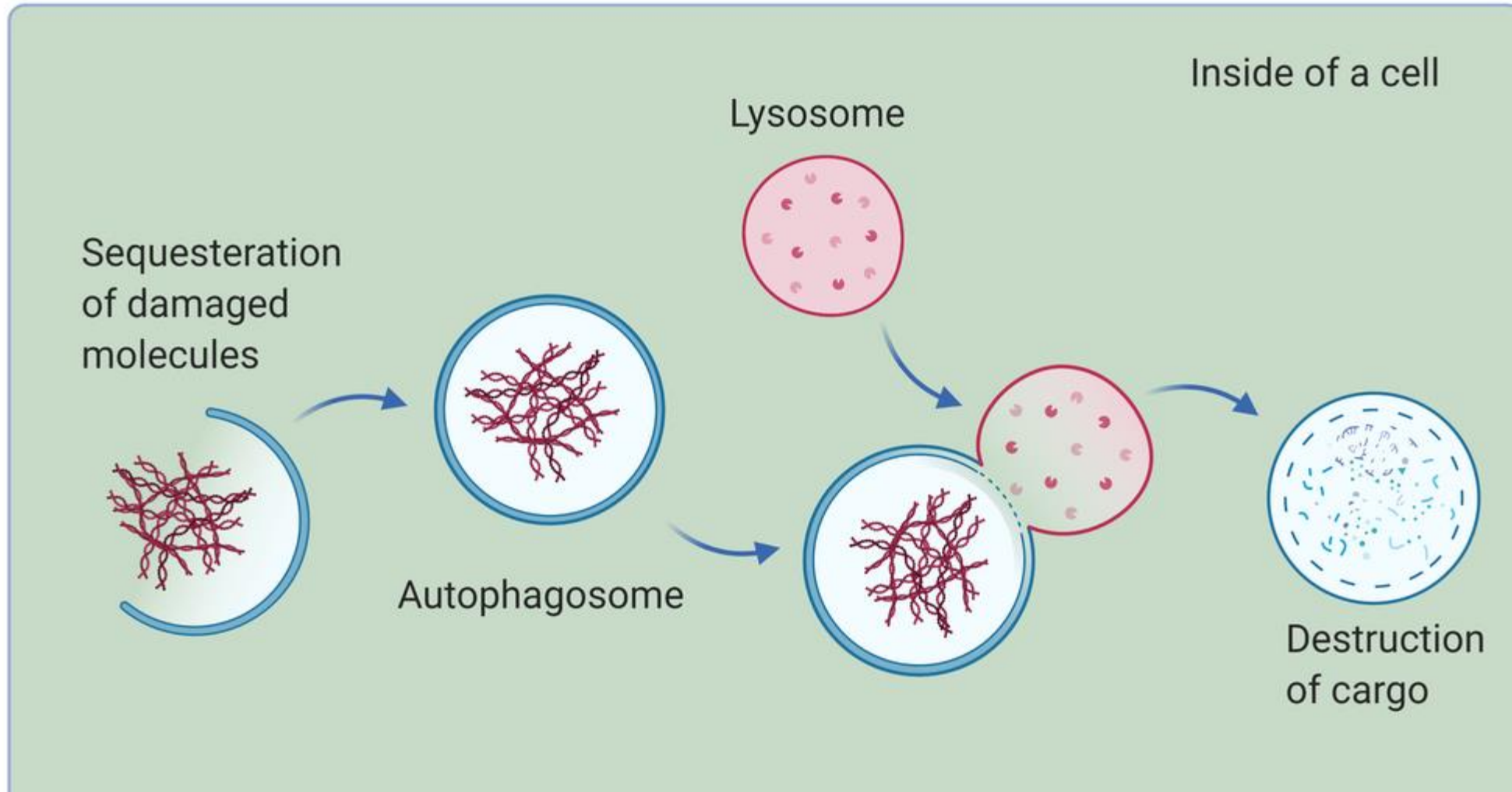
The image features a white background with decorative curved lines in the corners. In the top right corner, there is a thick, multi-layered arc that transitions from a light blue color to a light green color. In the bottom left corner, there is a similar thick, multi-layered arc, also transitioning from light blue to light green. The text "Count to a Trillion?" is centered on the page in a dark blue, sans-serif font.

Count to a Trillion?

# There is a part of your body that is always at most 3 years old (on average).....

- No matter what your chronological age....

# Aging: Autophagy

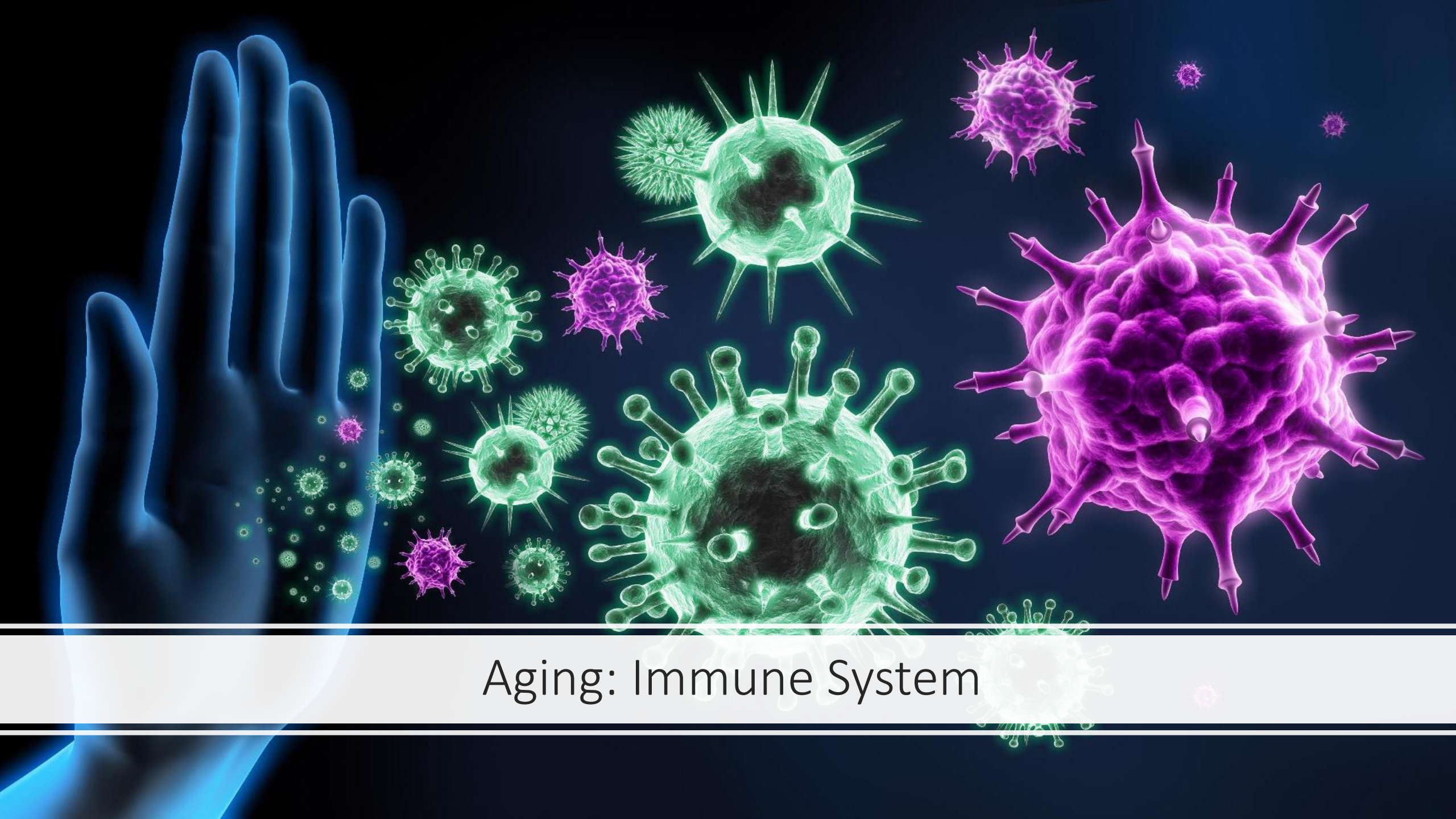






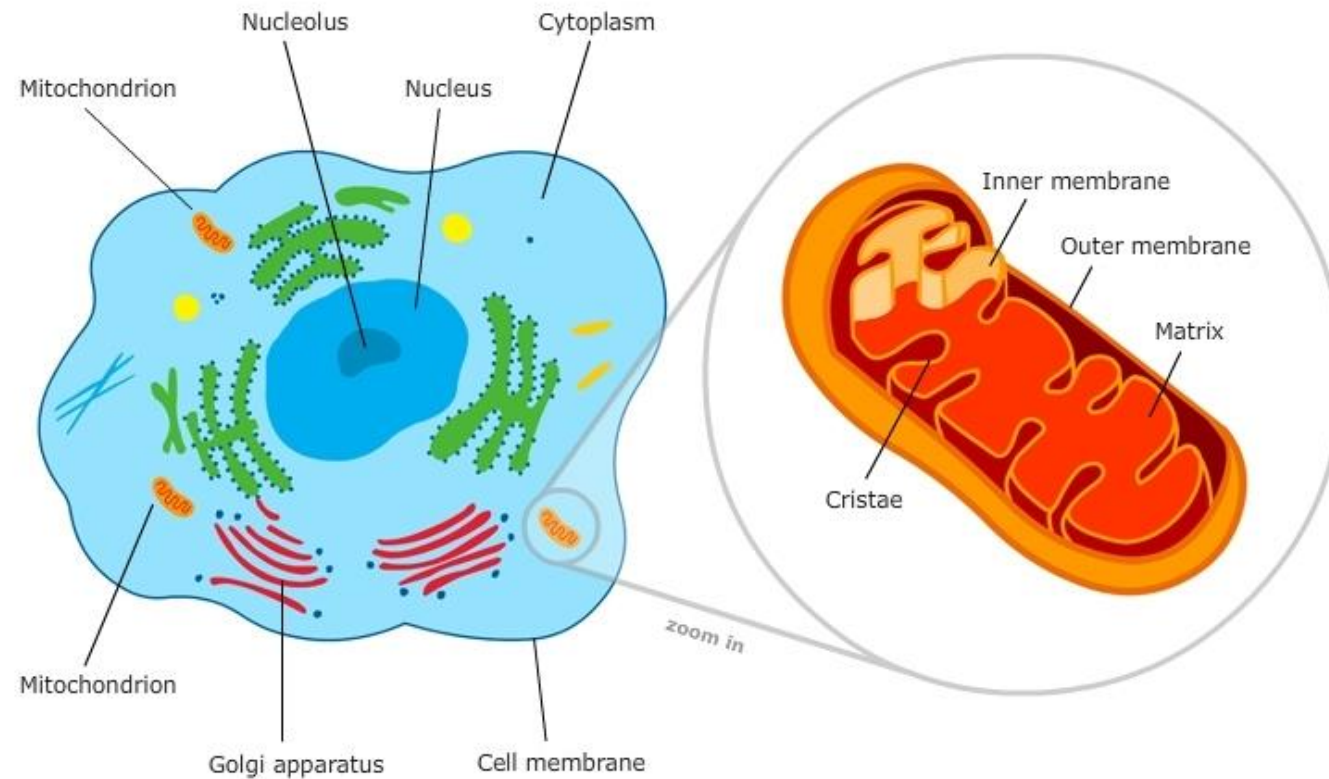
## Aging Brain





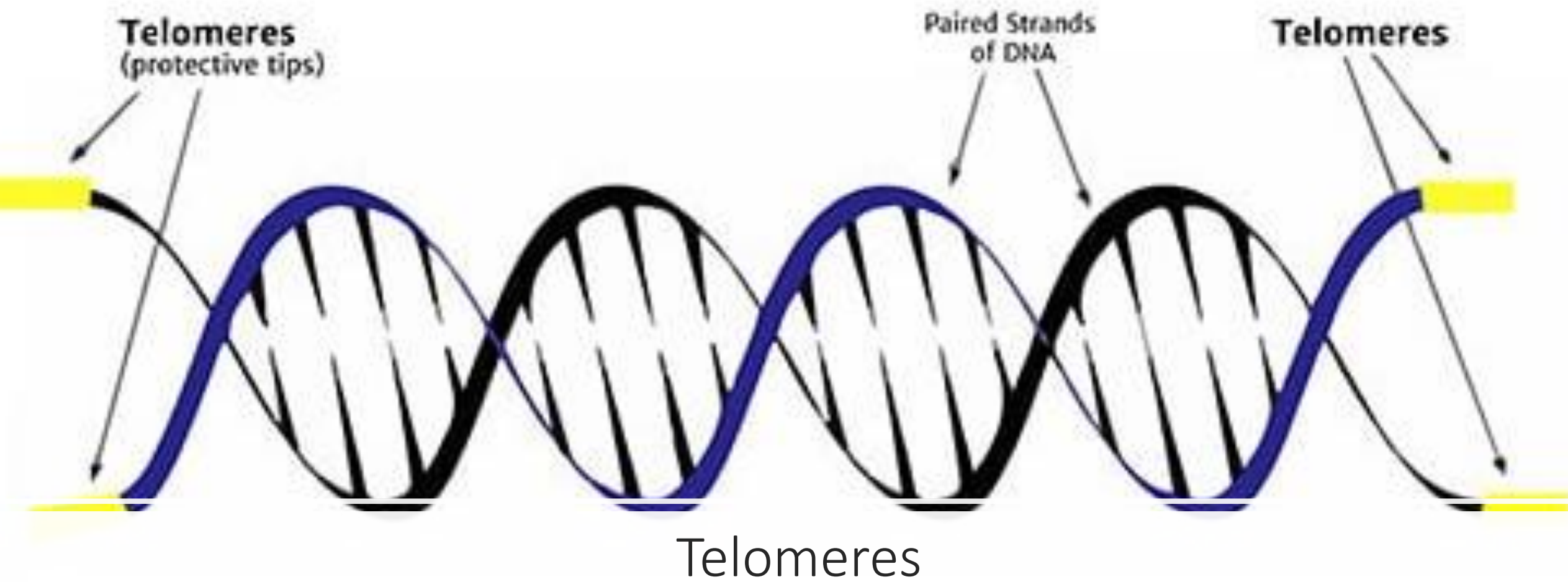
Aging: Immune System


# Aging in Mitochondria



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The background features a light blue-to-green gradient. On the left side, there are several overlapping, wavy, light blue shapes that curve towards the center. On the right side, there are similar wavy shapes in a light green color, also curving towards the center.

Take Home  
Message: Aging is  
Complex



# 6 Ways To Slow Down The Aging Process

# Type 2 diabetes accelerates brain aging and cognitive decline

- Normal brain aging is accelerated by approximately 26% in people with progressive type 2 diabetes compared with individuals without the disease
- People with diabetes had a further 13.1% decrease in executive function beyond age-related effects, and their processing speed decreased by a further 6.7% compared to people of the same age without diabetes.
- People with type 2 diabetes had consistently and markedly lower cognitive performance compared to healthy individuals who were the same age and similarly educated.

Why?



Take Home  
Message:

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Treat diabetes and  
pre-diabetes:

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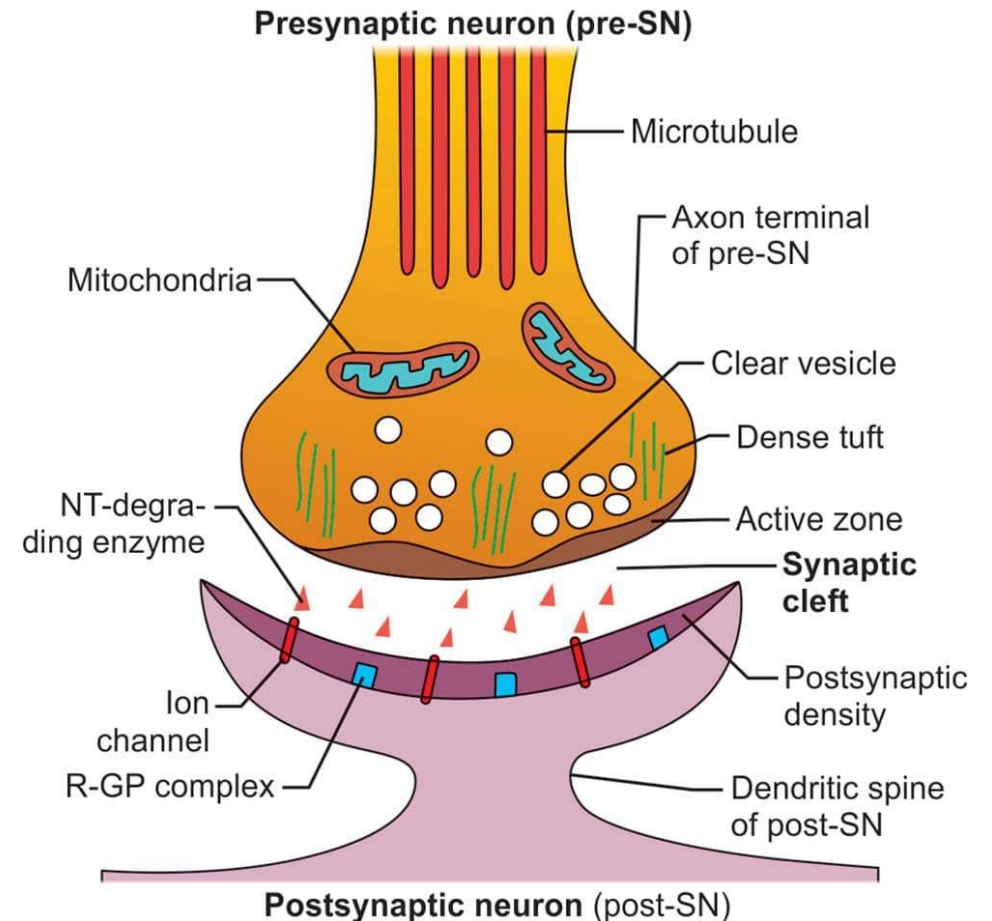
Hemoglobin a1c

# Connections Between Brain Cells: Synapses

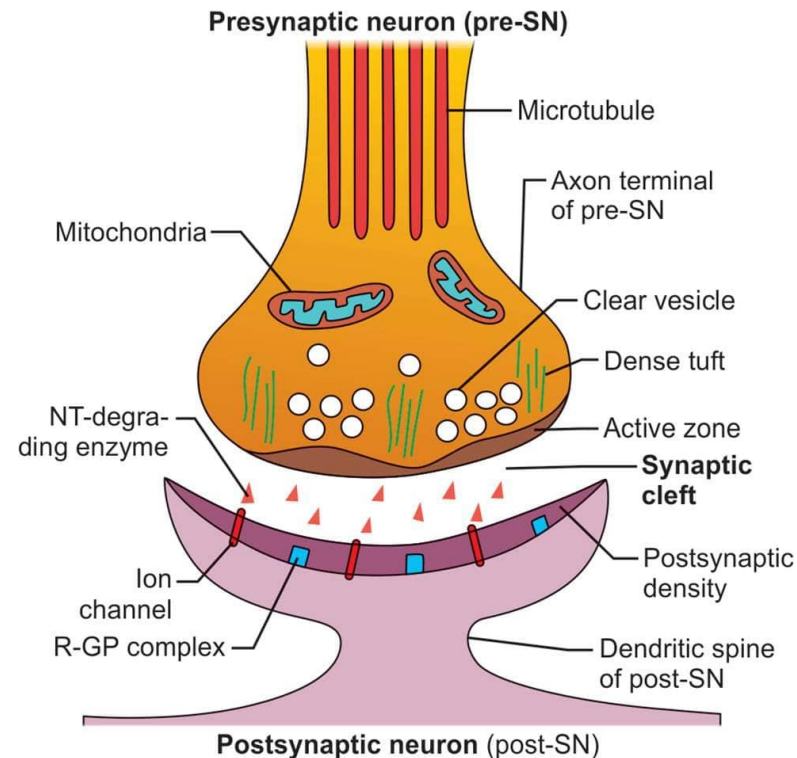
How many?

What happens as we age?

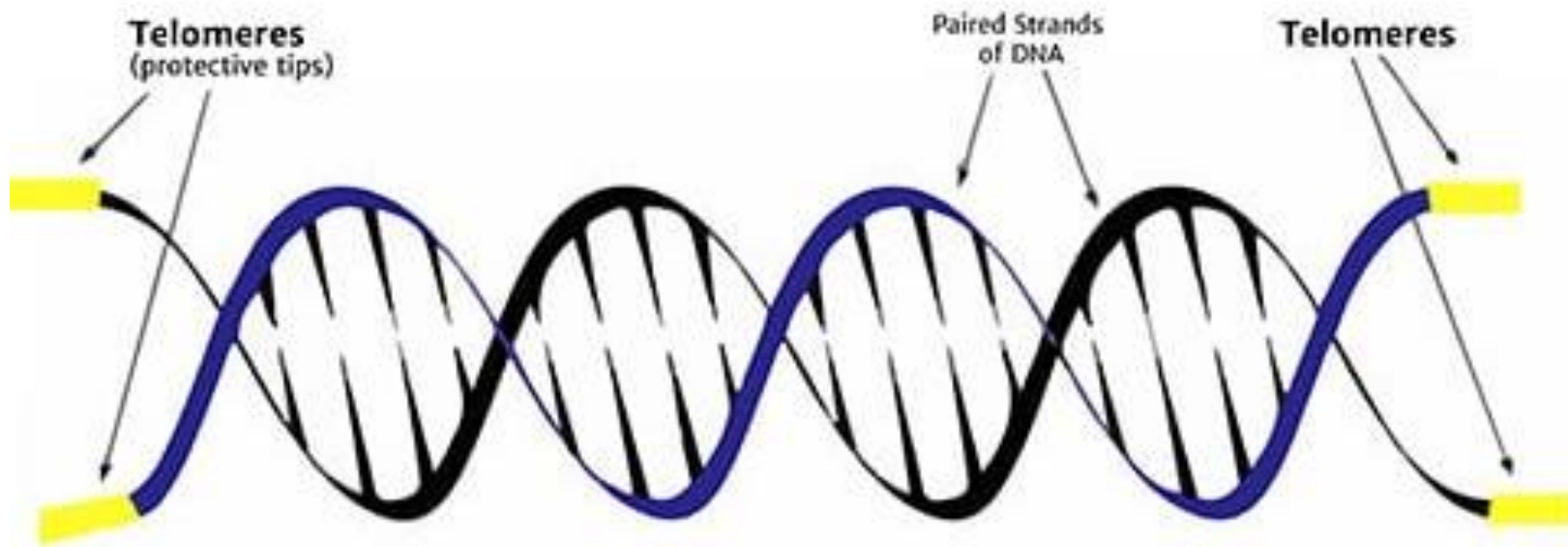
A way to counteract loss?



# Exercise alters brain chemistry to protect aging synapses and Enhanced nerve transmission seen in older adults who remained active

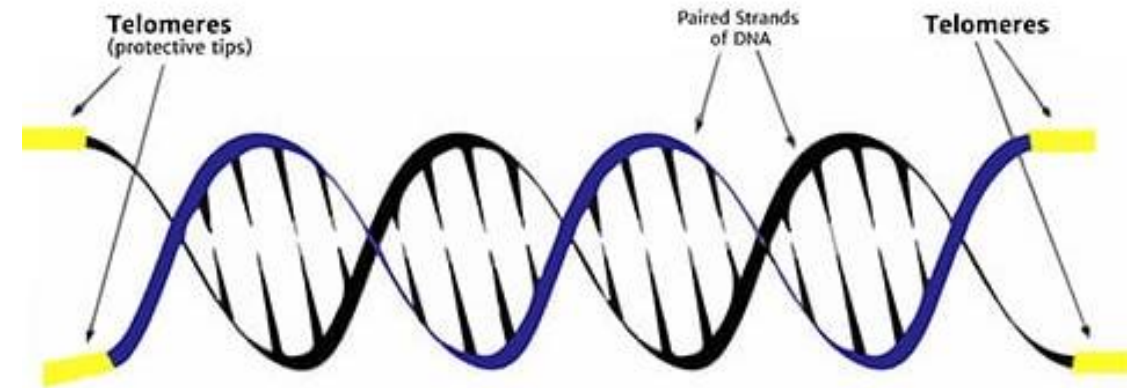


# Protect Telomeres?

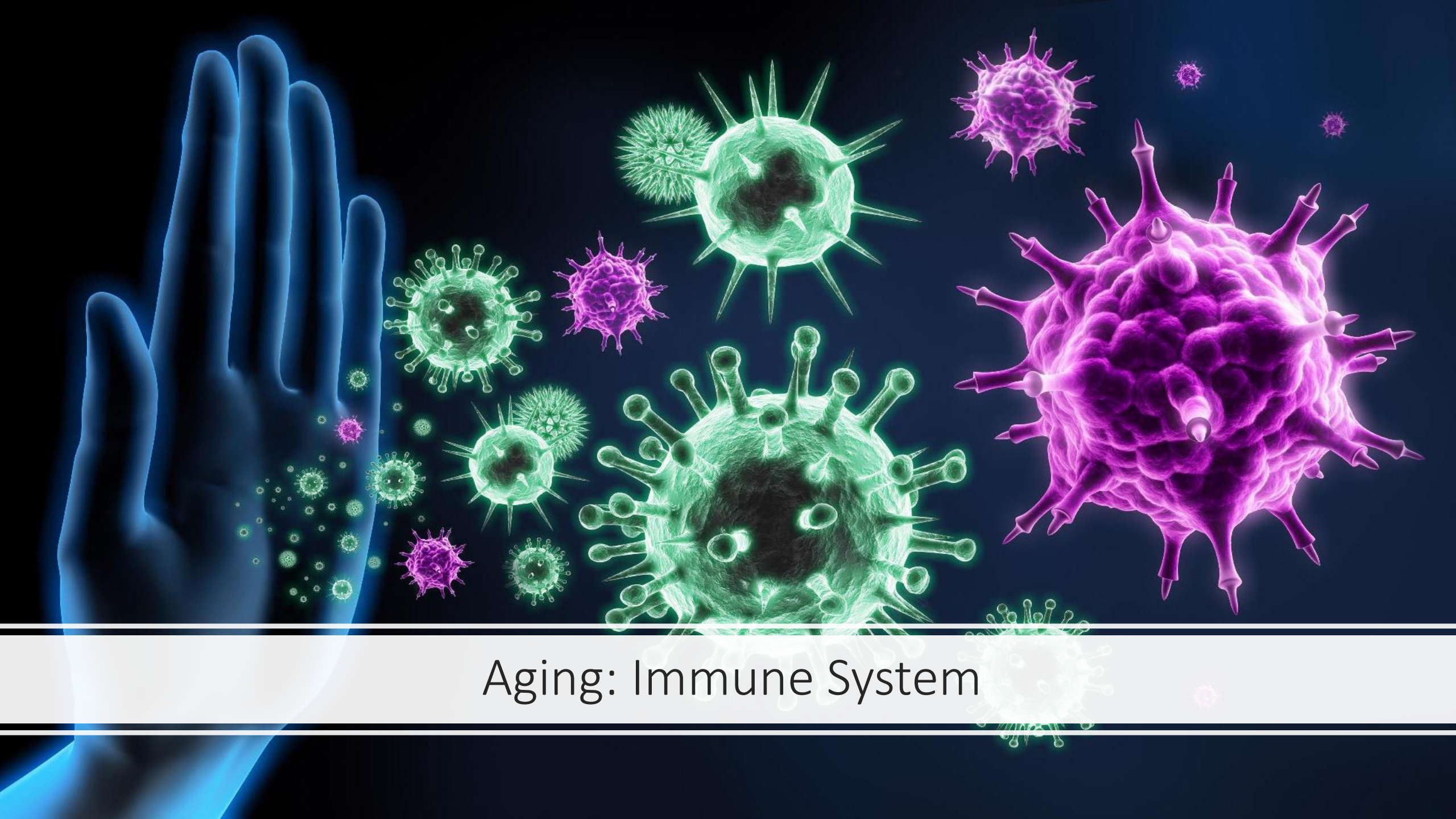


# Brisk walking may slow biological aging process

- A new study of more than 400,000 UK adults has revealed a clear link between walking pace and a genetic marker of biological age.
- Researchers estimate that a lifetime of brisk walking could lead to the equivalent of 16 years younger biological age by midlife.
- **10 minutes of brisk walking a day is associated with longer life expectancy, and that brisk walkers have up to 20 years' greater life expectancy compared to slow walkers.**







Aging: Immune System

# How highly processed foods harm memory in the aging brain

- Four weeks on a diet of highly processed food led to a strong inflammatory response in the brains of aging rats that was accompanied by behavioral signs of memory loss,
- Neuroinflammation and cognitive problems were not detected in young adult rats that ate the processed diet.
- The study diet mimicked ready-to-eat human foods that are often packaged for long shelf lives, such as potato chips and other snacks, frozen entrees like pasta dishes and pizzas, and deli meats containing preservatives.



# Take Home Message:

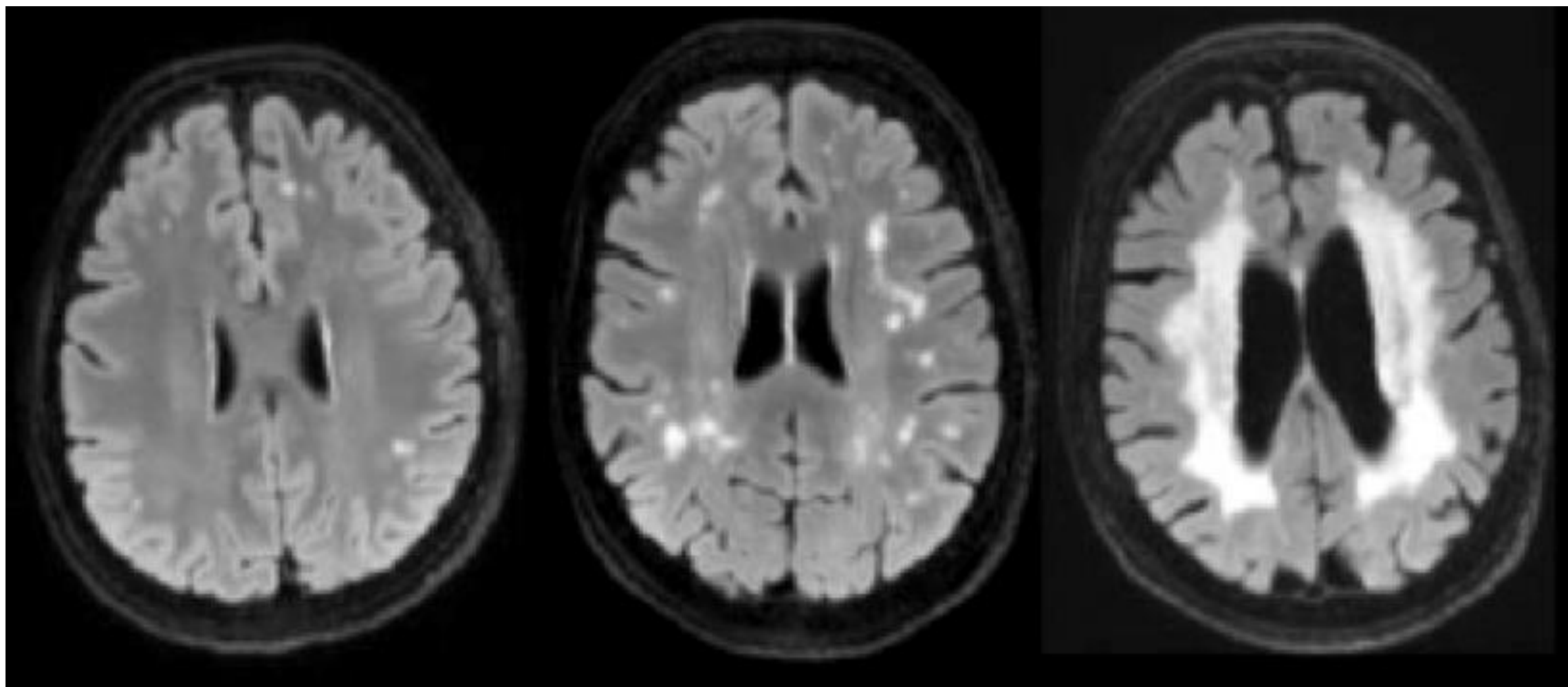
- Researchers also found that supplementing the processed diet with the omega-3 fatty acid DHA prevented memory problems and reduced the inflammatory effects almost entirely in older rats.
- Consider more veggies and non-fried fish during the week.



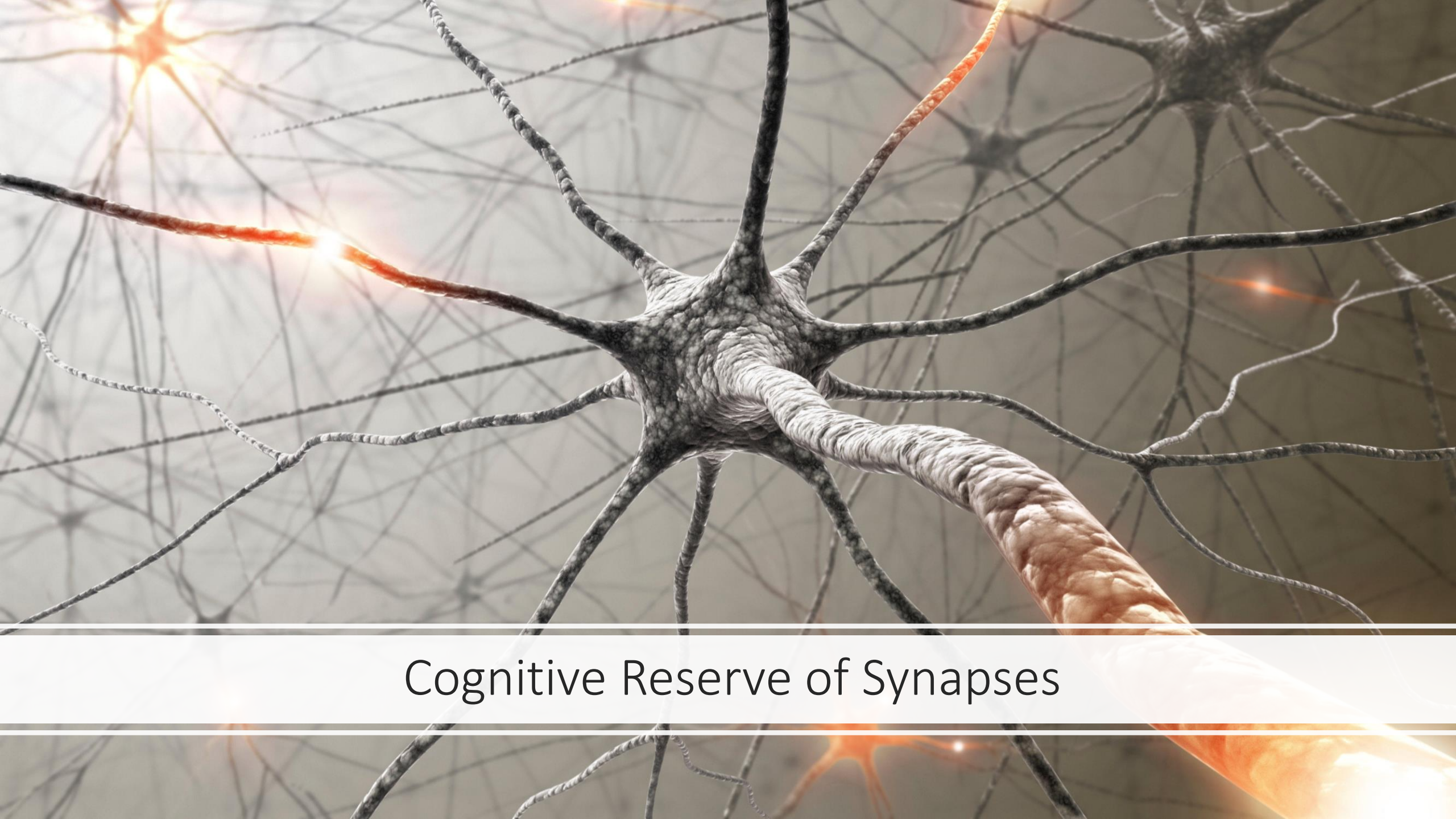




## Aging Brain



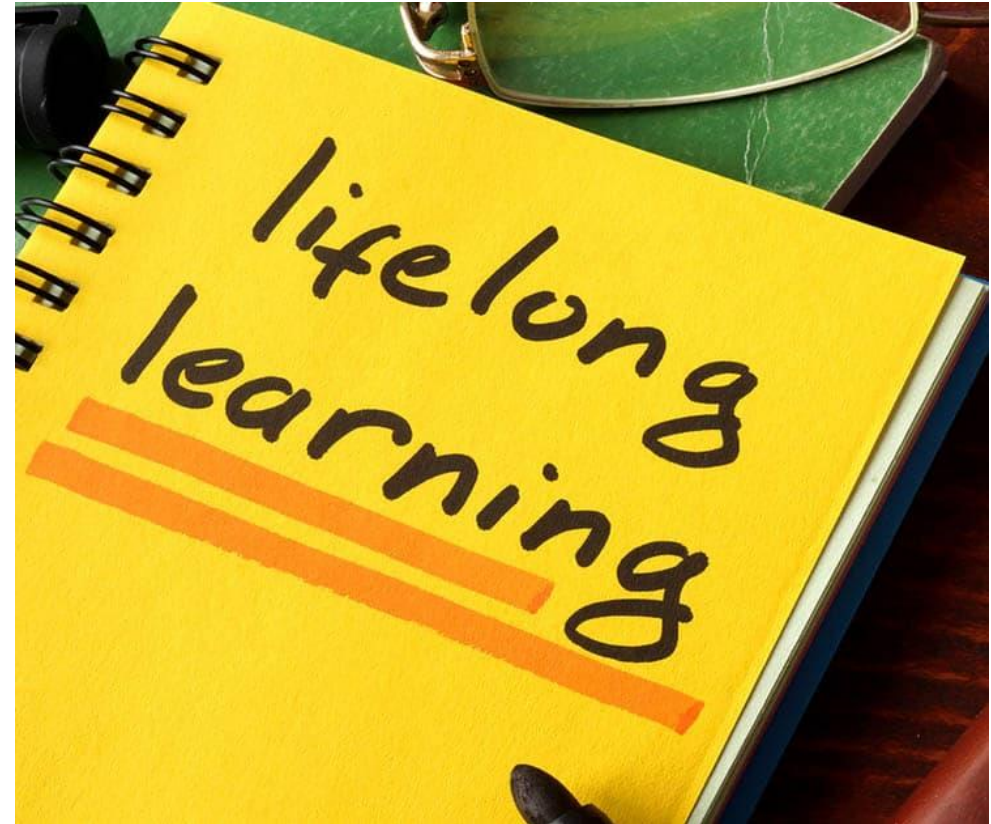




## Cognitive Reserve of Synapses

# Academic Education and Lifelong Learning can positively affect aging of the brain

- Researchers followed more than 200 senior citizens for over seven years.
- Study participants are not affected by dementia, have average to above-average intelligence and lead highly active social lives.
- Used MRI
- **White spots and black holes**
- The findings revealed that over the course of seven years, senior citizens with an academic background showed a significantly lower increase in these typical signs of brain degeneration.



# Complex Science: Simple Actions To Slow Down Aging

- 1. Monitor Blood Sugar and Treat Pre-diabetes and Diabetes to Protect Brain
- 2. Exercise to Keep Synapses Strong
- 3. Brisk Walking to Keep Telomere Length
- 4. Swap Processed Foods for Veggies and Fish More Often
- 5. Lifelong Learning for more synapses
- 6. ??????



# Attitude On Aging

- Study found that those who had a positive attitude toward their age and the aging process had a 49.8 percent lower risk of dementia, even if they had a genetic risk for Alzheimer's.