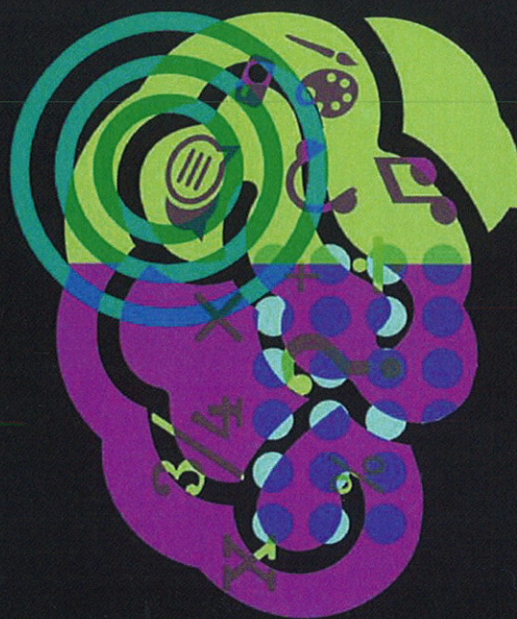


ME, MY BRAIN, AND I


BUILDING A HEALTHY BRAIN FOR TODAY AND TOMORROW



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stockton.edu/brainhealth

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Stockton is an AA/EQ Institution.

NOTES

We would like to thank you for joining us for this special event! It is our hope that sharing the latest science on brain health will promote the positive changes needed to maintain a healthy brain for life!

For your reference, a copy of this brochure and all event presentations are available from the main event website:

stockton.edu/brainhealth

FOOD FOR THE BRAIN

Allison Simon, Joseph Pettinelli and Shayna Vrabel

OMEGA 3/ FATTY ACIDS

- Recommended daily intake: 1.6 grams (Mayoclinic.org).
- Delay the onset of cognitive decline.
- Good sources of Omega-3-fatty acids include fatty fish such as salmon and tuna, eggs, and walnuts.

B VITAMINS

- Recommended daily intake: 25-100 micrograms of B12, 1.3-1.7 milligrams of B6, and 400-1000 micrograms of folic acid (Mayoclinic.org).
- Brain volume loss is associated with low vitamin B12 levels (Oxfordjournals.org).
- B vitamins can be found in eggs, nuts, and greens such as spinach and asparagus.

ANTIOXIDANTS

- Recommended daily intake: 75-120 milligrams (Mayoclinic.org).
- Enhances memory and mood by preventing damage from free radicals in the brain.
- Good sources of antioxidants include blueberries, kiwi, avocado, tomatoes, and watermelon.



NOTES

RESOURCES

www.alz.org/research/science/alzheimers_prevention_and_risk.asp:

A great source to learn more about Alzheimer's disease, dementia and your diet.

Thehealthscienceacademy.org:

This website offers free nutrition courses online and allows you to further your education about your diet.

Mayoclinic.org:

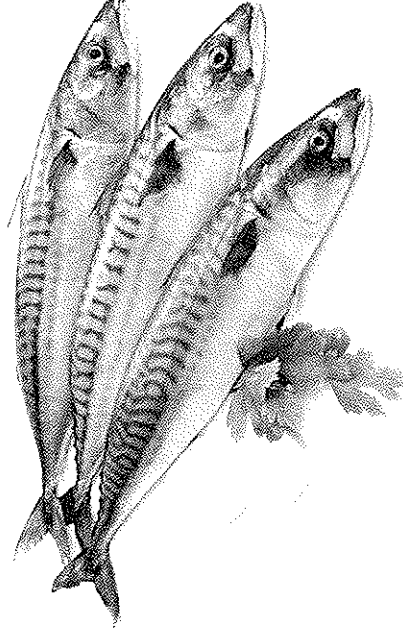
Here you can find information on how specific nutrients affect the brain.

Mydailyintake.net:

A great place to learn how much of each nutrient you should obtain daily.

<http://fnic.nal.usda.gov/fnic/interactiveDRI/>:

Calculate your personal recommended daily nutrient intake.



THE LINK BETWEEN MOOD AND MEMORY

Antonia Szymanek, Erika Coughlin and Jemila Worley

Mood and Depression On Cognition:

- Changes in mood can increase cognitive decline and cause individuals to become forgetful or confused.
- Depression has been linked to problems with memory and difficulty making decisions.
- Problems such as emotional changes, physical changes, stress, and cognitive changes can cause cognitive decline.
- A type of disorder that can be linked to depression is Pseudodementia. Pseudodementia is when an individual who has depression also has dementia-like symptoms (mentalhelp.net).
- Many older adults who suffer from depression report having difficulty with concentration and memory.
- These cognitive functions are directly linked to slowed processing speed (how quickly you can understand what you are seeing, hearing, reading etc.) and working memory (what you are thinking about at this very moment) as a result of depression (Ingram et al., 2007).

How Does a Negative Mood or Depression Impact The Brain?

- Depression reduces connectivity, reducing the effective connections between brain regions.
- Brain connectivity is how one brain region shares information with another brain region.
- When connectivity is poor, it is more difficult for the brain to carry out functions such as paying attention, or putting a thought into words (Anand et al. 2005).

Treatments:

- Antidepressants-drugs can be used to treat depression (medicinenet.com).
- Cognitive Behavioral Therapy (CBT).

Prevention techniques, according to the

National Institute of Aging:

- Find activities, such as exercise or a hobby, to relieve feelings of

Proven and effective ways to delay atypical cognitive decline:

1. Reducing blood pressure.
2. Exercising regularly, 3-5 times per week.
3. Staying socially active and involved.

RESOURCES

2015 Facts and Figures about Alzheimer's Disease
www.alz.org/facts/downloads/facts_figures_2015.pdf

Tips for talking to your doctor

www.nia.nih.gov/health/publication/talking-your-doctor/opening-thoughts-why-does-it-matter

American Psychological Association: Memory and Aging
www.apa.org/pi/aging/memory-and-aging.pdf

Further Research on Alzheimer's Disease
www.alz.org/research/

Alzheimer's Association: 10 Early Signs and Symptoms of Alzheimer's
www.alz.org/alzheimers_disease_10_signs_of_alzheimers.asp

Amyloid Plaques & Neurofibrillary Tangles
www.brightfocus.org/alzheimers/about/understanding/plaques-and-tangles.html

National Institute on Aging: Alzheimer's Disease Fact Sheet
www.nia.nih.gov/alzheimers/publication/alzheimers-disease-fact-sheet

Symptoms, Stages, Diagnosis, and Coping Tips for Alzheimer's Disease - Contains a brief MCI/ Alzheimer's Questionnaire
www.helpguide.org/articles/alzheimers-dementia/alzheimers-disease.htm

Treatments for the symptoms of Alzheimer's Disease
www.alz.org/alzheimers_disease_treatments.asp

Brain Health Information

www.alz.org/we_can_help_brain_health_maintain_your_brain.asp

IS MY MEMORY NORMAL?

Brandon Pipitone, Janene Kapica and Krunal Majmundar

- Cognitive decline is a normal part of aging.
- Identifying irregular behaviors that could indicate atypical cognitive change in yourself or others is critical.

Behaviors to look for as indicators of possible problems:

- Substituting tools or locations while performing a task.
- Sweeping the living room when told to sweep the kitchen or using a cup to water plants instead of a watering can.

Performing acts that are unnecessary for the task at hand:

- Making multiple trips to the same room or frequently opening and closing unnecessary cabinets.

Forgetting steps to a task:

- Not getting a broom when you plan to sweep the floor.

10 Early Indicators and Symptoms of Alzheimer's Disease from the Alzheimer's Association:

1. Memory loss that disrupts daily life
2. Challenges in planning or solving problems
3. Difficulty completing familiar tasks at home or work
4. Confusion with time or place
5. Trouble understanding visual images and spatial relationships
6. New problems finding words when speaking
7. Misplacing things and losing the ability to retrace your steps
8. Decreased or poor judgment
9. Withdrawal from work or social activities
10. Changes in mood or personality

- There is no single definitive marker between typical aging and atypical aging, but identification of early symptoms could be critical in working towards prevention or delay of cognitive decline.

- Plaques and tangles in the brain are a major sign of Alzheimer's disease. These physical changes may occur a decade or more before changes in thinking are noticed.

stress, anxiety, or depression.

- Monitor your mood – keep a journal of times you are feeling down.
- Talk to your doctor about your depressive symptoms.
- Depression can be a symptom of dementia (alz.org).

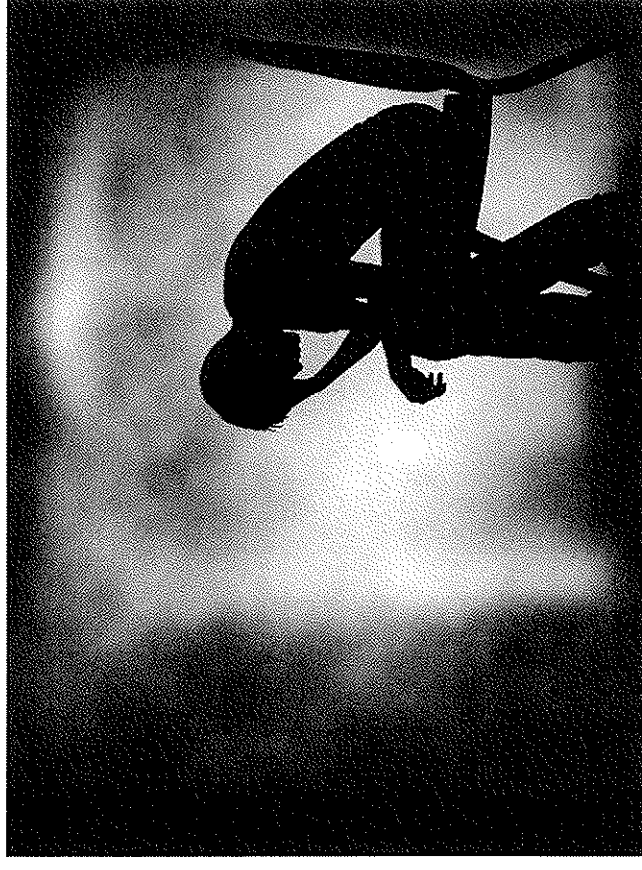
Crucial Points

- It is important to be vigilant and take action whenever you feel depressed in order to improve your cognition.
- Be aware of the relationship between depression and cognition and how it can affect your brain.
- A positive mind can limit cognitive decline.

Resources:

- Life Counseling Services and The Light Program – a local outlet for mental health therapy therapists.psychologytoday.com/rms/prof_detail.

- Manahawkin Counseling – a local outlet for mental health therapy therapists.psychologytoday.com/rms/prof_detail.



TRAINING YOUR BRAIN: COGNITIVE RESERVE, THE BRAIN'S SHIELD

Wesline Georges, Abigail Vrabel and Trevor Gullledge

What is at Risk?

- According to the Alzheimer's Association, 1 in 3 older adults will die with a form of dementia.
- The prevalence of dementia will triple by 2050 if interventions are not found.

Defense against Dementia

- Cognitive Reserve - your brain's ability to defend itself against cognitive decline. Your brain may be able to decrease existing damage.
- Cognitive reserve improves cognitive functions as one ages which decreases the risk for degenerative neurological disorders.

What is the Source of Cognitive Reserve?

- IQ, higher education, or stimulating fulfillment in a career. But the most benefit comes from lifetime activities that exercise the brain
- The growth and development of brain cells and the formation of alternate pathways in the brain.

But, How Does One Build Cognitive Reserve Later in Life?

- Start training! Older adults who exercise at least 3 times a week are less likely to develop dementia.
- Try new life activities! Research has shown that online games provide the ideal context for cognitive enrichment.
- Have support! More research is demonstrating that a stimulating social circle that provides happier thoughts will benefit your brain in the long run.
- Enjoy your leisure time! Reading books and performing activities such as knitting have been shown to be cognitively stimulating, thus aiding in building cognitive reserve.



TO LEARN MORE ABOUT GENERAL FACTS AND STATISTICS ABOUT ALZHEIMER'S DISEASE AS WELL AS REQUEST INFORMATION ON PRESENT RESEARCH, PLEASE VISIT:

www.brightfocus.org/alzheimers/about/understanding/facts.html

www.alz.org/braintour/3_main_parts.asp

To calculate your personal BMI, visit the National Institute of Health website to plug in your numbers today:

www.nhlbi.nih.gov/health/educational/lose_wt/BMI/bmicalc.htm

For further information on the risks of high blood pressure and dementia, please visit:

www.heart.org/HEARTORG/Conditions/HighBloodPressure/

AboutHighBloodPressure/Understanding-Blood-Pressure-Readings_UCM_301764_Article.jsp

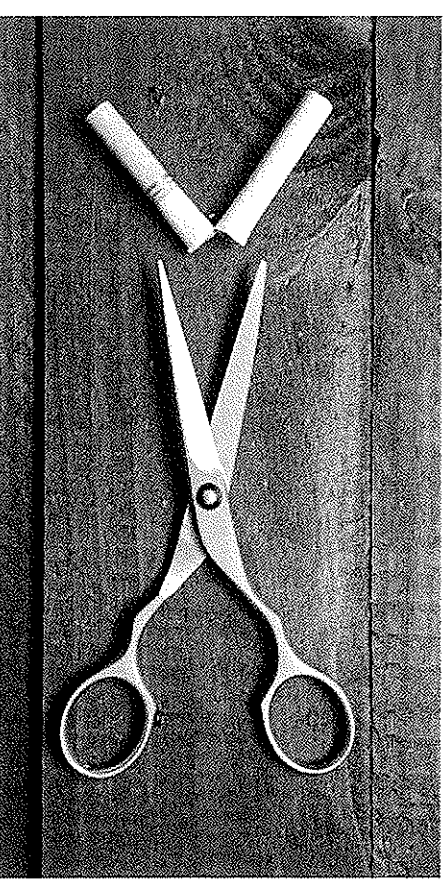
Ways to increase your HDL can be found at:

www.mayoclinic.org/diseases-conditions/high-blood-cholesterol/in-depth/hdl-cholesterol/art-20046388?pg=2

LOCAL RESOURCES

Cholesterol screenings are offered at most CVS pharmacies at little to no cost, with no insurance required.

CVS also offers free blood pressure screenings near the pharmacy.



THE DOMINO EFFECT OF DISEASES ON DEMENTIA

Jennifer Lospinoso, Daniel Page, Charisse Siracusa and Melanee Cepeda

OBESITY

- Obese and overweight individuals have an increased risk of dementia.
- Hyperinsulinemia increases the buildup of amyloid beta peptides, a precursor to beta amyloid plaques, which are commonly found in Alzheimer's disease.

CHOLESTEROL

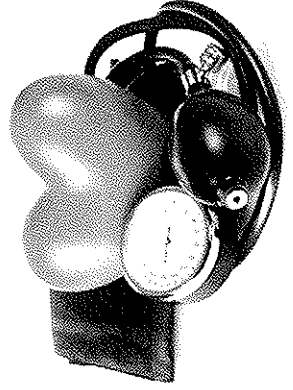
- Cholesterol buildup is a sign shown in patients with dementia.
- High total cholesterol increases the risk of beta amyloid plaque buildup.
- Medications such as Squaliestatin can help to lower cholesterol and reduce plaque buildup, thereby reducing the risk for dementia.

HIGH BLOOD PRESSURE

- Unmedicated high blood pressure in middle age is associated with an increased risk for dementia.
- High blood pressure is associated with an impaired blood brain barrier, allowing toxins access to the brain.
- Relationships are seen between high blood pressure and white matter lesions, which are signs of degeneration.

PREVENTION

- Monitoring your blood pressure and cholesterol levels through routine screening.
- Regular physical exercise.
- Maintaining a healthy weight.
- Monitoring caloric intake and how many calories come from fat.
- Not smoking.
- Drinking in moderation.



COGNITIVE TRAINING RESOURCES

Online Games

PROFESSIONAL PROGRAMS

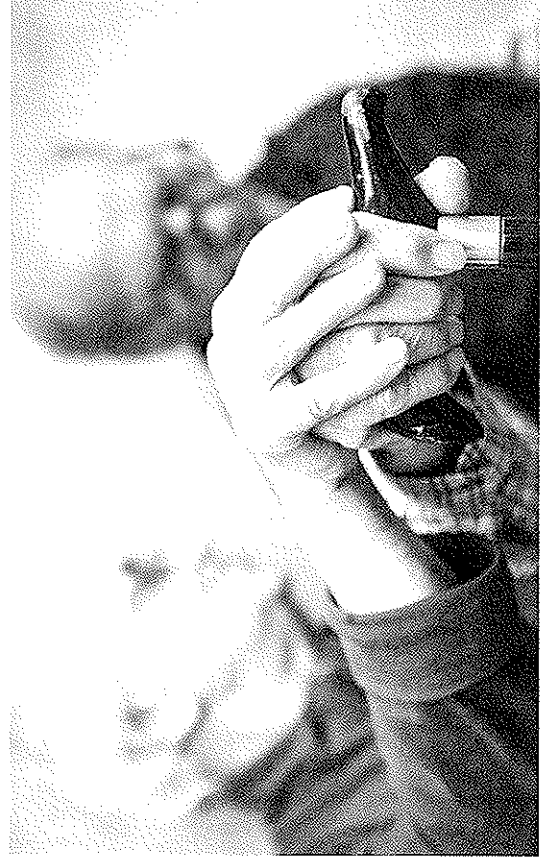
- Lumosity.com – Improves memory, problem solving, attention, reaction time and more, with 40+ games in a personalized plan.
- Brainmetrix.com – Tests memory and reflexes; improves concentration.
- Brainhq.com – Works memory, attention, processing speed, people skills, navigation, and intelligence in a personalized training regimen with over 25 games.

FREE BRAIN GAMES

- AARP Games – www.aarp.org/health/brain-health/brain_games/
- CNN Games – <http://games.cnn.com/brain-games>

Online Information

- Braintrain.com – Offers research articles and data on brain training, suggested regimens for your brain, and various online tests to see how well you understand your brain.
- Learningrx.com – Offers support and training for a variety of brain-related concerns (ADHD, traumatic brain injuries, and aging) and for different groups (older adults, career adults, and college students).



THE IMPACT OF EXERCISE ON BRAIN HEALTH

Alyssa Martini, Jeff Mercurio and Valeria Moya

QUICK FACTS

NEUROLOGICAL DISORDERS

- Alzheimer's Disease is the sixth leading cause of death in the U.S.
- It is estimated that by 2050, 23.5% of New Jersey's senior population will have Alzheimer's disease.
- 1 in 3 seniors dies with Alzheimer's disease or another dementia.
- 1 in 20 people who are diagnosed with Parkinson's disease are under the age of 40 years.

EXERCISE

- More than 80% of adults do not meet the federal guidelines for both aerobic and muscle-strengthening activities.
- Less than 5% of adults participate in 30 minutes of physical activity each day.
- The American College of Sports Medicine recommends adults exercise 150 minutes per week in multiple intervals.
- Exercise induces the production of brain cells in areas dedicated to memory and learning!

BRAIN STRUCTURES EXERCISE AFFECTS POSITIVELY:

1. Prefrontal Cortex – Important in decision making, planning, problem solving, and self identity.
2. Hippocampus – Important in learning and storing memories.
 - Spatial memory – where items are located in space.
 - Working memory – used when following conversations.
 - Long-term memory – your lifetime memories.
3. Temporal Lobe – Important for sound processing, as well as emotion and language.

****ALL OF THESE STRUCTURES ARE KNOWN TO DETERIORATE WITH AGE, ESPECIALLY WITH FORMS OF DEMENTIA SUCH AS ALZHEIMER'S DISEASE AND PARKINSON'S DISEASE.****

Exercise may help prevent the onset of such diseases!

ONLINE RESOURCES

Benefits of Exercise

<http://nhseniorhealth.gov/exercise/olderadults/healthbenefits/01.html>
(This web page holds valuable information regarding the positive effects physical activity and exercise can have on health.)

Go4life

<http://go4life.nia.nih.gov/>

The Go4life campaign from the National Institute on Aging (NIA) at the National Institute of Health (NIH) is designed to help adults incorporate physical activity and exercise into their daily lives. Information that can be found here ranges from exercise tips, to nutrition facts, to motivational suggestions.

LOCAL RESOURCES

Zumba

www.zumba.com/en-US/party

- Find local Zumba classes!

Yoga Nine

www.yoganine.com/locations/smithville

- Yoga classes in Smithville!

Tilton Fitness

www.tiltonfitness.com/get-fit/classes

- Classes available dedicated to adults!

TRAIN YOUR B.R.A.I.N. WITH EXERCISE

Behavior: Change your personal habits! Become more physically involved to gain the benefits of exercise.

Retention: Cell survival occurs within memory structures in the brain! Experience the ability to retain more information.

Attention: The more cells you have, the better your memory! Become more aware of the task at hand; stay on task better.

Intelligence: The better your memory, the smarter you become! Retention and attention give rise to intelligence.

Neuroplasticity: Exercise allows brain cells to move and change! Allow your brain to make new connections as well as new neurons.