



Intervention and Information for Optimizing Your Brain Function

EXERCISE

Regular exercise increases blood flow and oxygen to the brain, increases levels of a healing protein in the brain, called BDNF (brain derived neurotrophic factor), promotes neurogenesis. It also increases the volume of brain area that is important for memory and learning (hippocampus), lowers cortisol levels, increases the feel-good brain molecules such as dopamine, improves sleep, mood, and cognitive capacity. It reduces the risk of heart attack and stroke.

- Any activity that gets your heart rate up, such as walking, running, biking, hiking, yoga, Zumba classes, weight-training workouts, swimming, etc.
- Studies show a mix of strength training and cardiovascular exercise to be the more effective than either one of them alone.
- Recommended: Exercise for 45 minutes, 4-5 times a week.
- Resources: Fitness apps (Nike Training Club, Daily Burn, Tone it Up), YouTube workout videos, Couch-to-5K, p90x, etc.
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DIET:

A heart-healthy diet improves sleep and mood regulation, reduces the risk for cardiovascular disease, hypertension, heart attacks, and stroke. It will help to increase blood flow to the brain, decrease inflammation, keep neurons healthy, promote creation of new neurons (called neurogenesis), increase BDNF, and improve cognitive function.

- Eat a low-carb diet rich in whole plant-based foods, olive oil, lean meats.
- Limit sugars, processed foods (packaged foods with additives, preservatives, and chemicals), and saturated fats.
- Recommended: Mediterranean Diet, natural foods rich in vitamin, minerals, and flavonoids (blueberries, walnuts, fish, cocoa, eggs, spinach, and beets).
- Resources: Apps (Mediterranean Diet Plan, Health Recipes, My Fitness Pal), meal delivery services (Daily Harvest, Hello Fresh, Blue Apron)
- Omega 3 Fatty Acid supplements: DHA-EPA, 1,100-1,500 mL (when looking at brands be aware of quality).

LEARNING:

Learning new things promotes neurogenesis and neuroplasticity, encourages new and strong neural pathways and connections, and improves cognitive functions and capacity.

- Can include any activity that is cognitively stimulating or requires mental exertion: reading, practicing or learning a new instrument, learning a new language, brain games and activities, or playing a new sport.
- Performing simple, everyday tasks with your non-dominant hand, such as brushing your teeth, eating, writing, etc.
- Recommendation: Do something to challenge your brain every day.
- Resources: brain training Apps (Elevate, Lumosity), free brain-training websites (brainzilla.com, cognifit.com, mindgames.com), hands-on games (chess, Sequence, Spot-It, Blink, Rush Hour, ColorKu, Sudoku, memory match games, crossword puzzles, Checkers, Shell Game, Scrabble, Bananagrams).

SLEEP:

- Sleep is the brain's time to recharge and rejuvenate itself by clearing away toxins and metabolic waste that accumulate throughout the day. During sleep, the brain processes, consolidates, and stores information and data from the day. Regular healthy sleep reduces risk of Alzheimer's disease.
- Recommended: At least 7-8 hours of uninterrupted sleep.
- Resources: Sleep promoting teas (chamomile, dandelion), meditations/prayer, peaceful bedtime routine, limiting screen time and blue light exposure, exercise during the day.

MEDITATION:

Meditation increases blood flow to the brain, decreases cortisol levels, encourages calmness and relaxation, calms your nerves and engages the parasympathetic nervous system, grows the hippocampus, and decreases stress and anxiety.

- Any activity that promotes mindfulness, intentional awareness, a state of emotional calmness, or mental clarity.
- Over time, consistent meditation can result in better mood regulation.

- Recommendation: Try to practice meditation or mindfulness 15-30 minutes daily.
- Resources: Apps (Calm, Head Space, Insight Timer), Love Your Brain, YouTube guided meditations, slow breathing techniques, yoga, and prayer.

SENSE OF PURPOSE:

Pursuing what you love and feel passionate about helps you become more resilient against developing memory loss and Alzheimer's with aging.

- Find and define your passions, interests, and hobbies (work, family, church, politics, volunteering, the environment, etc.)
- Take the time for yourself and do things you truly enjoy.

NEUROFEEDBACK:

Neurofeedback is a type of biofeedback therapy that involves retraining electrical brain waves.

- Brain waves are monitored and recorded by electrodes on the scalp, and through visual or auditory signals, retrains the brain waves.
- Improvements in attention and focus, sleep, mood, migraines, anxiety, and depression.
- You can do an internet search to find qualified neurofeedback providers in your area.