



Brain Function and Cognitive Performance

Because you are the vessel through which all you know passes through, a few tips. Take what helps and let go of the rest. Optimizing the functioning of your brain requires oxygen, circulation, and good neurotransmitters....

1. **Nutrition** – for brain function and cognitive performance. See article below.
2. **Daily Cardio** – to increase oxygen and circulation to the brain, clear the stress chemicals from the blood stream, increase the feel-good chemicals throughout your body, and deepen sleep.
3. **Breathe** – regular full gentle breaths to oxygenate the brain and relax the stress response, in order to stay present and mindful, keeping the frontal lobes of the brain engaged where thinking, logic, and reasoning functions occur.
4. **Inversions** – to increase oxygenation and circulation to the brain, release stress, and increase relaxation and well being, go upside-down daily – lie on your back with your legs up a wall or resting comfortably on a chair, and rest your head on a low folded towel. Close and relax your eyes (use an eye cover if you wish) and breathe gently and deeply. Also, when you are sitting or standing, you can hang your head between your legs and breathe fully and gently to increase circulation and oxygen to the brain.

Food for thought...

Seven Simple Brain Promoting Nutritional Tips

By Daniel G. Amen, M.D., author of *Making a Good Brain Great*, and the New York Times bestseller *Change Your Brain, Change Your Life*.

Here is the seven step plan to get your diet under control and to use food as brain medicine.

1. Increase water intake

Given that your brain is about 80% water, the first rule of brain nutrition is adequate water to hydrate your brain. Even slight dehydration can raise stress hormones which can damage your brain over time. Drink at least 84 ounces of water a day. It is best to have your liquids unpolluted with artificial sweeteners, sugar, caffeine, or alcohol. You can use herbal, non-caffeinated tea bags, such as raspberry or strawberry flavored, and make unsweetened iced tea. Green tea is also good for brain function as it contains chemicals that enhance mental relaxation and alertness.

2. Calorie restriction

Substantial research in animals and now in humans indicates that a calorie-restricted diet is helpful for brain and life longevity. Eating less helps you live longer. It controls weight; decreases risk for heart disease, cancer, and stroke from obesity (a major risk factor for all of these illnesses); and it triggers certain mechanisms in the body to increase the production of nerve growth factors, which

are helpful to the brain. Researchers use the acronym CRON for “calorie restriction with optimal nutrition,” so the other part of the story is to make these calories count.

3. Fish, Fish Oil, Good Fats and Bad Fats

DHA, one form of omega-3 fatty acids found in fish, makes up a large portion of the gray matter of the brain. The fat in your brain forms cell membranes and plays a vital role in how our cells function. Neurons are also rich in omega-3 fatty acids. DHA is also found in high quantities in the retina, the light-sensitive part of the eye. Research in the last few years has revealed that diets rich in omega-3 fatty acids may help promote a healthy emotional balance and positive mood in later years, possibly because DHA is a main component of the brain’s synapses.

4. Lots of Dietary Antioxidants

A number of studies have shown that dietary intake of antioxidants from fruits and vegetables significantly reduce the risk of developing cognitive impairment. The research was done because it was theorized that free radical formation plays a major role in the deterioration of the brain with age. When a cell converts oxygen into energy, tiny molecules called free radicals are made. When produced in normal amounts, free radicals work to rid the body of harmful toxins, thereby keeping it healthy. When produced in toxic amounts, free radicals damage the body's cellular machinery, resulting in cell death and tissue damage. This process is called oxidative stress.

Vitamin E and Vitamin C and beta carotene inhibit the production of free radicals. The Best Antioxidant Fruits and Vegetables (from the US Department of Agriculture): Blueberries, Blackberries, Cranberries, Strawberries, Spinach, Raspberries, Brussels sprouts, Plums, Broccoli, Beets, Avocados, Oranges, Red grapes, Red bell peppers, Cherries and Kiwis.

5. Balance Protein, Good Fats and Carbohydrates

Given the weight issues in my family, I have read many of the diet programs popular in America. Some I like a lot, others make me a little crazy. The idea of eating protein and fat only, avoiding most grains, fruits and vegetables may be a quick way to lose weight, but it is not a healthy long term way to eat for your body or your brain.

The best thing in my mind about the Atkins Diet and its many clones is that they get rid of most of the simple sugars in our diets. Diets high in refined sugars, such as the low fat diets of the past, encourage diabetes, tiredness, and cognitive impairment. Yet, to imply that bacon is a health food and that oranges and carrots are as bad as cake seems silly.

The more balanced diets, such as The Zone by Barry Sears, Sugarbusters by H. Leighton Steward and a group of Louisiana based physicians, the South Beach Diet by cardiologist Arthur Agatston, and Powerful Foods for Powerful Minds and Bodies by Rene Thomas make sense from a body and brain perspective. The main principles to take away from these programs is that balance is essential, especially balancing proteins, good fats, and good carbohydrates. Having protein at each meal helps to balance blood sugar levels; adding lean meat, eggs, cheese, soy, or nuts to a snack or meal limits the fast absorption of carbohydrates and prevents the brain fog that goes with eating simple carbohydrates, such as donuts. At each meal or snack, try to get a balance of protein, high fiber carbohydrates, and fat.

6. Pick Your Top 24 Healthy Foods and Put Them in Your Diet Every Week

In order for you to stick with a “brain healthy” calorie restricted nutritional plan you must have great choices. I am fond of the book Super Foods Rx by Steven Pratt and Kathy Matthews. It lists 14 top food groups that are healthy and reasonable in calories. I am going to add several other choices that

are especially good for the brain. Choose between these 24 foods each week. They are healthy, low in calories, and help us reach the goals of consuming powerful antioxidants, lean protein, high fiber carbohydrates and good fat.

The American Cancer Society recommends five to nine servings of fruits and vegetables a day. Mixing colors (eating from the rainbow) is a good way to think about healthy fruits and vegetables. Strive to eat red things (strawberries, raspberries, cherries, red peppers and tomatoes), yellow things (squash, yellow peppers, small portions of bananas and peaches), blue things (blueberries), purple things (plums), orange things (oranges, tangerines and yams), green things (peas, spinach and broccoli), etc.

Lean Protein

1. Fish -- Salmon (especially Alaskan Salmon caught in the wild, farmed fish is not as rich in omega-3-fatty acids), tuna, mackerel, herring (also listed under fats)
2. Poultry -- chicken (skinless) and turkey (skinless)
3. Meat -- lean beef and pork
4. Eggs (enriched DHA eggs are best)
5. Tofu and soy products (whenever possible choose organically raised)
6. Dairy products -- low fat cheeses and cottage cheese, low fat sugar free yogurt and low fat or skim milk
7. Beans, especially garbanzo beans and lentils (also listed under carbohydrates)
8. Nuts and seeds, especially walnuts (also listed under fats) -- Great recipe: soak walnuts in water and sea salt overnight, drain and sprinkle with cinnamon (natural blood sugar balancer) and low roast 4 hours at 250 degrees -- makes them easier to digest.

Complex Carbohydrates

9. Berries -- especially blueberries (brain berries), raspberries, strawberries, blackberries
10. Oranges, lemons, limes, grapefruit
11. Cherries
12. Peaches, plums
13. Broccoli, cauliflower, Brussels sprouts
14. Oats, whole wheat, wheat germ -- oatmeal needs to be the long cooking kind as instant has a higher glycemic index since the manufacturer has broken down the fiber to speed cooking time and basically make it a refined carbohydrate. Same goes for bread, look for at least 3 grams of fiber. Remember unbleached wheat flour is white flour, it must say whole wheat.
15. Red or yellow peppers (much higher in Vitamin C than green peppers)
16. Pumpkin squash
17. Spinach -- works wonderfully as a salad, or a cooked vegetable, adds fiber and nutrients
18. Tomatoes
19. Yams
- ** Beans (also listed under proteins)

Fats

20. Avocados
21. Extra virgin cold pressed olive oil
22. Olives
- ** Salmon (also listed under protein)
- ** Nuts and nut butter, especially walnuts, macadamia nuts, Brazil nuts, pecans and almonds (also listed under protein)

Liquids

23. Water

24. Green or black tea

7. Plan Snacks

I love to snack; just like to munch on things to get through the day. When snacking it is helpful to balance carbohydrates, proteins and fats. Since I travel frequently, I have learned to take my snacks with me, so I am not tempted to pick up candy bars along the way. One of my favorite low calorie snacks are dried fruits and vegetables. Not the kind of dried fruits and vegetables stocked in typical supermarkets that are filled with preservatives, but the kind that just have the dried fruit and veggies. When you have dried fruit or veggies -- all carbohydrates -- add some low-fat string cheese or a few nuts to balance it out with protein and a little fat.

About the Author:

Daniel G. Amen, M.D., is a clinical neuroscientist, psychiatrist, and brain-imaging expert who heads up the world-renowned Amen Clinics. He is a Distinguished Fellow of the American Psychiatric Association and has won numerous writing and research awards.

His books include *Making a Good Brain Great*, *Preventing Alzheimer's*, *Healing Anxiety and Depression*, *Healing the Hardware of the Soul*, *Healing ADD*, and the New York Times bestseller *Change Your Brain, Change Your Life*.

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