Neuronutrition for Life: A Dietary Guide

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Food is not just calories you take in; food also provides information to your body in every bite you take. It has the ability to turn on or off genes that control disease risk, lifespan, and metabolism. Certain foods can even trigger allergic reactions or impact blood sugar, inflammation or autoimmune responses. Inflammation in the gut has a direct impact on brain function- commonly referred to as the gut/brain axis. Nutritional treatments for disease management should center on anti-inflammatory and antioxidant foods with adequate amounts of good quality fats and proteins. The following are general dietary principles assuming the patient has no food allergies or sensitivities.

1. Focus on whole, organic, and unprocessed foods. Proteins, fats, vegetables should be the majority of a patients diet. Whole, plant-based foods help ensure that patients get enough fiber and phytonutrients. Today's food supply has become compromised by the addition of artificial colorings, flavorings, additives, and preservatives. Pesticides, insecticides, and herbicides are also found in conventionally grown (nonorganic) produce, whole grains, nuts, seeds, and legumes. Avoiding nonorganic, processed foods can increase the liver's ability to eliminate toxins and decrease inflammation.

The Environmental Working Group publishes a version of the "Dirty Dozen" each year that exposes which foods that are highest in pesticide residues. Foods that made the list in 2015 (and foods to avoid consuming unless certified as organic) include:

Hot peppers/kale/collard greens
Sweet bell peppers
Strawberries
Grapes
Nectarines
Apples
Celery
Cherry tomato
Peaches
Potato
Snap peas
Spinach

2. Consume adequate protein: Protein is necessary to repair cells and make new ones, support muscle growth, maintain lean muscle mass, and stabilize blood sugar and insulin levels (which also helps to control hunger). Every cell in the human body contains proteins: they are the building blocks of life. Choices for protein include both animal and plant foods. Choosing protein from grass-fed and free-range animals and poultry is encouraged for omnivores. Such "clean" protein is not just lower in toxins but also higher in omega-3 fatty acids than is protein from corn-fed and caged animals and poultry. Protein should be consumed at every meal and snack if possible. Protein intakes of (2–2.5 g protein/kg/day) are generally recommended. This equates to around 30 grams per day for children under the age of 3, 50g per day for children ages 5-10, and 75g per day for teenagers.

3. Consume balanced dietary fats: Balancing dietary fat intake is a first-line approach to minimizing inflammation in the body. Anti-inflammatory strategies include the following: (1) eliminating trans fats (typically found in processed foods); (2) decreasing intake of saturated fats and omega-6 fats from animal sources; and (3) increasing intake of omega-3–rich fats from fish and plant sources. Dietary fats and oils play a significant role in brain health. The brain especially loves fat, and not surprisingly, since half of its dry weight is fat. Healthy sources of saturated and anti-inflammatory fats include olive oil, coconut oil, grape seed oil, nuts, avocado oil, sunflower oil, avocados, ghee, and grass fed butter from pastured raised animals. Avoid fats that are poly-unsaturated (such as *canola oil*) because they are sensitive to oxidative stress and can easily become rancid.

4. Eat low sugar and avoid artificial sugars: Excessive sugar consumption (in the form of any carbohydrate- which all eventually break down into sugar in the body) creates stress on the brain. Elevated blood sugar attaches to proteins in the body and this process dramatically increases the production of both free radicals and chemicals involved in inflammation. Prolonged and excessive sugar consumption can lead to impaired brain function, and in more severe cases, be a contributing factor to diseases such as Alzheimer's and Parkinson's disease. Removing sweeteners will help minimize inflammation and prevent dramatic surges in blood sugar and insulin, helping to stabilize blood sugar levels.

Sweeteners do not all have the same effect on the body. Some have a very gentle effect (low glycemic), while others lead to cravings (higher glycemic). Daily, use no more than 1–3 teaspoons of the following lower glycemic sweeteners: barley malt, brown rice syrup, blackstrap molasses, maple syrup, raw honey, coconut sugar, agave, lo han, fruit juice concentrate, and erythritol. Stevia is also well tolerated by most people, but keep in mind that it is a high-intensity herbal sweetener that requires no more than a pinch for maximum sweetness. Natural and artificial sweeteners listed on food labels to avoid include the following: aspartame, brown sugar, cane sugar, caramel, confectioner's sugar, corn syrup, corn syrup solids, date sugar, Demerara sugar, dextrose, evaporated cane juice, fructose, fructose syrup, glucose, high fructose corn syrup, invert sugar, NutraSweet™, maltitol, maltodextrin, maltose, mannitol, sorbitol, Splenda™, sucrose, turbinado sugar.

5. Eat fruit in moderation. Since #4 just detailed the cautionary tale of sugar and stress it has on the brain and body, here are more exact details on fruit consumption. Limit the consumption of fruit to 1-2 servings per day, especially when recovering from illness or when trying to manage disease. Low glycemic fruits include apples, pears, citrus fruit (oranges, tangerines and grapefruit), berries (strawberries, raspberries, cranberries, blackberries and blueberries) and the *Prunus* family (nectarines, peaches and plums).

Naturally occurring fructose in fruit is a part of a complex of nutrients and fiber that doesn't exhibit the same biological effects as the free high fructose does in "corn sugar". Some may recognize this as "high fructose corn syrup" which literally is modified corn that has been processed and refined into sugar. Corn sugar has a much greater impact on our blood sugar and should be *avoided at all costs*.

Last, avoid drinking your fruit. Fruit juice lacks the fiber that helps control the ups and downs in blood sugar that whole fruit contains.

6. Eat Adequate Fiber: Fiber is found in plant-based foods like whole grains, nuts, legumes, vegetables, and fruits. It is a form of carbohydrate that the body doesn't digest, so it "fills you up" and helps you to feel less hungry without eating a lot of calories. There are two types of dietary fiber, each with different benefits. Insoluble fiber can be found in the bran (outer coat) of vegetables and whole grains. This type of fiber acts like a bulky "inner broom," sweeping out debris from the intestine and helping the intestines move food along. The other type of fiber, called soluble fiber, attracts water and swells, creating a gel-like mass. The soluble fiber in foods like oat bran, barley, nuts, seeds, beans, lentils, peas, and some fruits and vegetables slows down digestion. Soluble fiber is also found in supplements that contain psyllium. The gel helps trap toxins and other undesirable substances (including cholesterol and other dietary fats) so that you can excrete them. It also provides "food" for healthy bacteria in the digestive tract. Patients should aim for at least 5 grams of fiber per serving or a total of 25 to 35 grams of dietary fiber per day.

7. Avoid gluten: Celiac disease (a gluten intolerance that is manifested in the small intestine) is only in about 2% of the population but nearly 30% of people are sensitive to gluten. Having a gluten sensitivity can lead to a number of problems, including increased intestinal permeability, leading to increased systemic inflammation. Since the hybridization of wheat increased the gluten content close to fifty-fold, our bodies have to assimilate a much larger load of this foreign protein. If a patient is having trouble breaking down the proteins in gluten, their gut can become irritated and inflamed (even without obvious symptoms of gas, bloating, or diarrhea).

8. Consume water: Drink clean, filtered water throughout the day. Patients should try to drink a minimum of 1/3-1/2 their body's weight in ounces of water every day. Broths, herbal teas, and other decaffeinated beverages are also good choices. Avoid all alcohol, caffeinated beverages, and sugared beverages, as they tend to be

dehydrating and raise cortisol and blood sugar levels. Staying hydrated helps rid the body of toxins, builds resilience to stress, and enhances metabolism.

Source Disclaimer: Materials provided for this dietary guidance have been adopted from the Institute of Functional Medicine in addition to literature found in the reference materials provided.