BEST NEST WELLNESS®

The Brain Change

10+ TIPS THAT CAN IMPROVE YOUR BRAIN'S HEALTH

Madhavi Gupta, M.D.

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Introduction

Do you feel that your brain has changed?
Maybe you had a baby? Maybe it seems not as sharp as before? Maybe, things just seem different? At first you thought that maybe it was because of the lack of sleep. But then, after a while, it still persisted.

My name is Madhavi Gupta, MD, a board certified medical doctor (M.D.) in Neurology and Headache Medicine. In early 2010, I became a mom...and I experienced a decline in my cognitive abilities. Not being able to control sleep too much with a newborn, I first looked at my diet and my lifestyle. And while there were some things that I could not change at all (I'm looking at you, hormones!), I certainly found that there were many things that were in my hands. It has been a long climb but a journey well worth taking. I feel sharp again.

If you follow the tips in this book, you will have the tools you need to improve your brain significantly. Go on and crush it!

My best,

Madhavi Gupta, M.D.

Table of Contents

Brain neuroanatomy

Sometimes it helps to have a few definitions under your belt, especially if the subject may be new. If you know these brain neuroanatomy terms already, feel free to skip these pages. But, if brain science terms are new to you, or you need a refresher, I've laid out some explanations that may be helpful.

Neuron

(also called a nerve cell) is a type of brain cell that receives, processes, and transmits information through electrical and chemical signals. These signals between neurons occur via specialized connections called synapses.

Cortex

(meaning "bark" in Latin) is the outer layer of the cerebrum (e.g., the cerebral cortex), composed of gray matter and playing an important role in consciousness.

Gray matter

is the darker tissue of the brain and spinal cord, consisting mainly of neurons.

White matter

acts like a highway. It connects different parts of gray matter to each other via axons.

Frontal cortex

(also known as the prefrontal cortex (PFC)) is the cerebral cortex in the front part of the brain. This brain region is in charge of complex cognitive behavior, personality expression, decision making, and moderating social behavior.

Neurotransmitter

is a chemical substance that is released at the end of a nerve fiber by the arrival of a nerve impulse and causes the transfer of the impulse to another nerve fiber, a muscle fiber, or some other structure.

Blood-brain barrier

a filtering mechanism of the capillaries that carry blood to the brain and spinal cord tissue, blocking the passage of certain substances.

What is cognitive decline?

Cognitive decline is any decrease that you feel in your executive functions. These include changes in your memory, focus, sleep, and clarity of thought.

Symptoms of cognitive decline include, but are not limited to:

- Difficulty sleeping
- Inability to remember simple phrases or the names of common objects
- Frequently losing your train of thought
- Inability to focus on logical tasks
- A general feeling of “brain fog” throughout the day
- Constantly misplacing objects
- Inability to remember important names, dates and times

What is mom brain?

Although this book was written to provide helpful tips to keep your brain sharp, we want to point out a specific scenario that is common amongst women. Mom brain is a cognitive decline that occurs during and after having a baby. It can be lasting, often throughout a woman's life. Having a baby is a very changing experience and actually alters the brain in a very physical way - dramatically, and maybe irreversibly.

For one, women's brains shrink during pregnancy. Researchers found that the shrinkage occurs in the frontal cortex of the brain, the gray matter that is used in thought and concentration. One hypothesis is that the change occurs to hone the interaction between mom and baby. The researchers didn't see shrinking in dads (1).

Brain function is also affected by hormonal changes that occur during pregnancy. Throughout pregnancy, steroid hormones like progesterone climb higher and higher. Many areas of the brain have specialized receptors for steroid hormones, including the areas involved in memory and emotions. These changes may have a biological reason. "You need to learn a host of new behaviors in order to ensure the survival of your offspring," says Lisa Galea, a neuroendocrinologist at the University of British Columbia.

After pregnancy, hormone levels throughout a mom's menstrual cycle are lower than in pre-pregnancy cycles. This may serve as a cue to keep you in mom mode.

In a new area of research, it was found that during pregnancy, cells from the developing baby cross the placenta and plant themselves into the mother's body. Some of these cells make their way to the brain where they become neurons (brain cells). This serves to permanently link you to your baby and your baby's needs (2).

Water & brain function

THE IMPORTANCE OF WATER

Start with hydration

Brain cells need two times more energy than other cells in the body. Water provides this energy more effectively than any other substance.

Water is also needed for the brain's production of hormones and neurotransmitters. Nerve transmission requires one-half of all the brain's energy (3).

Studies have shown that if you are only 1% dehydrated, you will likely have a 5% decrease in cognitive function. If your brain drops 2% in body water, you may suffer from fuzzy short-term memory, experience problems with focusing, and have trouble with math. When your brain is functioning on a full reserve of water, you will be able to think faster, be more focused, and experience greater clarity and creativity.

Treatment for all issues should start with drinking plenty of water daily. Seventy-five percent (75%!) of us walk around dehydrated. The brain is composed of 73% water, and cannot function at its best if you are dehydrated. Carry around a reusable water bottle with you at all times. Follow the motto: "If you think, drink!" This means that every time you think about drinking water, take a drink. We have a survival mechanism that tells us we are starting to get thirsty before we even do. By the time you realize you are thirsty, dehydration may have already occurred.

What dehydration causes...

Dehydration can cause a list of ailments and symptoms that are very similar to a disease. A simple glass of water (or ten glasses) can help eliminate these symptoms. Dehydration can cause brain fog, fatigue, lack of focus, sickness, and overall malaise. Sound familiar? Get drinking!

Symptoms of dehydration include:

- Thirst
- Dry mouth
- Fatigue
- Decreased urination or deep yellow urine
- Headaches

Benefits to being hydrated all day lead to a 30 to 50% increase in metabolism. Filtered water is best. Start the following Three- Step System as soon as possible.

Start the following Three-step system as soon as possible.

Three-step system

1. Purchase a 32-ounce (or larger) water bottle and keep it near you at all times. When you go out, take water with you. Whenever you look at your water bottle, take a drink. If you think, drink! Your goal should be to drink two of these a day (a total of 64 ounces).

2. Start your hydration right when you wake up or before your first meal. Drink as much as you can.

3. Purchase a BIG Berkey Water Filtration Kit or an under sink water filter.

Sleep

Getting good sleep is important for your mood and health.
Supporting a healthy sleep pattern should be a priority.

Advantages of sleep on the brain

- Promotes new brain cell production
- Repairs neurons
- Forms brain cell connections
- Replenishes the supply of mood-boosting chemicals

It is important to develop Good Sleep Hygiene. These 10 steps are advocated by sleep neurologists and are essential for good sleep.

10 steps of good sleep hygiene

1. Avoid caffeine, alcohol, nicotine, and other chemicals that interfere with sleep.

Caffeinated products decrease the quality of sleep. Avoid caffeine (found in coffee, tea, chocolate, cola, and some pain relievers) after 12pm.

2. Turn your bedroom into a sleep-inducing environment.

A quiet, dark, and cool environment can help promote sound slumber. Tips to help include using a "white noise" machine, light-blocking curtains, blackout shades, or an eye mask. Keep the room temperature between 60 and 75°F. Keeping computers, TVs, and work materials out of the room will strengthen the mental association between your bedroom and sleep.

3. Establish a soothing pre-sleep routine.

Ease the transition from wake time to sleep time with a period of relaxing activities an hour or so before bed. Take a bath (the rise then fall in body temperature promotes drowsiness), read a book, watch television with blue light blocking glasses, or practice relaxation exercises.

4. Go to sleep when you're truly tired.

Struggling to fall asleep just leads to frustration. If you're not asleep after 20 minutes, get out of bed, go to another room, and do something relaxing.

5. Don't watch the clock at night.

Staring at a clock can increase stress, making it harder to fall asleep. Turn your clock's face away from you.

6. Keep a consistent sleep schedule.

Going to bed and waking up at the same time each day sets the body's "internal clock" to expect sleep at a certain time night after night. Try to stick as closely as possible to your routine on weekends.

7. Nap before 5 pm – or don't nap at all.

For those who find falling asleep or staying asleep through the night hard, afternoon napping may be one of the culprits. Late-day naps decrease sleep drive. If you must nap, keep it short and before 5 p.m.

8. Eat a light dinner.

Finish dinner several hours before bedtime and avoid foods that cause indigestion. If you get hungry at night, a light snack that will not keep you up is best.

9. Balance fluid intake.

Drink enough fluid at night to keep from waking up thirsty, but not so close to bedtime that you will be awakened by the need for a trip to the bathroom.

10. Exercise early.

Exercise stimulates the body to secrete cortisol, which helps the brain keep alert. That's great - unless you're trying to fall asleep. Try to finish exercising at least three hours before bed.

If you still have problems sleeping, then taking an herbal sleep aid may be beneficial.

How herbs aid sleep

Herbs that aid sleep have been used for centuries. There are four main ways in which herbs and other ingredients help you fall asleep:

1.

GABA is the body's natural "off" switch. It can promote deep states of relaxation and enhanced mental clarity. St. John's Wort, L-taurine, and L-theanine increase the production of GABA.

2.

Serotonin is the "feel good" neurochemical in your brain. L-tryptophan and 5-HTP are precursors to serotonin. P5P (Vitamin B6) helps convert 5-HTP to serotonin.

3.

Valerian root, chamomile, skullcap (American), passionflower, ashwagandha, hops flower, inositol, lemon balm, and goji berry can improve the quality of sleep by reducing fatigue.

4.

Melatonin helps break the cycle of insomnia and helps you fall asleep. These potent non-habit forming ingredients allow these sleeping pills to be taken safely every night.

Multitasking

Multitasking is problematic and brain-damaging. As parents and members of our modern society, it is sometimes necessary. But for your brain's sake, it should be used only when absolutely needed. Let's explore what you can do to heal the damage multitasking does to your brain.

Having our brain constantly shift gears, pumps up stress and tires us out, leaving us feeling mentally exhausted. Working on a single task means both sides of your prefrontal cortex are working together in harmony. Adding another task forces the left and right sides of the brain to work independently. Scientists at the Institut National de la Santé et de la Recherche Médicale (INSERM) in Paris discovered this when they asked study participants to complete two tasks at the same time while undergoing functional magnetic resonance imaging (fMRI). The results showed that the brain splits in half and causes us to forget details and make three times more mistakes when given two simultaneous goals (4).

Multitasking reduces your efficiency and performance because your brain can only focus on one thing at a time. When you try to do two things at once, your brain lacks the capacity to perform both tasks successfully. People who are regularly bombarded with several streams of electronic information cannot pay attention, recall information, or switch from one job to another as well as those who complete one task at a time.

Multitasking lowers IQ

A study at University College of London found that participants who multitasked during cognitive tasks experienced IQ score declines that lowered their scores to the average range of an 8-year-old child (5).

Brain damage from multitasking

MIT neuroscientist Earl Miller notes that our brains are "not wired to multitask well... when people think they're multitasking, they're actually just switching from one task to another very rapidly. And every time they do, there's a cognitive cost."(6)

It was long believed that cognitive impairment from multitasking was temporary, but new research suggests otherwise. Researchers at the University of Sussex found that high multitaskers had less brain density in the anterior cingulate cortex, a region responsible for empathy as well as cognitive and emotional control (7).

How to help your brain

- Spend at least 20 minutes doing one task exclusively, such as reading a book. This allows your neuro pathways to reconnect and break the fractionated loop.
- Meditation - having a time of breathing and just focusing on your breath also helps break the fractionated loop.
- Remove distracting apps from your phone.
- Use a to-do list.
- Work in small intervals.
- Stop browsing websites during your working time.

Meditation can be a longer session or it can be short sessions of focusing or breath-counting. "Just three 10-minute sessions of breath counting was enough to appreciably increase their attention skills on a battery of tests. And the biggest gains were among the heavy multi-taskers, who did more poorly on those tests initially," writes Daniel Goleman (8).

How foods affect your brain

When it comes to your brain health, eating the right foods, and avoiding the wrong ones should be a top priority. The right foods provide energy, optimize your physical health, and improve your body's metabolism. Eating a diet rich in healthy fats, amino acids, vitamins, minerals, antioxidants, and other key nutrients is crucial for optimizing your brain health. These foods can positively affect your brain health and mood.

There's also a powerful connection between the gut and the brain. The network of neurons lining our guts is so extensive, some scientists call it the "second brain." It plays a significant role in determining our mental state and plays key roles in certain diseases throughout the body.

Researchers have found that the health of your gut can influence your thoughts, feelings, emotions, behaviors, memories, and overall mental function (9). Therefore, your gut health is directly related to your brain health, and both need to be optimized to perform at their best.

Here are some foods that positively affect your brain. We will go into more depth in the following chapters.

Omega-3 fatty fats. A large body of scientific research suggests that diets that are rich in omega-3 fatty fats, particularly docosahexanoic acid (DHA), are associated with positive brain health (10).

Flavanoids (Antioxidants), found in foods like green tea, coffee, cocoa, red wine, vegetables, and fruits, correlate to improved cognitive function (11).

B vitamins, particularly B6, folate, and B12, have been shown to have positive effects on memory and even improve brain health (12). We advocate the methylated versions and will go into the importance of methylation in its own chapter.

Vitamin D. Researchers have found that concentrations of vitamin D, which the body naturally produces from sunlight exposure and is found in fatty fish, mushrooms, and dairy, are related to brain health (13). It also boosts mood, supports immunity, and builds healthy bones.

Additional vitamins (e.g., vitamin C and E) and various nutrients (e.g., choline, calcium, copper, iron, selenium, and zinc) have been found to play important roles in brain function and delaying decline. This means these vitamins and nutrients play both short- and long-term roles.

By making some changes in your diet, you may significantly improve your brain. Start now by reducing the foods that contribute to illness and upping the foods that contribute to wellness.

Food suggestions for good health

Subtractions

- Eliminate most sugar, all fruit juice, and all sugary sodas.
- Eat fruit sparingly. Choose lower glycemic, higher antioxidant fruits, such as blueberries.
- Eliminate most dairy products (milk, cheese, yogurt) if it tends to make you congested or phlegmy.

Additions

- Increase leafy green veggies (kale, broccoli, cauliflower, collard greens). Try to get 2 servings of veggies at each meal.
- Eat plenty of high-quality proteins (beans, grass-fed or pasture-raised lean meats, wild-caught fish, pasture-raised poultry).
- Eat high-quality fats (olive oil, coconut oil, avocado, butter, ghee) at each meal.

Brain healthy meal ideas

MORNING

Berry Smoothie

Vegetable Omelet

Coconut Berry Shake

Grainless Granola with 4oz Amasai (a fermented African dairy drink)

AFTERNOON

1/4 cup Almonds or Pumpkin Seeds

1/4 cup Hummus or Guacamole with Vegetables

Amasai or Coconut Milk with Chia Seeds

LUNCH

Superfood Salad

Grass-Fed Beef Stir-Fry

Salad with Chicken, Salmon, or Eggs

Grass-Fed Hot Dogs with Sauteed Peppers and Onions

Vegetable Soup

DINNER

Wild Salmon with Broccoli, Cauliflower, and Carrot Medley

Grass-Fed Burger w/ Raw Cheddar and Sauteed Greens

Organic Free-Range Chicken Tenders with Mixed Vegetables

Grass-Fed Meat Chili with Mashed Cauliflower

Chicken Salad Lettuce Wraps

DHA

DHA is short for docosahexaenoic acid.

It is a long-chain polyunsaturated fatty acid in the omega-3 fatty acid family. Omega-3 fatty acids include EPA and DHA, but when it comes to brain health, DHA "rules." The human brain is made up of nearly 60% fat, and DHA is the predominant fatty acid found in the brain (14,15). DHA and EPA are both "essential" fatty acids, which means that the body cannot make them on its own, and they must be consumed through dietary sources.

DHA is a primary structural component of the human brain, cerebral cortex, skin, and retina. DHA regulates neurogenesis (formation of new brain cells called neurons), neurotrophic factor (regulates growth of neurons), and synaptogenesis (formation of connections between neurons). Because it makes up the cell membrane and affects cell structure in postsynaptic neurons, it plays a role in releasing serotonin in the brain and important functions, such as sleep, memory, mood, and behavior (16-18).

Unfortunately, DHA intake and levels in women in the United States are amongst the lowest in the world. Our U.S. food supply is largely void of DHA due to over-consumption of vegetable oils which contain inflammatory omega-6 fatty acids (e.g., soybean, safflower, sunflower, corn, canola, cottonseed), meat from feedlot animals (that consume abundant amounts of soy and corn), and not consuming enough of these important omega-3 fatty acids (19).

DHA accumulates in the centers of the brain involved in memory and attention. In a study published in the Medical Journal of Clinical Nutrition, researchers found that healthy adults who consumed 1.16 grams of DHA per day for 6 months, significantly improved both their memory and reaction time (20). A recent study published in the journal Cerebral Cortex showed that supplementing with 2.2 grams of DHA and EPA per day significantly improved the brain function (21). What's more, using neuroimaging, the researchers found that supplementation improved the composition of the participants' brains.

In addition to wild salmon, other good whole food sources of DHA and EPA include:

- Mackerel
- Herring
- Anchovy
- Trout

Other food sources include cod liver oil, sardines, and pasture-fed organic butter or ghee (these are also high in D3).

If you are vegan, plant sources of Omega 3 include flax, chia, hemp and walnuts.

When choosing an omega-3, keep this in mind:

Marine animals such as fish and krill, which provide EPA and DHA, are mostly promoted for their protective effects on your heart. Flaxseed, chia, hemp, and a few other foods, on the other hand, offer alpha-linoleic acid (ALA). Most of the cellular health benefits linked to omega-3 fats are linked to the animal-based EPA and DHA, not the plant-based ALA.

When choosing fatty fish as your best sources of DHA and EPA, it's important to choose wild-caught fish from a trusted source to ensure that you get the highest levels of omega-3 fatty acids and the lowest levels of heavy metals (e.g., mercury). Purity matters. This is why it's recommended to supplement with a high-quality fish oil supplement daily.

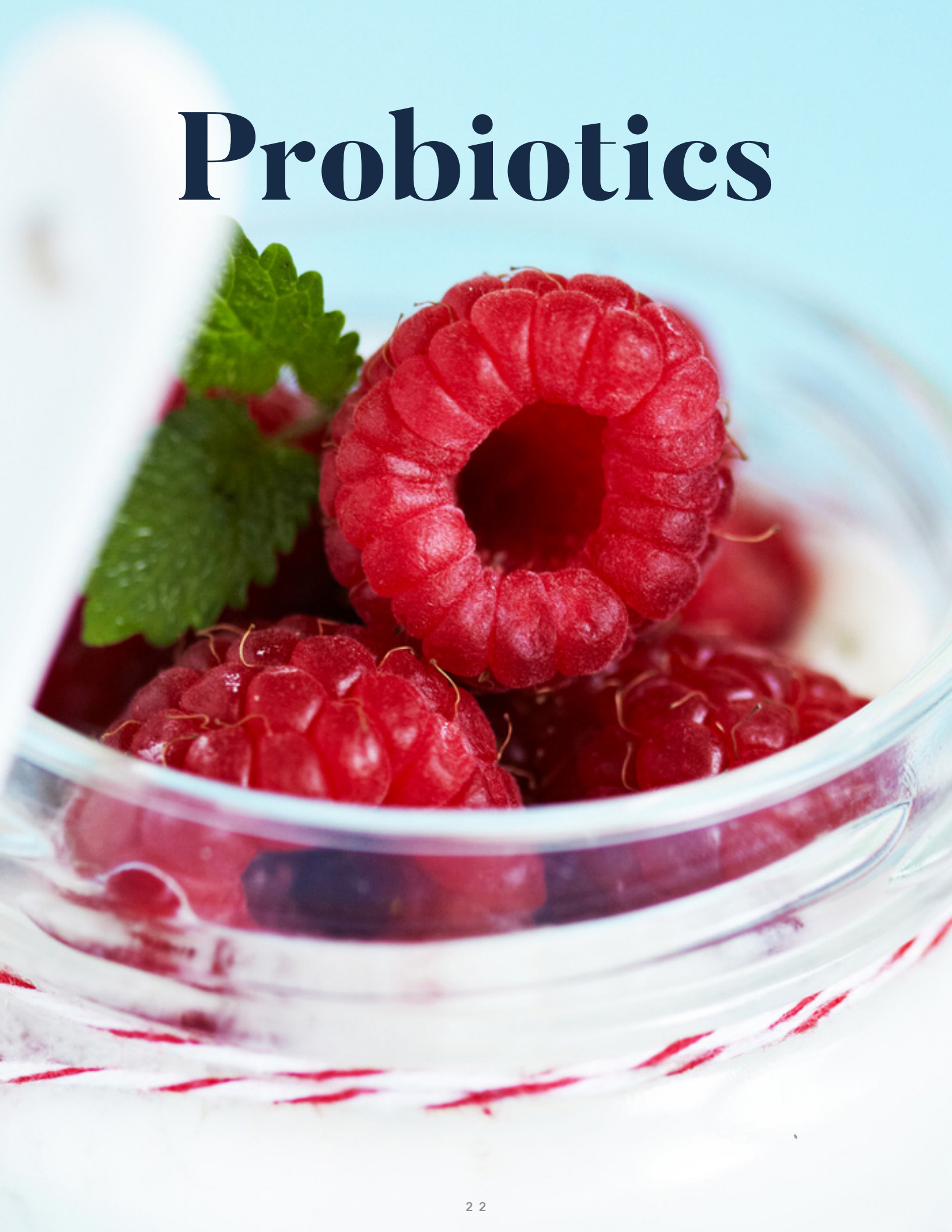
Best Nest Wellness makes an Omega-3 supplement to meet these needs.

A word about the types of DHA

DHA is often put into a prenatal vitamin. But did you know that that form of DHA is made from ethyl esters? Ethyl esters are a form of DHA that is made during the purification process. It turns into alcohol when metabolized by the body. Alcohol is something you want to avoid if you are pregnant.

Best Nest Wellness makes a prenatal DHA in the triglyceride form, which is the form of DHA that is closest to its natural state, just ultra-purified and free of mercury. You can't compact it like you can an ethyl ester. For that reason, you can't fit it into a multivitamin. Our fish come from the Icelandic coast and our fish oil is purified in Canada.

Probiotics



Your intestinal microbiome is a collection of bacteria, yeasts, and viruses that live in your gut and do an enormous amount of work to keep you healthy. Among the many things your microbiome does are manufacturing vitamins (Vitamin D and Vitamin K), detoxifying environmental toxins, and helping our digestion and immune systems.

This vast gut ecosystem includes over 100 trillion bacteria! That's about 10 times the number of cells in your body. That makes you about 90% bacteria and 10% human. The gut microbiome has a profound effect on your immune system. It's estimated that the digestive system contains over 70% of your immunity. Two of the most prominent types of friendly bacteria are those belonging to the Lactobacillus and Bifidobacterium groups. One of the primary functions of friendly bacteria is to produce anti-inflammatory cytokines and down-regulate pro-inflammatory cytokines like TNF-alpha and IL-6. Pro-inflammatory chemicals can cause stress, negative immune responses, inflammation, and more. They can also lower levels of brain-derived neurotrophic factor (BDNF), which helps protect nerve cells.

In a study published in the American Journal of Clinical Nutrition, researchers found that oral administration of *Lactobacillus plantarum* daily for 6 weeks significantly decreased both markers of oxidative stress (37% reduction) and inflammation (42% decrease) in healthy men and women (22).

A growing body of evidence has shown two-way signaling between the gut & the brain. This includes multiple neuro and endocrine signal mechanisms. Changes to the gut microbiome affect brain health.

The feel-good neurotransmitter serotonin is also made in the gut. Many medications, not just antibiotics, can negatively alter your gut microbiome. Certain antivirals, antipsychotics, and chemotherapy drugs also had "antibiotic-like" side effects according to new research published in Nature (23).

Building and maintaining the proper amount of beneficial bacteria (e.g., probiotics) is crucial for a number of reasons. Once in the gut, probiotics are free to colonize and spread their health-boosting functions, which include:

1. Making serotonin
2. Promoting better digestion
3. Supporting a healthy gut-brain connection
4. Supporting healthy regularity
5. Supporting immunity

Again, we return to the importance of that "second brain" - that is the gut. There is a growing body of research suggesting the gut-brain axis' significance in brain health and performance. With that in mind, it's a very good idea to consume 1- 2 servings of foods with active cultures daily including the following traditionally fermented options:

- Dairy with live, active cultures (e.g., yogurt, kefir)
- Fermented vegetables (e.g., pickles, sauerkraut, kimchi)
- Tempeh, miso, soy sauce
- Kombucha tea
- Probiotic supplements

Probiotics supplements are particularly beneficial because they are active cultured with known health benefits. They can also bypass the stomach if they are in a delayed-release capsule. The delayed-release capsule allows the probiotic bacteria to bypass the stomach, where most of them are killed in the harsh stomach acid. The capsule travels to the small intestines, where the bacteria are released and can do their important work. We recommend our Highly Cultured™ Probiotics, Best Nest Probiotics, and Mama Bird® Probiotics which have 50 billion CFU of bacteria and a patented delayed-release capsule.

Methylation

“Without methylation there would be no life as we know it.”

C. COONEY

What is methylation? Methylation is the transfer of a methyl group onto every building block of the body. This process is one of the essential metabolic functions because of its role in detoxification. Methylation can worsen with stress, environmental conditions, and age. Proper methylation of brain cells is crucial to the functioning of your brain.

Using methylated B vitamins (Folate, B12 and B6) provides the methyl groups needed for good brain health and a high quality of life.

Why we only use l-methylfolate and methylcobalamin (B12)

L-methylfolate is the methylated (biologically active form) of vitamin B9 - the form your body actually uses. By using L-methylfolate instead of folic acid, you can bypass the pathway that changes folic acid to L-methylfolate.

If you have the MTHFR gene variant, you may not be able to make the enzyme that converts folic acid to L-methylfolate. Even if you don't have the MTHFR gene variant, the benefits of taking L-methylfolate are numerous. When we are stressed or get older, our bodies are not efficient at the methylation process, thus contributing to aging.

Advantages of l-methylfolate

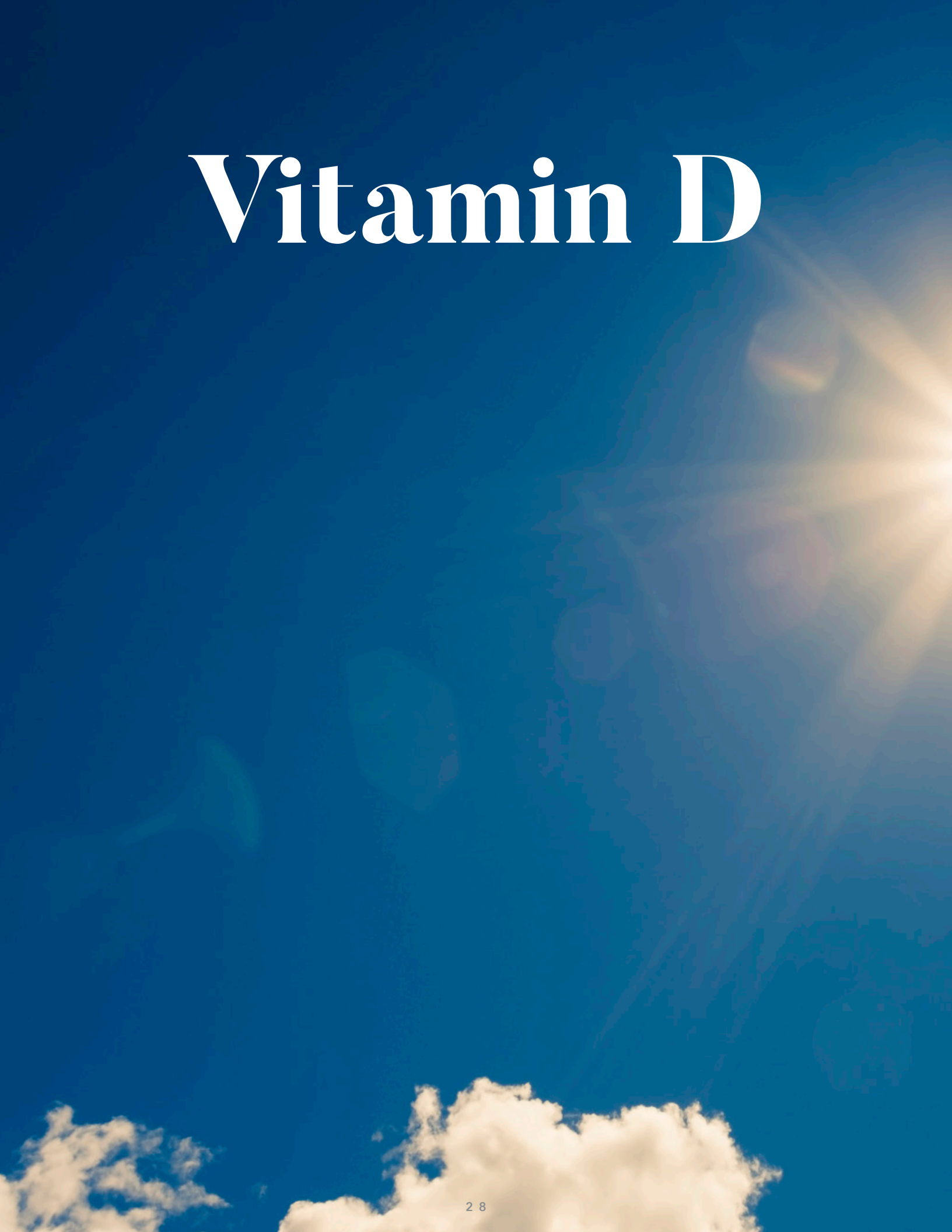
- Better energy levels
- Improved sleep
- Improved concentration and memory

What is MTHFR?

MTHFR is a gene that codes for the enzyme that helps transform folic acid (vitamin B9) into L-methylfolate, the form your body needs. If you have an MTHFR gene variant, you may not be able to convert folic acid fully. Without L-methylfolate, you may have elevated homocysteine levels, problems with your metabolism, and an impaired ability to detoxify.

More than 60% of the population has the MTHFR gene variant. Folic acid is the synthetic form of folate found in most supplements and processed foods. People with the MTHFR gene variant have a difficult time converting folic acid to the useful form, L-methylfolate. Without the ability to convert it to the useful form, your body cannot function at its best.

Vitamin D



Vitamin D, also known as the “sunshine vitamin”

is synthesized in our skin when we are exposed to direct sunlight. Although vitamin D is well known for promoting bone health, it does more than that. Scientists have now linked vitamin D and its hormone-like activity to the workings of the brain. Vitamin D is needed throughout the central nervous system and in the hippocampus. It activates and deactivates enzymes in the brain and the cerebrospinal fluid that are involved in neurotransmitter synthesis and nerve growth.

Advantages of vitamin D3

- Boosts energy
- Builds healthy bones
- Supports immunity

Vitamin D has recently been found to be more important to brain cell and nerve cell insulation than ever previously thought. As humans, we make vitamin D in our skin when exposed to sunlight.

Vitamin D can also help support the immune system and is important for overall health. We tend to get less of it in the winter because we’re indoors more, and the sun is a major source. This vitamin is necessary for immune cells called “T cells” to fight viruses and bacteria. The Vitamin D Council states that blood vitamin D levels between 60-90 ng/ml are ideal. If your level is low, talk to your doctor about supplementation to raise it.

Recommended dosage

For most adults, taking 2000-4000 IUs is ideal; when nursing, consider upping your level to 6000 IU/day.

For kids, the recommended dose by the Vitamin D Council is 1000 mg for every 25 lbs of your child’s weight.

Everyone should get vitamin D supplementation regardless of the time of year. Be caution though - overexposure to sunlight leads to skin damage. Sunny Skies™ Vitamin D Drops are a perfect solution because a few drops daily are all you need to keep your vitamin D levels up and all your pistons firing - all while avoiding sun damage.

Iron

Iron attaches to red blood cells and brings oxygen to the body and the brain. Without it, the brain doesn't get enough oxygen to make energy. Proper iron levels play an important role in red blood cell production, boosting energy, and supporting attention span. Iron deficiency rates are highest for young women, infants, and children under the age of two years old.

Common symptoms of iron deficiency

- Fast or irregular heartbeat
- Brittle nails
- Headaches
- Poor concentration
- Weakened immune system

Advantages of iron

1. Proper red blood cell production
2. Boosts energy
3. Supports attention span

Numerous human studies have shown the negative effects of iron deficiency. Iron deficiency during the first years of life is particularly concerning (24). A report published in Proceedings of the National Academy of Sciences discusses that even healthy young adults can have variations in brain structure integrity in correlation with variations in iron levels (25).

The best way to make sure you're not lacking in this key nutrient is to eat adequate amounts of iron-rich foods each and every day. What foods have iron? I'm about to reveal my top healthy iron-rich foods, including meat, fish, beans, nuts, vegetables and even some fruit.

Top 10 iron-rich foods

1. Spirulina: 1 ounce: 8 milligrams of iron (44% DV)
2. Liver: 3 ounces of organic beef liver: 4.05 milligrams of iron (22.5% DV)
3. Grass-Fed Beef: 1 lean grass-fed strip steak (214 grams): 4 milligrams of iron (22% DV)
4. Lentils: ½ cup: 3.3 milligrams of iron (20.4% DV)
5. 70% Dark Chocolate: 1 ounce: 3.3 milligrams iron (19% DV)
6. Spinach: ½ cup cooked: 3.2 milligrams (17.8% DV)
7. Sardines: ¼ cup: 1.8 milligrams (10% DV)
8. Black Beans: ½ cup: 1.8 milligrams (10% DV)
9. Pistachios: 1 ounce: 1.1 milligrams (6.1% DV)
10. Raisins: ¼ cup: 1.1 milligrams (6.1% DV)

If food sources are not enough and/or you need extra supplementation, Best Nest Wellness makes a Hello Vitality® Liquid Iron that both children and adults enjoy. It is made with real chocolate and a quick absorbed non-metallic iron from Albion® minerals and can be taken alone or mixed in drinks.

Important blood work

The checklist below is an important initial check for your doctor to run to help determine where any problems might lie. That way, you and your healthcare team can work quickly to address any health issues before they possibly do permanent damage to your brain.

- [ ] Complete Blood Count
- [ ] Basic Metabolic Panel
- [ ] Iron (Ferritin) Level
- [ ] Thyroid Function Studies
- [ ] MTHFR Genetic Testing
- [ ] Vitamin D Level

Please take this checklist to your doctor and ask them to run these tests as part of your work up. MTHFR genetic testing only needs to be done once in your lifetime.


Oxygen

Oxygenating the brain well promotes brain healing and optimal brain function. This requires a critical balance of:

- Correct breathing for oxygenation
- Correct carbon dioxide and nitric oxide levels for circulation
- A program of brain activities or exercises for growth stimulation

The brain uses about three times as much oxygen as muscles in the body do. Brain cells are very sensitive to decreases in oxygen levels and don't survive or function well very long without it. Breathing through our noses, with our mouth closed, and using belly breathing, or diaphragmatic breathing allows us to get the proper amount of oxygen that we need for brain optimization.

3 ways to improve your brain oxygen

1. **Breathe easily and normally with your belly in a relaxed way.**
2. **Breathe through your nose and not your mouth.**
3. **Take short walks throughout the day. Short walks will increase your circulation and increase oxygen to your brain**

Aerobic exercise in particular supports your brain by increasing blood flow, and thus circulating oxygen and nutrients to your brain cells. Exercise that results in sweating and raises body temperature aids cellular detoxification.

The importance of antioxidants

Oxygen powers the energy supply to life on earth. But when our cells use oxygen for energy, the oxygen breaks down into oxidizing agents. These oxidizing agents damage cells. Cells protect themselves with antioxidant mechanisms. If the oxidizing agents overpower the cell's protective antioxidant system, then damage to the cell occurs. This includes damaging the DNA methylation process.

Therefore, it is important to avoid excess oxidation (charred meats), to make sure you are getting plenty of antioxidants in your diet or through supplementation, and to support your DNA methylation process with methylated vitamins.

Conclusion

If you have experienced symptoms of cognitive decline or mom brain, incorporating some of these recommendations are beneficial for living your best life. How we nurture and care for our brain health and the supplements we choose to take, can have a positive effect on all you do. Remember, beautiful minds begin with advanced nutrition.

About the author

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Madhavi Gupta, M.D. is the founder and CEO of Best Nest Wellness. Dr. Gupta is board-certified neurologist and has won The People's Choice Award as a favorite doctor three years in a row. She holds a degree in biochemistry and humanities from MIT, completed her neurology residency in New York City, and completed her fellowship in headache medicine at Thomas Jefferson University Hospital.

Our story

My journey to Best Nest Wellness is from an unexpected place. I'm a neurologist with a further specialization in headache and I was from a world that believed allopathic or conventional medicine was the only option.

I became a doctor for a few reasons. I was always interested in the brain, even from a young age. And I was from a family of doctors that inspired me. My dad, also a doctor, was very much about conventional medicine. But, my grandfather, also a doctor, was open to traditional and more natural treatments as an Ayurvedic healer. I think this may have seeded something in me. But, I wasn't aware yet.

In college, I had knee pain that anti-inflammatory medications were not helping. Then, I incidentally found that removing dairy from my diet took the knee pain away. It was like a lightbulb went off. That started my journey of realizing how much diet truly comes into play.

It changed how I thought about health and how I treated patients, and I started to surround myself with more natural health-minded people. I even, to the shock of my doctor friends, decided to have the birth of my child at home with a midwife. I believe the health journey is a ladder. And during the birth of my daughter, I went up many rungs.

Birthing my daughter was the most empowering transformation I have ever gone through. You could say I had two births that day: I birthed my daughter and I birthed my new self. After all, I created, grew, and brought life to this human being! I wanted to protect her, nurture her, and provide her with the very best that I could give her.

When my second child was born, he opened my eyes to a whole different dimension of life. Lively, healthy, and born with Down Syndrome, my son's arrival into the world taught me so many things about health, love, life, and our own self-worth. You could say I was once again reborn, as he strengthened my need to provide the very best for my family.

I could no longer go back to allopathic or conventional medicine as the same doctor I was before. I understood the benefits of conventional medicine. But now, I also understood the benefits from a change in lifestyle.

Best Nest Wellness was born after I had been looking for a prenatal vitamin while carrying my son, that I had wished I had had while carrying my daughter. But I couldn't find it. After his birth, with my husband, we decided to make it ourselves. Using my knowledge of neurology and natural medicine, I wanted a prenatal that was one tablet per day and made with methylated vitamins—because they are required for your body to work at its best and they are almost unheard of in prenatals.

To me, "best" means achieving our highest potential, physically, intellectually, and emotionally. "Best" also means high-quality, convenient, and as natural as possible. As a physician and a mother, my bar for "best" is set high. And, so Best Nest Wellness came to life.

Today we create vitamins for your whole nest, including preconception, pregnancy, postnatal, childhood, and parenthood. These support neuro-development and immunity, provide energy, reduce stress, and improve sleep.

We created this brand because we needed it and wanted it for ourselves. We share it because we believe we have an opportunity to improve the health of families like ours and help them soar.

Best isn't just in our name. It's in what we do every day, in every way.

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