PILLAR 01

NUTRITION

"FOOD IS OUR BEST MEDICINE"

What creates health?

The body is made up of cells. A cell is the unit that is the basis for a living organism. Every body consists of trillions of cells. Cells are the building blocks that make up the human body. Cells, however, don't work under just any conditions. They need certain nutrients in order to do the work of keeping one alive and healthy. Without those nutrients, the cells become unhealthy and even die.

Where do those nutrients come from? They come from the foods we eat. Without providing the right nutrients and environment for the cells, then they won't work as well as they should, and a malfunction at the cellular level could eventually impact any aspect of health. Genetics may determine what goes wrong, but when the cells aren't getting what they need, the body doesn't work right, and something will go wrong somewhere.

Epigenetics is the study of how behaviors and environment can cause changes in genetic expression. Genes play an important role in health, but so do behaviour and environment, such as what we eat and how physically active we are.

In other words: " genetics loads the gun, but environment pulls the trigger".

We know that food is composed of thousands of nutrients. Nutrients can communicate with genes to turn them on and off. That means food has a profound influence on how genes express themselves to create health and/or disease. Food also affects the bacteria (microbiome) in the gut. A diverse and thriving microbiome protects the body from disease. Thus food is information for the body.

This leads to another fundamental reason to put a focus on nutrition. The Gut-Brain Axis. Millions of nerves and neurons run between the gut and brain. The gut-brain axis (GBA) consists of bidirectional communication between the central and the enteric nervous system through nerves

and neurons, linking emotional and cognitive centers of the brain with peripheral intestinal functions. Neurotransmitters and other chemicals produced in the gut also affect the brain. Recent advances in research have described the importance of gut microbiota in influencing these interactions. This interaction between microbiota and the GBA appears to be bidirectional, namely through signaling from gut-microbiota to brain and from brain to gut-microbiota. Rectifying imbalances in gut bacteria can positively improve brain health. The health of the gut equals the health of the brain and vice versa.

A major factor in relation to gut health is a condition called leaky gut or intestinal permeability. The intestine, which should be tightly sealed to all but the smallest particles that are meant to leave the digestive tract, becomes permeable, allowing inadequately digested food proteins and bacteria fragments to enter the bloodstream, where they are not meant to be. When they show up in the bloodstream, the immune system becomes activated and sensitive to food proteins. The immune cells make antibodies that attack those food proteins and increase the production of inflammation molecules leading to generalized inflammation. As we know, the brain and gut communicate in a bi-directional manner. Disturbances in the gut environment can produce neuro-chemical changes. In addition, a healthy brain is maintained by the blood brain barrier (BBB). The BBB protects the sensitive brain tissue from toxins present in the rest of the body's blood and lymphatic circulation. This is meant to ensure a pristine environment for the sensitive brain tissue and maintain its executive functioning. However, we now know that the BBB can be damaged, leading to neuro-inflammation and damaged neurons. When there is a leaky gut, there is also often a leaky brain. Many things can cause increased permeability of the BBB. These are the same factors that cause leaky gut.

- Poor diet: high in processed foods, high in sugar, high in inflammatory foods, low fiber and excessive alcohol
- Chronic stress: stress is a major causal factor
- Some prescription drugs: NSAIDS, PPIs (don't ever make changes to your medications without discussing it with your medical provider)
- Micronutrient deficiencies: your gut needs nutrients to heal and thrive, especially iron, vitamin C, vitamin A, vitamin D and Zinc
- Toxins: the body is overtaxed and ultimately poisoned when burdened with toxins, pesticides and heavy metals. Aluminum, for example, is a known neurotoxin and has been implicated in neurological disease.

Rare is the brain disorder that mysteriously pops up out of nowhere or is due solely to a genetic predisposition. In most cases, one can trace the inflammation of a person's brain to the modern lifestyle: high carbohydrate diets, processed foods laden with neurotoxins, brain-sapping trans fats, common digestive problems, wheat and gluten containing foods, lack of sleep and chronic stress.

Presented here is a solid, evidence based nutritional approach to reduce inflammation, heal the gut and that may:

- Allow for healthier brain function
- Slow the progression of disease
- Reduce inflammation
- Heal the gut to strengthen the immune system
- Improve energy and mental clarity

Daily choices have a cumulative and profound effect on health. Changes can take a bit of effort, so it is ok to go slow and steady. However, making changes now with dedication and inspiration will garner amazing results.

1 REMOVE FROM THE DIET FOODS THAT CREATE INFLAMMATION.

Diet is one the most influential elements about the environment that can be controlled and is therefore a very powerful tool in reversing the neurodegenerative process.

GLUTEN- refined grains, grain products
DAIRY- all animal based milk products
SOY
TRANS FATS-(vegetable oils such as: margarine, corn oil, canola oil, safflower oil)
SUGAR/ HIGH FRUCTOSE CORN SYRUP
PRESERVATIVES/ ADDITIVES/ EXCITOTOXINS/ NEUROTOXINS
PACKAGED AND PROCESSED FOODS
FOODS HIGH IN HEAVY METALS
MOLDY FOODS/ BIOTOXINS
NON-ORGANIC FOODS
GMO FOODS

GLUTEN AND DAIRY

Giving up these two foods may be extremely difficult. The reason gluten and dairy are considered comfort foods is because they actually have an opiate-like addictive effect in the body. Giving them up can actually feel a bit like a withdrawal. After the initial shock of removing gluten and dairy, however, people can rapidly start to see improvements overall.

Gluten and dairy has the potential to rev up an inappropriate immune response. Both of these foods metabolize into morphine-like compounds with effects on immune cells as well as gut and brain cells.

Gluten is a complex protein that humans are uniformly unable to digest. Research by a group in New England in 2015 revealed that gluten triggered almost immediate gut inflammation in 100 percent of healthy subjects. Dr. Tom O'Bryan uses an analogy: "If we think of a gluten protein as a necklace made of 100 pearls, we are only able to digest it into ten or twelve pieces." Hence, the body cannot break it down to its individual amino acids, which it is programmed to absorb. Any or all of these pieces of gluten protein can trigger inflammation in the gut wall. When gluten particles cause inflammation in the gut, the tight junctions between the cells are disrupted creating leaky gut. The proteins can then leak into the bloodstream where they don't belong, and the body mounts an immune response. As a downstream result, many problems related to non-celiac gluten sensitivity (NCGS) are neurological, such as brain fog.

The protein peptide casein A1 in dairy is also damaging to the gut. Additionally, the pasteurization process destroys vital enzymes and warps the protein molecules so they are harder to digest. This raises the inflammation levels in the body. Dairy products also contain butyrophilin, a compound structurally similar to a compound in the myelin that surrounds nerve cells. Infectious agents, food, or bacteria may confuse the body's immune system and cause it to attack because it is structurally very similar to human tissue. Due to molecular mimicry, immune cells attempting to attack casein molecules that have leaked from the gut can also turn on myelin—a hallmark of multiple sclerosis.

PROBLEMS WITH SOY

94 percent of the soy crops in the US are genetically modified (GMO) and do not have to be labeled as such. They are modified to be herbicide-tolerant so they can be treated with glyphosate, a compound found in Roundup to control weeds in fields of genetically modified corn and soybeans. Glyphosate has been shown to be toxic to human cells and confuse hormone signaling as it implants itself into the DNA and interferes with some of the enzymes used for processing and eliminating toxins in the body. Glyphosate also directly disrupts the microbiome. Another concern is that soy contains phytic acid which binds to minerals like magnesium, calcium and zinc so the body can't readily use these vital minerals. Therefore, it is important to ensure that food is organic and at the very least non-GMO. (See more below)

DANGERS OF TRANS FATS

Trans fats are disease promoting. There is solid evidence to confirm this. When ingested, trans fat molecules are inserted into cell membranes, making them stiff and interfering with the messaging between cells. Trans fats confuse cell chemistry as well, resulting in increased inflammation and disrupted hormone signaling in the brain. The result is more rapid development of atherosclerosis and shrinking brains that have more difficulty communicating between brain cells. Studies have shown that the more trans fats participants had, the more impaired their thinking ability and an alteration in the ability of neurons to communicate.

When a cooking oil is exposed to heat, light and oxygen, it can oxidize. Oxidized oils can produce harmful compounds and toxic by-products that jeopardize brain health. The more an oil can resist reacting with oxygen and breaking down, the better for cooking.
Avocado oil has a high smoke point of 520*, which makes it a good choice for cooking.
When the oil smokes while being heated, it needs to be discarded and fresh oil used. Olive oil is better used as a salad dressing as it has a low smoke point but is very healthful when raw and cold pressed. Its smoke point is 320* unrefined and 465* when refined.

SUGAR

The average North American eats 165 lb. of sugar each year! This statistic does not include the naturally-occurring sugar in carbohydrate-rich food. The glucose received from sugar is an essential nutrient that is used to create energy, but there are several ways *excessive* sugar affects the body. Eating processed sugar increases systemic inflammation. In fact, refined sugar is one of the most inflammatory foods in any quantity.

Sugar has an effect on blood sugar. These foods are high on the glycemic index, meaning they raise blood glucose (sugar) too quickly. Whole grains, on the other hand, release sugars slowly. (Whole grain flours are not whole grains.) High blood sugar results in the release of excess insulin, which then drives the blood sugar down too fast and too low. The brain is the first system affected by rapid changes in glucose. As the glucose drops, there can be “brain fog”, irritability, hunger headaches and cravings for a “quick fix”—more sugar. Sugars, sweets, juices and refined flours on an empty stomach have a terrible effect on blood glucose. High fructose corn syrup (HFCS) has a double impact on blood glucose and must be **completely avoided**. HFCS increases risk for diabetes, obesity, heart disease, eye damage and nerve damage.

Elevated blood sugar is also known to link with protein structures in a process called glycation. Glycation is a reaction that takes place when simple sugar molecules, such as fructose or glucose, become attached to proteins or lipid fats without the moderation of an enzyme. This reaction creates advanced glycolytic enzymes (AGEs). AGEs are especially dangerous and create massive amounts of free radicals. AGE damage in the basal ganglia region is associated with Lewy body formation—abnormal aggregations of protein that develop inside nerve cells affected by Parkinson's disease. These structures are created and aggregated in the basal ganglia due to oxidative stress within sensitive neuronal tissues. Oxidative stress in the brain is most commonly associated with blood sugar imbalance in addition to environmental toxins such as heavy metals and toxins from pesticides and herbicides.

PRESERVATIVES/ ADDITIVES/ EXCITOTOXINS/NEUROTOXINS

Exitotoxins and neurotoxins are food chemicals that are directly related to diseases of the nervous system. They increase the excitatory neurotransmitters and stimulate neuronal firing, with no “off switch”. This causes neurons in the brain to fire until they die. Monosodium glutamate (MSG) and aspartame are two of the most notorious excitotoxins. Many other food additives by different names are also MSG and should be strictly avoided in order to protect the brain, such as:

-E621
-Glutamic acid
-Glutamate
-Yeast extract
-Hydrolyzed protein
-Sodium caseinate / calcium caseinate
-Natural flavorings (like natural chicken flavor, natural beef flavor)

-Malt extract
-Textured protein
-Soy protein isolate
-Autolyzed plant protein
Not just aspartame, but all artificial sweeteners are neurotoxic. This includes: saccharine, sucralose and splenda.

PACKAGED AND PROCESSED FOODS

Packaged and processed foods contain all of the problems listed above. Trans fats, additives, preservatives, high fructose corn syrup, sugar and possibly gluten. These foods should be avoided completely as they are hazardous to brain health.

FOODS HIGH IN HEAVY METALS

Everyone with neurodegeneration should get a heavy metal test done. (contact us)

Heavy metals cause brain fog and impair brain performance in several ways; mitochondrial dysfunction, oxidative stress and microglial activation (think brain inflammation) all combine to impair the capacity of brain cells to maintain normal cognitive processing.
Heavy metals act via several different mechanisms in brain tissue:

- Cellular destruction: tin kills off cerebellar neurons; mercury destroys cellular infrastructure (neurofibrils) within nerve cells and inhibits neurite formation.
- Oxidative stress: heavy metals reduce cellular glutathione levels and generate free radicals. Glutathione is the body's master antioxidant and is essential in detoxifying the body of heavy metals. Free radicals destroy brain tissue and damage DNA.
- Mitochondrial dysfunction: the brain uses up to 20 percent of the body's energy output. Mitochondria, the organelle found in most cells, produce our body's energy. Naturally, if mitochondria are not working properly and energy production is low, brain performance will suffer. There are certain toxic metals that cause fatigue by interfering in mitochondrial energy production. Mitochondrial dysfunction from arsenic, aluminum, tin, thallium and cesium reduces energy (ATP, the source of energy for many metabolic processes) supplied to neurons, astrocytes and other brain cells.
- Microglial activation: the inflammatory response in the brain is mediated by activated microglia, the resident immune cells of the central nervous system. Activation of microglia is a hallmark of brain pathology. Aluminium especially causes microglial activation and resultant cognitive dysfunction and brain fog.

- Interference with neurotransmission: many different metals reduce levels of neurotransmitters, such as serotonin, dopamine and GABA.
- Interference with hypothalamic function: especially the production of antidiuretic hormone (vasopressin) caused by mercury toxicity and blockage of melatonin receptors causing chronic sleep disturbance.

The most common metals implicated in neurodegeneration are cadmium, mercury, lead and arsenic.
Mercury can be found in larger fish such as tuna and farmed salmon.
Arsenic can be found in high amounts of brown rice.
Canned foods have lead.
Refined wheat flour has cadmium.
Soft drinks like Coke and Sprite contain lead and cadmium.
Fish with the lowest levels of mercury are cod, haddock, wild salmon, sardines and whitefish.

Toxins are stored in fat, and the brain is mostly fat. Therefore heavy metals must be addressed when attempting to reduce symptoms related to neurodegeneration, to improve the health of the brain and to increase brain function.

MOLDY FOODS/ MYCOTOXINS

Mycotoxins can cause significant damage to your health. Mycotoxins, a toxic substance produced by mold, can be found in corn, non organic coffee, barley, wheat and peanuts.
These toxins can get into the brain and cause damage by interfering with metabolism and inducing inflammation. Mold spores and mycotoxins (which are much smaller than mold spores) act as irritants, which can trigger the body to mount an immune response. This can lead to inflammation throughout the body. Inflammation in the brain can impair cognitive function, and in the case of chronic inflammation, this can lead to long-lasting cognitive impairment, especially if the source of exposure has not been addressed or if the mycotoxins have not been eliminated from the body.

ORGANICS

Needless to say, there is great benefit to eating organic food. Not only does it contain more nutrients than conventional produce, eating organic means avoiding ingesting the toxic herbicides such as glyphosate and pesticides that are found in conventionally grown produce. Immediately after a glyphosate (or gluten) exposure, zonulin is produced in the small intestine,

and that zonulin goes systemic and damages tight junctions throughout the system. The relationship between brain fog and gut health is due to this loosening of the tight junctions.

In a perfect world, the best practice is to only eat organic food. However, in reality, organic food can be expensive or hard to source. The Environmental Working Group (EWG) releases a list called **"The Dirty Dozen"** each year. These are the 12 most pesticide-laden fruits and vegetables —the most toxic. The foods on this list are the foods most sprayed in conventional farming and therefore the most important to buy organic. As of this writing, the list includes:

- Apples
- Peaches
- Nectarines
- Strawberries
- Grapes
- Celery
- Spinach
- Bell & hot peppers
- Tomatoes
- Cherries
- Pears
- Kale, collard & mustard greens

On the flip side, the EWG also publishes a list called the **"Clean 15"**—the 15 least contaminated fruits and vegetables which are safer (but not necessarily chemical-free) to buy conventionally. Currently this list contains:

- Avocados
- Corn (please note that corn is a GMO crop)
- Pineapples
- Cabbage
- Sweet peas
- Onions
- Asparagus
- Papayas
- Kiwi
- Eggplant
- Mushrooms

- Honeydew melon
- Cantaloupe
- Broccoli
- Cauliflower

You can download the EWG Dirty Dozen app to your phone for easy access when shopping or look up the list online.

2 REPLACE INFLAMMATORY FOOD WITH ANTI-INFLAMMATORY FOOD.

Now that we have removed inflammatory foods, we want to flood the body and brain with foods that will nourish and boost performance. These foods will actively fight inflammation, support brain health, slow down neurodegeneration and support detoxification.

NEURO- PROTECTIVE FOODS

HEALTHY FATS-OMEGA3: wild fish, olive oil, avocado, coconut oil and MCT oil.
Essential fats that support brain function, fight inflammation and decrease levels of C-reactive protein (an inflammatory molecule) and increases concentrations of glutathione (the master antioxidant)

FRESH FRUIT AND VEGETABLES/ PHYTONUTRIENTS: antioxidants, fiber, vitamins and minerals.
Each color of produce offers a wealth of different nutrition profiles. Try to get as many servings as you can in a day.

PROTEIN: chicken and turkey, antibiotic free and fish
Essential for brain health. Neurons communicate via neurotransmitters which are made of protein.

CHOLINE: eggs.
Creates the neurotransmitter acetylcholine which regulates mood and memory.

TURMERIC: potent antioxidant and anti-inflammatory food linked to better brain health.

NUTS and SEEDS: walnuts, chia seeds, flax seeds, hemp seeds
All high in Omega3.

FRESH HERBS and SPICES: turmeric, oregano, rosemary

SOAKED and SPROUTED BEANS: increases antioxidant levels, amino acid levels such as tryptophan (precursor for dopamine) and makes beans easier to digest lowering inflammation

ANTIOXIDANTS

Toxins act as free radicals in the body. Free radicals are unstable molecules that go around the body causing damage - this is one of the factors involved in the development of neural degeneration. Normal molecules have an even number of electrons (electrons bond the molecules' various atoms together, making a stable structure). Free radicals, on the other hand, contain an unpair number of electrons. As a result, free radicals try to steal an electron from intact molecules, creating more free radicals in the process. The damage this causes is called oxidative damage.

Antioxidants are special molecules that are able to donate one of their electrons without becoming a free radical themselves. That means they neutralize free radicals and halt oxidative damage in its tracks. For that reason, it is worth making sure your diet is packed with these protective nutrients.

The body produces its own powerful antioxidants. One of them is glutathione which is produced by the liver and supported by cruciferous and allium vegetables. Another is the antioxidant enzyme manganese superoxide dismutase (MnSOD).

Manganese Superoxide Dismutase (MnSOD) is found within the cells' mitochondria and acts as the main free radical scavenger there. The mitochondrion is the part of the cell that converts the food we eat into energy, and where many of the cell's functions originate. The by-products of this energy-production are reactive oxygen species, or free radicals.

Mitochondrial dysfunction is one of the risk factors involved in neurodegeneration. Inadequate amounts of MnSOD can lead to an increased production of free radicals or a build-up within the cell, which in turn alters the cell's metabolic functions - and this can have serious implications for neurological health. Adequate amounts of MnSOD is therefore essential.

Unfortunately, the body doesn't absorb MnSOD from food, so it is not possible to supplement it. But it is possible to give the body the nutrients it needs to help it make its own: zinc, copper and manganese.

ZINC	COPPER	MANGANESE
pumkin seeds	lentils	lentils
gluten free oats	gluten free oats	gluten free oats
lentils	apples	sweet potato
avocado	avocado	spinach
hemp seeds	sweet potato	hemp seeds
wild rice	chickpeas	coconut

All fruits and vegetables contain plant pigments that scavenge free radicals and reduce oxidative stress. Although blueberries and kale have enjoyed renewed fame of late, less glamorous produce like fennel, celery, turnips, apples, peas, carrots and so on, are just as rich in brain-protective, detox-aiding nutrients.

EAT THE RAINBOW of produce and plant foods to get the diversity of nutrients the body and brain need.

There are various recommendations on how to get the most out of the diet.

DR. GREG ECKEL'S ZONE DIET

40/30/30

40-complex carbs- vegetables (greens and color)
30-protein (size of your palm)
30-fat (avocado, salad dressings)

THE WAHLS PROTOCOL- MODIFIED PALEO DIET

(FOR A STRICTER AND MORE THERAPEUTIC APPROACH CONSIDER)

EAT LOTS OF:

Meat and Fish

Vegetables-3 cups of greens

3 cups of coloured vegetables

3 cups of sulfur-rich vegetables (onions, garlic, leeks)

Bright coloured fruits by way of berries

Omega3 fats

DON'T EAT:

Sugar

Dairy

Eggs

Grains- wheat, rice, oats

Legumes- beans, lentils

Nightshades

See Dr. Terry Wahls' book *The Wahls Protocol* for specific food recommendations.

3 REDUCE TOXIC BURDEN AND SUPPORT THE BODY'S DETOXING ORGANS USING FOOD.

The body is a very effective detoxing machine. It is designed to constantly eliminate what doesn't serve it, whether that's toxins from food eaten, free radicals, environmental chemicals or the byproducts of normal cellular processes.

It does it via the organs of elimination: the liver, kidney, lungs, skin and intestines.
As amazing as these systems are, they get tired and worn out if they have too much to do. The result is chronic inflammation and neurodegeneration.

LIVER

Cruciferous and allium vegetables contain flavonoids, sulforaphane and organosulfur compounds that boost your liver and help it to produce glutathione. These veggies also increase the body's

production of CYP1 enzymes, which are responsible for neutralizing environmental toxins and toxins from medication. Basically, they assist the liver in getting rid of unwanted substances and support its antioxidant effect.

CRUCIFEROUS VEGETABLES:
Bok choy
Broccoli and broccoli sprouts
Brussels sprouts
Cabbage (red, white, etc.)
Cauliflower
Collard greens
Kale
Mustard greens
Radishes
Rutabaga
Turnips
Watercress

ALLIUM FOODS:
Chives
Garlic
Leeks
Onions
Scallions
Shallots
Eggs

KIDNEYS
The easiest way to support the kidneys is to drink enough fluid.
Water is also an essential nutrient the brain depends on to maintain optimal function. When the brain doesn't receive enough water, many negative effects can result, such as concentration and memory problems, brain fatigue and brain fog, headaches, sleep issues and more.

Start the morning by squeezing a lemon into warm water to gently support the liver and kidneys in detoxification and flush out those accumulated toxins.

- Aim for 70 ounces of filtered water a day or ½ your body weight in pounds divided by 2 to get the amount of ounces optimal for you.
- Add ¼ teaspoon of celtic sea salt to 32 ounces of water to improve absorption.

DIGESTIVE SYSTEM:

To keep the digestive system moving, eat plenty of fiber and drink plenty of fluids.
There are two main types of fiber: soluble and insoluble. Both are useful to help the body detoxify. It's easy to differentiate between the two. Soluble fiber absorbs water and turns into a gel. Insoluble fiber does not.

Soluble fiber eases constipation because it soaks up fluid as it passes through the digestive system, making stools bulkier and easier to pass.

Soluble fiber is found in:

Oatmeal
Flax seeds
Chia seeds
Nuts & seeds
Beans & legumes
Fruits and vegetables

Insoluble fiber is mostly found in the skin of fruits and vegetables and in whole grains. Just like soluble fiber, it helps with regular bowel movements and ensures toxins are eliminated.

Insoluble fiber is found in:

Whole grains (millet, quinoa, amaranth, brown rice)
Beans & legumes
Nuts & seeds
Fruits with edible seeds (berries, apples, watermelon, papaya)
Fruits and vegetables with edible peel (organic if one of the dirty dozen)

(The lungs and skin are also detoxing organs, but their mechanisms do not pertain to food directly)

CONSIDER INTERMITTENT FASTING/ TIME RESTRICTED EATING

Intermittent fasting is a fasting strategy that cycles between fasting and eating over a period of time. TRE is eating in a specific window of time. These strategies help improve cellular repair, autophagy, immune regulation, inflammation levels and insulin sensitivity, and decrease the risk of chronic disease including neurodegeneration.

Start with 12/12: 12 hours fasting (overnight) and 12 hours eating
Move into 16/8: eating in a time restricted eating window of 8 hours such as 11:00am-7:00pm

There are so many studies that support this practice for optimal health. Intermittent fasting/ TRE decreases inflammation and detoxifies the brain, which can have potent benefits against neurodegeneration.

SUPPLEMENTS

There are many supplements that can support brain health. It is hard to get all the nutrients needed from food alone. Taking the right supplements ensures the brain is getting everything it needs.

Always check with your doctor before taking new supplements.
Check if your meds are contraindicated with supplements:
https://www.rxlist.com/drug-interaction-checker.htm

QUICK START SUPPLEMENTS	
OMEGA 3 fish oil	2000 mg soft gels daily
Ubiquinol CoQ10	1 soft gel daily
Vitamin D + K2	5000 IU daily
Multi-vitamin	According to bottle
Probiotic	1 daily

MUCUNA PRURIENS FOR PARKINSONS

Mucuna pruriens, or velvet bean, is a tropical legume that may boost dopamine levels. This “magical bean” has been used for thousands of years in Ayurvedic medicine.

How does mucuna pruriens work and how may it be helpful as a natural treatment for Parkinson’s disease? Mucuna pruriens contains high levels of naturally occurring L-dopa, which is the precursor to dopamine. Dopamine is a key neurotransmitter in the brain that is necessary for not only coordinating proper body movements, but also things like learning, increasing motivation and regulating moods.

When someone has Parkinson’s disease, nerve cells that produce dopamine in the brain slowly break down or die. So people with the disease have lowered levels of dopamine, which causes the abnormal brain activity that leads to Parkinson’s symptoms.

Western medicine uses a synthetic form of L-dopa to boost dopamine levels in Parkinson’s patients while Ayurvedic medicine is known to use mucuna pruriens to treat Parkinson’s by increasing dopamine levels.

Organic Mucuna-Kapikacchu Powder - Organic Traditions Canada

Dosage recommendations range from 12.5-17.5 grams

DAILY HABITS TO IMPROVE BRAIN HEALTH

01 | Drink warm water with ½ squeezed lemon upon waking up
This gently starts detoxifying the liver

02 | Eat 2 portions of cruciferous and allium vegetables
This helps detoxify the liver and boost glutathione levels

03 | Eat at least 6 portions of antioxidant rich foods, focus on colour
This can include the cruciferous veggies. Antioxidant foods fights free radicals and lowers inflammation

04 | Include Omega 3 foods daily
Avocado, olive oil,MCT oil, hemp seeds, flaxseeds, chia seeds, salmon
This supports brain health by lowering inflammation and increasing glutathione

05 | Drink at least 8-10 cups of water/herbal tea daily
This helps flush the kidneys of accumulated toxins

06 | Liberally use fresh herbs and spices in cooking
Turmeric, sage, ginkgo biloba, ashwagandha, ginseng all improve brain health and lower inflammation

07 | Take brain-healthy supplements
A good quality multi, probiotic supplement, omega3, CoQ10, Cit D3

08 | Do at least 30 minutes of exercise daily
Do a combination of aerobic, yoga, brain yoga, strength training

09 | Practice stress reduction
Meditate, breathing exercises,focus on gratitude or anything that lowers stress. Stress causes systemic inflammation and interferes with healing

10 | Get at least 8 hours of sleep
Every body system depends on sleep to function including the glymphatic system which flushes brain toxins

NeuroGems
EMPOWERING HEALTH

EXTRA BRAIN BOOSTING SUPERFOODS

1

TURMERIC

The antioxidant compound, curcumin, normalizes dopamine production, lowers inflammation, increases BDNF and alleviates brain fog

2

RESVERATROL

A phenolic compound found in grapes helps reduce the effect of chronic stress on the brain. Can also be found in pistachios and cacao

3

MAGNESIUM

Essential for smooth muscle function and found to have antidepressant effects. Found in pumpkin seeds,spinach, chard and soybeans

4

FOLATE

Without adequate folate or vit B9 the body cannot produce neurotransmitters like dopamine and serotonin. Sources include lentils, pinto beans, garbanzo beans and spinach

5

ORGANIC COFFEE

Acts as an antioxidant to reduce mitochondrial stress and increases dopamine release. Must be organic as coffee is a heavily sprayed crop

6

GREEN TEA

Polyphenols in green tea reduce oxidative stress and increase blood levels of dopamine. Choose organic, matcha green tea

7

GINSENG

Enhances cognitive ability and offers brain protective benefits.

8

OREGANO, ROSEMARY

Offers brain protective benefits and counters symptoms of depression. Fresh or dried offer benefits.

9

PROBIOTICS

The gut is the second brain. Probiotics and fermented foods increase microbiome to support gut health.

10

GINKGO BILOBA

Beneficial effects associated with neurodegeneration.

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EMPOWERING HEALTH

BOOST DOPAMINE LEVELS FOR PD

1.Eat at least 1 portion of dopamine precursor foods
Food rich in phenylalanine, tyrosine and vit B6 (or supplement with Brain Energy from Douglas Lab)
2.Eat at least 1 portion of brain boosting superfood
3.Include Macuna pruriens in your daily smoothie

DOPAMINE PRECURSORS

The body makes dopamine from the amino acids phenylalanine and tyrosine using vitamin B6 as a cofactor. Eat at least one portion of these foods daily. Supplement if necessary; Brain Energy (douglaslabs.ca)

PHENYLALANINE	TYROSINE	VITAMIN B6
edamame beans	oats (gluten free)	avocado
oats (gluten free)	split peas	banana
beans	white beans	sweet potato
lentils	chickpeas	spinach
quinoa	wild rice	green peas
sunflower seeds	hemp seeds	cabbage
millet	pumkin seeds	pistachios
almonds	poultry	chestnuts
poultry	salmon	brown rice