Stress Management
Feeding the Brain
The Problem with Pesticides
Mindful Eating
Moving More
The Secret to Enhancing Your Mood
Calm
your mind and soul.

ChillPills
Natural treatment for day-to-day stress and anxiety, yet also focuses the mind.

D-Stress
Promotes relaxation while helping to manage tension, mental stress, and insomnia.

Joyful
Elevates mood while promoting relaxation and resistance to stressors.

Sleep
Rescues your body and mind by naturally delivering the 8 hours of sleep you need.

OmegaMood
Helps to promote healthy mood balance and strengthen nervous system performance. Contains 1000 mg EPA + 100 mg DHA.

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Be in the Present

While writing this text, I sit on the balcony of the community hall of a small family campground, as the children play board games inside. Today, we were supposed to go visit a park where Canadian wild animals can be found in their natural habitat. However, this end-of-summer day is no exception to the unpredictable and rainy weather of recent months. As the rain falls and the storm rumbles, we have simply found something else to do. In fact, that’s what I have been doing all summer—and I can’t remember the last time I enjoyed it so much! I simply learned to be in the present moment. I adapted, and took advantage of both the beautiful and bad weather. It’s raining? We go to the library to borrow books. It’s nice? We play outside!

Over time, I am increasingly able to enjoy the present moment. Whether it’s my family or career life, I adjust. Similarly, as to what nature offers us and in our everyday life, it is always best to make the most of the present moment.

It’s like learning about a new subject, or reading an article or a new study, which allows us to grow and explore to get out of our comfort zone.

Our Flourish magazine is no exception, and this Autumn edition takes an even greater objective turn. I have really enjoyed reading the texts of our collaborators, and I am sure that you will also appreciate the topics covered, such as exercise, stress, immunity, and much more.

Now that the rain has stopped, I am putting away my laptop, and I’m going to play outside!

Have a great autumn, and enjoy your reading!
Our society is overburdened with stressors of all kinds: tense work places, long commutes, family/relationship troubles, financial difficulties, too much caffeine, too little sleep, and not enough leisure time. The offshoot of chronic stress results in depression, anxiety, and insomnia. While we ought to change our stressful situations as much as possible and work on our coping methods, we need to optimize our physical health status to help our bodies manage the effects of chronic stress. Providing the body with key nutrients that have been shown to improve neurological and mental function goes a long way in helping manage ongoing stress. This article will discuss the effects of vitamin D, fish oil, B vitamins, and lavender on mental health.

**Vitamin D**

Vitamin D is a steroid hormone with activity in the brain, and is called a “neurosteroid” by some. The vitamin D receptor (VDR) is widely distributed throughout the human brain, including the limbic system and prefrontal cortex, which are involved in regulation of mood and affect. One of the mechanisms of depression is thought to involve inflammatory processes in the brain and, interestingly, vitamin D is also known to have anti-inflammatory effects. Animal studies suggest that vitamin D may have a role in the production or maintenance of dopamine and serotonin levels in the brain. Finally, vitamin D has also been shown to influence the hypothalamic-pituitary-adrenal (HPA) axis, which is the primary system responsible for adaptation to stress. Although the role of vitamin D on adrenal function is not well-known, one study found that prenatal vitamin D deficiency leads to an increase in maternal corticosterone hormone.

Clinical trials indicate that vitamin D supplementation is effective in treating depression and anxiety. A 2016 study of 158 girls with PMS-related mood symptoms and vitamin D deficiency found that a supplementation of this vitamin was associated with significantly decreased anxiety score and irritability score, as well as with a decrease in symptoms of crying easily and sadness. Another randomized study in 40 patients with major depressive disorder (MDD) found that vitamin D supplementation (50 000 IU per week for eight weeks) improved symptoms of depression on the Beck Depression Inventory (BDI), compared to placebo.

Another study evaluated the effect of vitamin D when added to the antidepressant fluoxetine. A total of 42 patients with a diagnosis of major depressive disorder were randomized to receive daily either 1500 IU vitamin D₃ plus 20 mg fluoxetine, or fluoxetine alone, for eight weeks. Researchers found that depression severity decreased significantly after intervention, with the vitamin D–plus-fluoxetine combination being significantly better than fluoxetine alone from the fourth week of treatment.

**Fish Oil**

Fish-derived omega-3 fatty acids include eicosapentaenoic acid (EPA) and docosahexaenoic acid (DHA). EPA exerts well-documented anti-inflammatory effects: It competitively inhibits the production of proinflammatory cytokines such as prostaglandin E₂ (PGE₂) from arachidonic acid (AA), and leads to the production of anti-inflammatory cytokines by the cyclooxygenase (COX) enzymes. EPA may also influence cell signaling and neurotransmitter production in the brain. It has also been shown to lower cortisol levels in patients with major depression, equally to antidepressants (fluoxetine).
An extensive body of research indicates that EPA exerts powerful antidepressant and mood-stabilizing effects. Data from many randomized trials and several meta-analyses show that EPA improves mood in patients with depression and bipolar disorder, as well as in patients with depressive symptoms but not necessarily meeting the criteria for major depression. Notably, a meta-analysis by Sublette et al found that supplements with EPA content greater than or equal to 60% showed benefit on standardized mean depression scores, with an effect size of approximately 50%, while supplements with less EPA were ineffective.

EPA has also been shown to improve the effectiveness of antidepressants. In one study, 42 subjects were randomized to receive 1800 mg EPA and 400 mg DHA in addition to citalopram (antidepressant), compared to citalopram. After nine weeks, patients receiving both citalopram plus EPA demonstrated significantly greater improvement in Hamilton Depression Rating scale scores over time, starting at four weeks.

Another study examined the effects of EPA alone (1000 mg), fluoxetine alone (20 mg), or both combined for eight weeks on patients with major depression. This study showed that EPA alone and fluoxetine alone were equally effective in managing the symptoms of depression; however, their combination resulted in the best improvement. The EPA-plus-fluoxetine combination was significantly better than fluoxetine or EPA alone from the fourth week of treatment. Response rates, defined as a 50% or greater decrease in baseline depression score, were 50%, 56%, and 81% in the fluoxetine, EPA, and combination groups, respectively.

**B Vitamins**
The family of B vitamins is important in the synthesis and metabolism of neurotransmitters and hormones such as estrogen. In addition, according to the homocysteine hypothesis of depression, elevations of the molecule homocysteine are implicated in the pathogenesis of depression.

Homocysteine is an intermediate metabolite of methionine metabolism circulating in the bloodstream. If there are adequate levels of folate, vitamin $B_6$, and vitamin $B_{12}$ available, homocysteine is metabolized to cysteine, a harmless end-product. In the event of a deficiency of these compounds, homocysteine accumulates in the bloodstream and has been associated with increased risk of stroke and, hypothetically, depression.

“Natural health products have a role in supporting mood and stress management.”

One study evaluated supplementation with one capsule of activated B vitamins among 330 patients with genetic polymorphisms of folic-acid metabolism and major depressive disorder (MDD). After eight weeks, 82.4% of patients showed a mean 25% reduction in homocysteine, while on average patients receiving placebo showed a small elevation in homocysteine. Patients receiving B vitamins also showed an average 12-point reduction in depression symptoms by week eight, while 42% achieved full remission.

Numerous studies show that supplementation with various B vitamins—including thiamin, folic acid, and vitamin $B_{12}$—improve symptoms in patients with depression and in patients on antidepressant medications and not.

**Lavender**
Finally, although not a nutrient, lavender is an herbal medicine with a high level of scientific evidence supporting its effectiveness in the treatment of anxiety and comorbid depression. In Germany, an oral lavender preparation is approved for the treatment of anxiety. Studies show that it is equal to common anxiolytic medications such as paroxetine (Paxil) and lorazepam (Ativan) in the treatment of anxiety.

In a study of 318 adult with mixed anxiety and depressive disorder (MADD) and at least moderately severe anxious and depressed mood, treatment with 80 mg of lavender daily for 70 days improved symptoms significantly better than placebo. Patients taking lavender also showed more pronounced improvements of impaired daily-living skills and health-related quality of life. A similar study found improvements in sleep quality and anxiety ratings among patients with restlessness, insomnia, and anxiety.

Natural health products have a role in supporting mood and stress management. Agents such as vitamin D, B vitamins, eicosapentaenoic acid, and lavender help provide fuel for optimal brain function, and show few side effects in comparison with some of the commonly available prescription medications.

Article including references on our blog: newrootsherbal.com/en/blog
The relentless pursuit of the perfect sleep is a holy grail indeed. Thankfully, there are plenty of time-honoured botanical, hormonal, and mineral alternatives to help you establish and maintain healthy sleep patterns. Let’s discuss them.

Passionflower is recognized for supporting production of γ-aminobutyric acid (GABA), the compound that suppresses brain activity to induce relaxation. Its history for use as a pain reliever and sedative dates back to the ancient Aztec civilization. Extracts standardized to contain therapeutic amounts of flavonoids from passionflower are popular for use as sleep enhancers.

Hops, the most common flavouring agent for beer, when taken in the form of a standardized extract, is excellent for supporting slumber. Skullcap, chamomile, and catnip are also recognized to gently calm the nervous system, individually or collectively, in the form of teas, tinctures, or supplements.

Panax notoginseng, also known as san qi, strengthens nerve cells within the cerebral cortex for better resistance to stressors. This preserves the calm state of mind necessary for the onset of restful sleep. Isolates of this form of ginseng are a mainstay of traditional Chinese medicine.

Many people experience a lifestyle-related shortage of melatonin.

Melatonin is recognized for its restorative effects on healthy sleep cycles (circadian rhythm). Production of this sleep hormone requires darkness, and many people experience a lifestyle-related shortage of melatonin; supplementation can be an early form of intervention that delivers results.

The neuroprotective effects of a highly bioavailable form of magnesium, such as magnesium bisglycinate, can also prove to exert a calming effect conducive to sleep onset.

When taken individually or in synergistic formulas, these are among the many side effect-free and natural solutions for those with chronic or acute insomnia, or the weary traveller struggling to adjust to a novel time zone.

Yours in health. Good night!
A Short History of Iodized Salt

Iodine (I₂) is present in sea water, but not in sea salt. Why? Because it is volatile; it evaporates during the drying of the salt. In order to obtain iodized salt, potassium iodide (KI), which is much less volatile than pure iodine, must be added. Potassium iodide also has the advantage of having a less-pronounced taste and does not modify the colour of the salt (iodine varies in colour from violet to brown).

Iodized salt, the first functional fortified food, appeared in America in 1924 (it had already been in existence in Switzerland), to compensate for iodine deficiency, which used to be very frequent.

“Synthetic” or “Natural” Iodine?

Is iodized salt good for you? It is sometimes said that “synthetic” iodine (KI) of iodized salt is not as good as “natural” iodine (I₂). Well, that’s not true. Once dissolved in the body, these two forms release the same ionic iodine (I⁻). Indeed, you read right: the same; it is identical. Then, a transporter in the intestine binds to the iodine (I⁻) and actively incorporates it into the organism.

Iodized Salt or Sea Salt?

However, if the ionic iodine (I⁻) is identical whether it originates from KI or I₂, it is still necessary to take into consideration the other ingredients of the table salt. And no, not all table salts are the same! Even though the iodine they contain is well-absorbed, the other additional substances may not be good for you!

In fact, iodized table salt is often filled with antickaking agents such as aluminum trisilicate (yes, yes, they are making you eat aluminum!) or sugar.

When it comes to raw salts, such as sea or earth salts (e.g. Himalayan salt), they are richer in various minerals (such as magnesium) than table salt, which at the base is NaCl (sodium chloride).

What is the Best Source of Iodine?

The best sources of iodine are seafood: seaweed, fish, and shellfish.

How Much Iodine Should You Take?

In Canada, the recommended nutritional intake for an adult is 150 mcg (micrograms) of iodine per day. However, opinions are divided regarding this dosage. In fact, in the 2006 New England Journal of Medicine, a 400 mcg intake is suggested to obtain the desired health effects. It is well-known that in Japan, where people are large consumers of algae, food intake can easily exceed several milligrams (mg) per day. With the latest findings on the roles of iodine (cysts, breast cancers, salivary glands, and thymus), it can be assumed that recommended intakes will increase.

Health Canada recommends a maximum tolerable intake of 1,000 mcg (1 mg) per day. This does not prevent some doctors and therapists from recommending much higher dosages.

Is it Dangerous?

Higher intakes, as seen with the Japanese for example, are associated with a slight increase in hypothyroidism. Daily doses of around 20 mg (20,000 mcg) have been associated with the development of nodules in the thyroid.

Add Selenium

Selenium is the mineral that works in tandem with iodine. So, if you increase your intake of iodine, make sure that you have enough selenium in your system as to not unbalance your iodine/selenium ratio. It is always best to consult a professional in supplementation before starting. Besides, if you think your iodine is too low, why not just eat seaweed regularly?

Here’s to your health!

See the complete article including references on our blog: newrootsherbal.com/en/blog
**Pure Magnesium Bisglycinate 130 mg**
Each vegan-friendly capsule delivers 130 mg of elemental magnesium in the form of pure, fully reacted magnesium bisglycinate. This premium form is gentle on the stomach while maximizing both intestinal absorption and assimilation. Magnesium is essential for healthy bones, teeth, muscle function, and nervous system support.

**Pure Magnesium Bisglycinate + Taurine**
Our pure, fully reacted magnesium bisglycinate with the synergistic, relaxing action of l-taurine is now available in both capsules and tablets. Two forms exist: 115 mg of elemental magnesium and 25 mg of l-taurine per capsule, ideal for sustained action throughout the day, and tablets with 150 mg of magnesium and 30 mg of l-taurine for a stronger therapeutic dose.

**Magnesium Bisglycinate Liquid**
With 250 mg of elemental magnesium in the form of pure, fully reacted magnesium bisglycinate per tablespoon, our great-tasting, peach-flavoured Magnesium Bisglycinate Liquid delivers a potent therapeutic dose that’s easy on the stomach and formulated for maximum intestinal absorption and assimilation.

**Chaga Tea**
Wild-crafted from British Columbia’s rugged interior, New Roots Herbal’s Chaga Tea possess therapeutic, naturally occurring antioxidant and immune-strengthening compounds critical for excellent health and disease resistance. Our Chaga Tea is sustainably harvested exclusively from white birch for maximum therapeutic potential.

**GABA**
New Roots Herbal’s GABA (gamma-aminobutyric acid) populates specific receptors within brain cells, thus reducing excitability of neurons and stress. It’s a side effect-free way to promote relaxation and break the grip that nervous tension may exert upon your body, mind, and spirit.

**HeartSmart Oils**
Our certified organic Heart Smart Olive, Sunflower, and Safflower Oils are a convenient way to incorporate the cholesterol-lowering effects of 375 mg of plant sterols per tablespoon into your diet. We have an oil suitable for everything, whether it is soups, smoothies, stir-fries, vinaigrettes, cooking, baking, and more.
Animals (including us), plants, insects, mushrooms, yeast, and even lowly bacteria have developed complex defense mechanisms critical for survival. From a porcupine with razor-sharp quills to a poisonous mushroom with lethal toxins, organisms owe their survival to these evolutionary adaptations.

Pathogenic microorganisms, including those from the illness-causing *Staphylococcus* and *Salmonella* genuses (categories), have developed their own complex defense mechanisms called “biofilms.” These harmful bacteria produce this protective biofilm by secreting excess DNA, proteins, and polysaccharides to create a gel-like substance that protects them as they adhere to intestinal walls. They can then thrive within this “gated community” at the expense of your health.

Enter carvacrol, the naturally occurring biocidal compound found in the leaves of over 50 species of oregano. In addition to serving an active role in its own survival, carvacrol has been proven to break down proteins which serve as the structural scaffolding for biofilm formation. Once carvacrol penetrates this protective biofilm, it proceeds to break down bacterial cell walls, leading to their death. In fact research published in the *Journal of Applied and Environmental Microbiology* demonstrates the natural antimicrobial action of carvacrol as being as effective as commercial-grade sanitizing agents for inhibiting biofilm formation of pathogenic bacteria.

*Origanum minutiflorum* is recognized as the most potent source of naturally occurring carvacrol. This robust and resilient plant grows wild and thrives at altitudes exceeding 1500 m within the barren mountain ranges of the eastern Mediterranean region. Carvacrol is the principal therapeutic compound found in steam-distilled oregano oil.
The Maintenance of Healthy Bones and Joints

by Gordon Raza, BSc

We all know someone over 50 on “the list” for hip- or knee-replacement surgery. In fact, surgery for these critical weight-bearing joints is now commonplace in orthopedic practice.

Whether you’re on “the list” or not, there are natural therapeutic strategies to combat osteoporosis and alleviate joint pain.

The gradual loss of bone strength and density is generally without symptoms, and frequently only diagnosed following a fragility fracture, with wear-and-tear on attachment sites of bones and connective tissue including cartilage (bone-to-bone), tendons (bone-to-bone), and ligaments (muscle-to-bone) recognized as the most common causes of bone (joint) pain.

Bones are dynamic, with bone cells in a constant state of growth and resorption (decay or loss). Supplementation with calcium was once considered adequate for maintaining a healthy bone mass. However, the bioavailability of calcium and the presence of nutrients that enhance its absorption are crucial. Bovine-sourced calcium in the form of microcrystalline hydroxyapatite (MCHA) is recognized as the most bioavailable form of calcium to fuel bone growth, with tricalcium phosphate being an excellent option for vegetarians. The maintenance of adequate levels of vitamin D₃ and magnesium is proven to maximize calcium assimilation for healthy bone mass. Many other nutrients have been shown to exert positive effects on bone-density dynamics, with two biologically active forms of vitamin K₂ and extracts of green tea and grape seed stimulating osteoblast (bone-building cells) and inhibiting osteoclast (bone-resorption) activity. Curcumin, lutein, zinc, manganese, and vitamins B₃ and B₁₂ are among the many other skeletal-friendly nutrients to look for in a comprehensive formula.

A novel nutrient, by the trade name of NEM® (natural eggshell membrane), has also emerged as a critical component for healthy cartilage, connective tissue, and synovial fluid essential for pain free articulation. Extracts of devil’s claw, curcumin, and boswellic acid are a trio of botanicals worthy of consideration for relief of joint pain and inflammation.

Quenching bones and connective tissue with the right nutrients will make your bones stronger and help alleviate joint pain to suit your active lifestyle. Better muscle tone will further strengthen points of articulation, improve posture and balance, and minimize joint pain to elevate your quality of life.

You deserve it!
Beneficial bacteria have been shown to interact with immune cells on a molecular level. Polysaccharides expressed on the surfaces of *Lactobacillus* strains, for instance, have been shown to bind specific receptors such as toll-like receptors (TLRs) and lectin receptors present on immune cells such as dendritic cells and T lymphocytes, and influencing their production of immune-active chemicals called cytokines. Depending on what family of cytokines is produced, this may result in a pro- or anti-inflammatory response, thereby exerting an immunoregulatory effect. According to Kang: “Depending on types of probiotic species, they can either induce immune activation signaling by producing IL-12, IL-1β, and TNF-α, or trigger tolerance signaling by stimulating anti-inflammatory cytokines such as IL-10 and TGF-β levels.” Probiotics may also secrete anti-inflammatory molecules independently.

In humans, probiotics have been shown to reduce upper respiratory tract infections (URTI); reduce gastrointestinal infections including *Helicobacter pylori* (*H. pylori*), antibiotic-associated diarrhoea (ADD), and traveller’s diarrhoea; reduce vaginal infections (yeast or bacterial); and maybe reduce bladder or urinary tract infections. Supplementation with probiotics also appears to modulate the autoimmune response in conditions including inflammatory bowel disease (IBD), asthma and eczema, and rheumatoid arthritis (RA).

**Respiratory Infection**

Human studies show that supplementation with probiotics has been shown to reduce the
incidence of upper respiratory tract infections (URTI) among adults, children, athletes, and the elderly. High probiotic doses have been shown to significantly increase the percentages of activated potentially T-suppressor and NK cells, while low probiotic doses increased activated T-helper lymphocytes, B lymphocytes, and antigen-presenting cells.

In children, probiotic supplementation was shown to result in a 25% decreased risk of having an episode of respiratory or gastrointestinal illness during the winter. In children with asthma, supplementation with a symbiotic containing 1 billion CFU significantly reduced the risk of viral illness and reduced the use of salbutamol inhaler medication. A 2016 meta-analysis of 23 studies found that probiotic supplementation decreased the number of children (newborn to 18 years old) having at least one respiratory tract infection, and decreased the numbers of days absent from daycare/school.

**Gastrointestinal Infection**

In addition to the mechanisms described above, probiotics exert a competitive regulatory effect on other microorganisms in their local environments. For instance, in the gastrointestinal tract, bacterial and yeast species are in constant competition for nutrients as well as binding space in the gut, inhibiting the overgrowth of harmful species.

Treatment with antibiotics alters the balance of bacteria of the gastrointestinal system, and may cause antibiotic-associated diarrhoea (AAD).

“A 2012 meta-analysis of 82 clinical trials found that probiotics reduce the risk of AAD by up to 42%.”

Another infectious diarrhoea, traveller’s diarrhoea, often includes infection with *Escherichia coli* (*E. coli*). A Cochrane meta-analysis found that probiotics are an effective treatment for infectious diarrhoea, reducing the duration of symptoms by over 24 h, and reducing the risk of diarrhoea persisting for more than four days by almost 60%.

Finally, *H. pylori* is a common gastrointestinal infection and bacteria associated with peptic ulcer disease. *H. pylori* is typically treated with a combination of antibiotics and antacids called “triple therapy,” which is associated with an eradication rate of about 70–80%. The addition of probiotics to this regimen can increase the eradication rate up to 96%.

**Vaginal/Bladder Infection**

The vaginal microbiota also functions as an inhibitor of yeast overgrowth, which may happen in association with antibiotic treatment or with hormonal fluctuations associated with the menstrual cycle and/or menopause. Oral and vaginal suppository use of probiotics has been shown to help prevent recurrent vaginal yeast infections as well as cystitis or bladder infections.

**Autoimmune Disease: Inflammatory Bowel Disease**

Autoimmune disease is characterized by an overactive immune response, such that the immune system mounts an attack on the body’s own tissues and organs.

Inflammatory bowel disease is an autoimmune disease of the gastrointestinal tract, including Crohn’s disease and ulcerative colitis (UC). Probiotics have been shown to help maintain remission of ulcerative colitis, when used in more general doses such as
20 billion CFU, up to doses between 50 and 900 billion CFU per day. Probiotics have also been shown to reduce symptom severity during active disease, induce remission in some patients, as well as prolong periods of disease remission in patients with IBD. Trials utilizing 50–200 billion CFU have shown a reduction in symptoms and histological score (a measure of tissue damage) in patients with Crohn's disease.

Rheumatoid Arthritis

Rheumatoid arthritis (RA) is a highly inflammatory condition affecting the small joints of the hands as well as other joints throughout the body. It is associated with progressive joint damage and loss of function. Probiotics have also been shown to reduce disease activity and inflammation in patients with RA. For instance, among patients with rheumatoid arthritis, supplementation with probiotics for eight weeks was found to significantly reduce the disease activity score of 28 joints (DAS-28); reduce C-reactive protein, a marker of inflammation; and improve insulin resistance compared to placebo. Another study found that supplementation with probiotics resulted in decreased serum high-sensitivity C-reactive protein (hs-CRP) levels and decreased tender and swollen joint counts, and improved global health (GH) score and DAS-28, compared to placebo.

Atopy: Eczema, Asthma, and Allergy

Finally, probiotics have been shown to improve atopic disease including asthma, eczema, and allergy. Supplementation with *Lactobacillus* strains in children with asthma has been shown to decrease bronchial inflammation, improve bronchial function, and decrease symptom scores for asthma and allergic rhinitis compared to placebo. There was also a significant reduction in cytokines, specifically TNF-α, IFN-γ, IL-12, and IL-13, production following probiotic treatment.

Importantly, when taken during pregnancy, probiotics appear to modulate the development of the fetal immune system. This is made evident by the fact that the offspring of women supplementing with probiotics have a decreased risk of developing atopy. A recent meta-analysis examined 17 studies, including 4755 children, and found that supplementation with probiotics during pregnancy and early infancy was associated with a 22% lower risk of eczema compared to untreated infants, and this was especially marked in children who received a mixture of probiotics. These children had an almost 50% reduced risk. Another meta-analysis found that probiotic supplementation during pregnancy and early infancy may reduce the risk of atopy as well as food hypersensitivity in the infants.

In conclusion, probiotic bacteria may well be the new immune adaptogen, anti-infective, and immune regulator wrapped up into one. Research in this area continues to unravel new roles for probiotics in immune modulation and the benefits of supplementation on specific conditions.

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“Probiotic bacteria may well be the new immune adaptogen, anti-infective, and immune regulator wrapped up into one.”
The contemporary food chain has become sophisticated and diverse, thanks to modern refrigeration. With the exception of that iconic bottle of ketchup—admit it, we all have one in the fridge door or in the pantry—the decision for most items to refrigerate or leave at room temperature is pretty clear.

When it comes to probiotic supplements, the choice between shelf-stable probiotics and those that require refrigeration is worthy of discussion. Probiotic foods have been consumed globally for many centuries in the form of kimchi, yogourt, sauerkraut, and kombucha, to name a few. Recent years have witnessed an exponential surge in knowledge of species-specific benefits for probiotics. We have also learned which species are robust enough to be viable when left at room temperature, such as many *rhamnosus* strains. There are also many fragile, yet valuable therapeutic strains which require a dormant state of refrigeration to survive storage and meet label claims at expiry. *Bifidobacterium* probiotic strains, including *infantis*, *breve*, and *plantarum*, are among those that die off rapidly unless refrigerated.

The common production method for many “shelf-stable” probiotics is to overbuild the product to anticipate the die-off of probiotics, yet meet the advertised amount on the label. Unfortunately, strains that are less “shelf-stable” may be dead within a month of production. This can leave the consumer with a product that unfortunately falls woefully short of expectations.

There’s no shortage of exquisite, broad-spectrum probiotic formulas available. The recommendation to refrigerate is critical to ensure effectiveness from production, storage, shipping, retail exposure, and the eventual prime real estate of your refrigerator door.
All along, the pesticide manufacturers have been doing their own testing, but independent laboratories started doing tests to find out just how toxic these chemicals really are. In light of the fact that the affected farm workers suffered—and continue to suffer—irreversible damage to their health, their plight has engaged the world to investigate just how wide-reaching the devastating effects of pesticides really are.

Pesticides are designed to kill a particular pest, which could be plant, insect, fungus, rodent, etc. Some are broad-spectrum killers, while others are more specialized. They are developed and tested in a laboratory to be effective. So right off the bat, we know that pesticides are a form of poison.

Across the world, approximately 5.6 billion pounds of pesticides are used each year. They include herbicides, insecticides, fungicides, rodenticides, algaeicides, miticides, plus a few others.

With so many pesticides being used worldwide, the entire earth is being impacted. Primarily, we think of coming into contact with pesticides through the food that we buy. But due to the billions of pounds of pesticides being sprayed and dusted onto plants, and in and around our home, pesticides are being found in the soil, in the water that we drink, and in the air that we breathe.

Unfortunately, you will never know all the pesticides you come into contact with. But you can be assured that foods that are not grown, processed, and handled organically are likely contaminated with pesticides. And the water that you drink, even bottled water, also likely has pesticides in it.

Laboratory testing on the pesticides currently on the market prove that these poisons do cause health problems and even disease that sometimes leads to death. Studies have determined that even ultralow doses, over time, are dangerous, and that the safety levels set on these pesticides are too high.

Due to the worldwide prevalence of farm workers dying or becoming ill, thus being unable to work and support their family, the scientific community has begun taking a closer look at what is causing the disease and illnesses affecting them.
Two of the most common pesticides used in the world for food production are atrazine and glyphosate. Atrazine is a known hormone disrupter. When hormones in the body don’t function properly or their levels become either too high or too low, problems with the thyroid gland and reproductive organs, for example, can occur; it has been banned by the European Union since 2004. Glyphosate is a known carcinogen, which means that it causes cancer; the list of countries banning its use is growing.

Organophosphates are also widely used and are known to cause neurological problems, especially in children. Another pesticide that has irreversible effects on children is chlorpyrifos. It causes neurological damage, which leads to developmental delays, learning deficits, and lower IQ levels.

A commonly used pesticide around the yard on lawns, as well as in agriculture, is 2,4-dichlorophenoxyacetic acid (2,4-D). This pesticide has been proven to cause fertility problems, is a hormone disruptor, and causes birth defects. Propazine, simazine, desethylatrazine (DEA), and desisopropylatrazine (DIA) all cause reproductive and developmental damage to unborn fetuses as well.

A widely used class of insecticides called neonicotinoids has come under fire for killing untargeted insects such as bees, butterflies, and other important pollinators. Over one-third of all produce depends on these pollinators, so much so that many countries have banned the use of these products.

What is not considered in the development of pesticides is that many of the very same biological processes that are attacked and destroyed in the target plants, insects, fungus, etc. also exist in humans, our pets, and the rest of nature.

When pesticides enter your body, numerous things happen.

While it is the job of your liver and kidneys to flush these toxic pesticides out of your body, they can easily become overwhelmed. It is the function of the liver to take nutrients sent to it from the digestive system and send them into your blood to fuel every cell in your body. It also removes all the waste that ends up in your blood from your cells, infection, toxins, etc.

From there, the liver sends the waste to the kidneys and intestines. If the liver or kidneys are overwhelmed with too much waste, those organs remove what they can and recycle the rest, sending the waste back through your body. If your intestines are not able to rid your body of waste effectively, some of the toxins are sent back into your bloodstream.

In an effort to lessen the toxic load on the liver, it will send some of those toxins to your fat to be stored out of the way. This means that they will stay in your body and continue to accumulate until such time as the liver has the ability to effectively remove them.

Your brain and nerves are especially vulnerable, since fat makes an effective storage place. The composition of the brain is 70% fat, so it potentially can store a lot of toxins. Toxins stored in brain matter are very hard to remove, which is why neurological problems such as Alzheimer’s disease, dementia, and other brain disorders are hard to treat and are rarely reversible.

Another modality through which pesticides affect us is our digestive
system. When contaminated food and drink are consumed, damage to the intestinal lining occurs. The friendly flora that is so vital to proper digestion is killed as well. It is the job of the friendly flora (probiotics) to finish breaking down the food coming from the stomach, and to remove the nutrients contained in the food that our body uses for fuel, cell repair, and cell generation.

Without a healthy digestive system, the body cannot maintain its health, and disease will begin to manifest. This may begin to show up in subtle ways like indigestion, gas, bloating, weight gain, skin rashes and blemishes, insomnia, fatigue, headaches, lack of energy, etc.

There are many ways to come into contact with pesticides. If you have to use pesticides around your home, be sure to wear gloves, cover all exposed skin, and avoid breathing in the vapors. Always protect children and pets, even after the pesticide has dried. Choose natural options such as orange oil, diatomaceous earth, and homemade remedies when possible.

Pesticides are not just on our fruits and vegetables; they are also in our meats and milk. Pesticide-containing feed is given to the animals that end up as our food, and either the pesticide is passed on to us and/or the health of the animal is compromised, leading to more problems for us.

Runoff from fields contaminates the surrounding soil and ground water. Nearby streams, rivers, and lakes become a collection point for pesticides that poison fish and upset the ecological balance. We see extremes of this when there is a major death toll in fish or when there is a big bloom of algae, both of which are devastating to the body of water and surrounding environment.

Pesticides have also been found in rainwater, which means that areas not previously affected by pesticide use are now being affected. After all, water carried by clouds can be carried a great distance from where it originated.

Probably one of the most insidious ways that we come into contact with pesticides is through our drinking water. With so many chemicals existing in water as it enters the processing plant, current regulations for filtering and testing fall shamefully short. The only real way to guarantee that the water is pure is through distillation or through a process called reverse osmosis.

When water is distilled, it is heated to a vapour and then collected and cooled; this process removes all solids from the water. Reverse osmosis removes all microscopic solids and ions from the water by forcing it through a filter under high pressure. Both processes create water that has a pH of around 5 and is

newrootsherbal.com
The Gut and Microbia: Impacts on Parkinson’s Disease
by Maria Shapoval, ND

Parkinson’s disease affects between 1-2% of the population over the age of 65 and is becoming a growing concern as the Baby Boomers advance in age. The condition is characterized by gait abnormalities, tremor, muscle rigidity, […]

Male Fertility—Naturopathic Approaches
by Nadia Rizzo, ND

Often times when we hear the word “infertility,” our mind immediately goes to a woman wanting to bear a child. Less often, perhaps, does one immediately think about the potential that a male reproductive issue could be the reason […]

Acute and Chronic Hives—Naturopathic Approaches
by Heidi Fritz, MA, ND

Hives happen when there is a skin reaction that causes red or white itchy welts. They might vary in size and come and go depending on how the reaction progresses. They are often circular or oval in shape. […]

Demystifying “Detox”: The Importance of Environmental Medicine
by Jacqueline Zins, ND

Popular buzzwords like “detox” and “cleanse” are often used in the health world, but what do they really mean? This article will explain what detoxification is and outline some essential steps to support […]

For references and other great articles, visit NaturopathicCurrents.com
Military terms such as “war,” “battle,” and “fight” are commonplace when referring to illness and disease. When it comes to parasitic infections, identifying and understanding the parasitic organism is the first step in developing a strategy to defeat “the enemy within.” In fact, common symptoms of abdominal discomfort, diarrhoea, bloating, unexplained weight loss, and lethargy are not unique to parasites, which can often lead to a misdiagnosis.

There are two main categories of intestinal parasites: helminths and protozoa. Helminths include tapeworms, pinworms, and roundworms, which are common in North America. Protozoa are unicellular microorganisms with complex life cycles; numerous species of Giardia and Cryptosporidium are common protozoans that can lead to infection.

Transmission usually results from direct contact with infected feces or by means of contaminated food, soil, or water. Noninvasive detection of parasites include microscopic examination of fecal samples or blood analysis for the presence of parasites or their ova (eggs).

Parasitic infections are usually associated with travel to exotic destinations. However, increased globalization and the worldwide demand for novel food products places everyone at an increased risk for novel parasitic infections. In fact, even contact with cats and dogs can lead to infection.

There are several chemotherapeutic agents available to treat specific groups of parasites, with dosages and duration of treatment as brief as three days. Considering the dynamic and vast surface area of the gastrointestinal tract, the likelihood of eradicating parasites and their eggs that burrow, embed, and cling to intestinal walls and within intestinal mucosa is not easily accomplished with a quick fix and a narrow therapeutic range.

Harnessing a broad range of botanicals effective for parasite elimination and control of their symptoms is emerging as the treatment option for a growing number of people wary of prescription drugs. Treatment therapies that feature tolerable doses of antiparasitic botanicals over prolonged periods can be likened to a recently weeded garden; it requires vigilance to eliminate the root system of weeds lurking in the soil, ready to spring up and rob your produce of its nutrients.

“Many botanicals that can work synergistically for relief of a wide spectrum of parasitic infestation.”

Cloves are recognized to weaken parasite-egg cell membranes, which can pave the way for natural parasite killers, including black walnut hulls, wormwood, and quassia bark, to penetrate and destroy parasite eggs and parasites themselves. Grapefruit seed extract, a potent antibacterial and antifungal agenda, is also useful for making the intestines a less hospitable environment for parasites to thrive.

Aloe and ginger are among the botanicals useful for comprehensive parasite clearance, along with soothing the intestines from the irritable by-products (toxins) resulting from their destruction. Barberry bark and Oregon-grape root are popular agents to clear liver congestion for better performance in breaking down toxins relevant to parasite destruction. Root extracts of goldenseal and mandrake are also useful to support immune-system and glandular performance during parasite elimination.

Bulk-forming fibre, such as psyllium husks, is also recommended for accelerated intestinal transit and toxin excretion essential during a natural parasite cleanse. Finally, a broad-spectrum, enteric-coated probiotic is also critical for maintaining a healthy microbiome as you reclaim your health. Naturally!
They say the best defence is a good offense—especially when the battle is happening inside your body. Our Purge Parasitis employs natural antiparasitic agents to eliminate every last parasite that wants to call your body home.

**Purge Parasitis:**
- Can eliminate up to 72 different parasites, including worms
- Contains 12 powerful antiparasitic botanicals such as garlic, cloves, grapefruit seed extract, black walnut, oregano, and wormwood

For a more complete and thorough elimination of parasites, try our Purge Parasitis Program which includes these products: Purge Parasitis, Black Walnut Hulls, Wormwood, and Cloves.

Available at your local health-food stores.
newrootsherbal.com
Feeling tired? Overworked? Stressed out? Our day-to-day lives can get hectic and sometimes take a toll on our health and even our mood. When you are feeling down, tired, or stressed, I encourage you to get moving. Although it might feel like the last thing you want to do, I promise you will feel better for it.

We all know that exercising benefits our physical health, improves our physique, and increases our strength. However, when you ask most people why they exercise regularly, they often provide reasons related to wellbeing and improved mental health.

Just like nutrition, physical activity can have a significant impact on your overall wellbeing. In fact, it is one of the most effective ways to improve your mental health. The best news is you don’t have to do crazy amounts of activity to feel the benefits; even small moderate amounts can improve your mood.

How Can Exercise Improve My Mood?

Exercise releases endorphins and neurotransmitters like serotonin; these are chemicals released by the brain that help us feel good. They are actually considered natural pain killers, as they help minimize discomfort and allow for a feeling of euphoria. When we exercise and release these feel-good chemicals, we are improving our mood (short-term) and how we feel, essentially our wellbeing (long-term). Participating in regular aerobic activity (e.g. jogging, swimming, gardening, walking, dancing, etc.) has been proven to reduce anxiety and depression. In addition, exercise can also help improve self-esteem and brain function such as memory and attention span.

Does the Type of Exercise Matter?

Different types of activity impact individuals in many different ways. You will have to try different activities to see what works best for you. Some individuals feel best after doing a cardio routine (e.g. running) and really getting sweaty. Other individuals feel great after performing a series of exercises that help them feel grounded (e.g. yoga class).

Regardless of your preference, research suggests that moderate physical activity is a great place to start and, in fact, the place where most people experience positive impacts.

Other Health Benefits Associated with Physical Activity:

- Improved sleep
- Stress relief
- Increased energy
- Reduced tiredness
- Weight loss or weight maintenance
- Improved heart health
- Improved mood
- Improved sex life
- Reduced pain
- Improved self-esteem (and self-image)
What Is Moderate Physical Activity?

The Canadian Physical Activity Guidelines define this as activity that will raise your heart rate and breathing (the kind of activity that can still allow you to talk, but with some challenge).

Crunch for Time?

Research suggests that 30 minutes of moderate exercise five times per week is an ideal amount of time to reap all the benefits. But don’t worry: This can be broken down into two 15-minute walks or three 10-minute walks throughout your day. If that still sounds like too much, start with less. You can start with 5–10 minutes per day or two to three times per week, and gradually work your way up. Once you start feeling the benefits, you will crave more.

When feeling stressed or overwhelmed, the last thing you want to do is add another “to-do” to your list. However, I encourage you to remember that physical activity will help you feel less stressed afterwards and improve the way you are approaching your “to-do” list.

Tips to Get Started:

1. **Start small.** Don’t set unrealistic goals for yourself: Think small. What is something you know you can accomplish? Perhaps, to start, that is committing to a 30-minute walk twice a week.

2. **Make a schedule.** Sit down and plan your activities for the week. This planning makes it a priority and helps keep you accountable to your goals.

3. **Keep it fun and add variety.** Doing the same thing every day can get boring; mix up your activities and try new things. If you like to play sports, play sports; if you like to walk, hit the trails.

4. **Find a workout buddy.** Having someone to do activities with can be helpful and a great way to stay motivated.

5. **Stay committed.** Eventually, you will look forward to this time in your day!

Bottom line: Try to make moving more a priority a few times each week. Your body and mind will thank you for it!

**Angela Wallace**
A registered dietician with the College of Dietitians of Ontario, personal trainer, and family food expert who specializes in women and child nutrition and fitness, she loves helping families get healthy together.

eatrightfeelright.ca

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Sitting Quietly

Everything is so calm before the storm. I love this moment where everything stops. It calms me down and allows me to deepen my inner focus. Outside, sitting quietly, I close my eyes and I feel my heart beating. I focus on my heartbeat and on my breath, while the thunder rumbles once. It reminds me of the strength that lives within me and in each one of us; this magnificent force that I need—that we need—to tame, express, channel, and put to good use.

Still quietly sitting between the thunder’s continuous rumble, I now hear the rain that also wants to be part of this perfect afternoon. It washes the earth. It washes my energy, helped by the wind that suddenly starts to blow. The elements harmoniously coexist, collaborate, and cocreate my surroundings. Fire, wind, water, earth, and ether are—without rivalries, without competing.

I come back to my breath. My heart beats, ever so softly. I am alive! I am fire, wind, water, earth, and ether. I am all the elements reunited in a body of matter. We all are. Let us be beyond doing, simply being. Let us be united with ourselves and then with others. Let us harmoniously coexist, collaborate, and cocreate a life of peace on this lovely planet Earth.

**Isabelle Beaudoin**
Certified yoga instructor and early childhood educator.
yogavyana.com
Whether you’re running from meeting to meeting or racing the kids from gymnastics to hockey and soccer, it can be near impossible to fit in a nutritious meal or snack for yourself.

No matter the life pressures you’re facing, here are a few easy tips to make sure you get the nutrition you need to stay healthy, happy, and productive.

**Pack a Snack for Hunger Attacks**

The midmorning munchies are the plight of every busy woman. Maybe you were up at 5 a.m. to hit the gym before work, or only had enough time to grab a tea while juggling your keys and bag on your way out. Keeping your blood-sugar level balanced during that midmorning crash with a healthy on-the-go snack can mean the difference between a successful day and a meltdown.

High-protein and easy-to-travel snacks are essential for any busy woman. For instance, try precutting some veggies and taking a pot of hummus to go. If you’re short on time in the mornings, try prepping your Monday-to-Friday veggies on the weekend and keep them wrapped in a damp paper towel in the fridge.

Keeping our blood sugar balanced with a simple snack can help keep our brain on top. An ideal snack should provide a balance of at least two of the following three nutrients: healthy fats, protein, and carbohydrates.

Pack portable snacks rich in B vitamins, which are essential for energy metabolism. Vitamin B₆ is one of the key nutrients involved in making glycogen, a fuel used by muscles and the liver to buffer blood-sugar levels and keep your brain ticking. It’s also essential for making hemoglobin, the oxygen-carrying protein in our blood.

Bananas are one of the highest natural fruit sources of vitamin B₆, delivering about one-third of your daily needs in a single medium banana. Not to mention, bananas are one of nature’s most naturally portable foods. Pair a banana with a handful of raw almonds or peanuts for an energy-boosting midmorning snack. These nuts are a great source of vitamin B₃, which is essential for converting fat, protein, and carbohydrates into energy.

Other on-the-go snacks that are rich in B vitamins include the following:

- A mix of sunflower seeds and pistachios (B₃ and B₆)
- A nutty granola bar (B₆ and B₁)

**Light, Easy-to-Assemble Lunch**

One of the most common nutrient deficiencies faced by Canadian women is iron deficiency. Not getting enough of this essential mineral can lead to anemia and fatigue. For a simple, iron-boosting lunch, pack a spinach salad with strawberries, pine nuts, and pecans.
The slightly acidic pH of the strawberries (and for a bonus, use a raspberry vinaigrette dressing) will help your body absorb the iron in the spinach, while the pine nuts and pecans will give you a hit of protein and healthy fats to fuel you through your workday.

Spinach is also a great source of folic acid, an essential vitamin for women of child-bearing age. This B vitamin boosts the production of pathogen-fighting white blood cells to keep you firing on all cylinders when there’s that pesky bug going around the workplace.

If you don’t have enough time to make this in the morning, try buying the ingredients in bulk and storing them at work for a light, midday pick-me-up.

For an added nutritional boost, slice up a piece of chicken breast. Research has shown that adding meat to a meal can improve the absorption of iron, including the iron found in vegetables.

**No Time Means “To-Go” Time: What to Do if You Can’t Prep**

Despite our best efforts to be prepared and eat meals cooked at home, life gets in the way and we find ourselves at a food court or picking up some takeout. It can sometimes be unavoidable, so when it happens, make sure you’re armed with these tips to opt for a healthier option:

- Order veggies and eat them first. By eating your nutrient-packed foods at the beginning of a meal sets, you’ll set a good tone for the rest of the experience and be less hungry and tempted for less nutritious foods later on in the meal.
- Swap cream-based soups for broth soups.
- Ask for salad dressing or sauces on the side.
- Try to steer clear of alcohol, juices, and other caloric drinks.
- Choose broil or baked over fried.

**Don’t Forget the Water!**

With all this talk of food, it’s easy to forget to stay hydrated throughout a busy day. Our bodies are made up of approximately 70% water, and even a small dip in hydration can have significant repercussions for our mental alertness and physical energy. Fortunately, it’s one of the easiest things to add to your routine.

Water is the basis of what transports nutrients and waste products through our body, and is essential for joint lubrication as well as muscle and brain function.

Although we obtain a good portion of the water we need through our foods, try to consume at least one litre as pure water.

To make sure you’re drinking enough, get into the habit of carrying a water bottle with you. That way, regardless of where you’re running to next, you can stay hydrated. Opt for a high-quality stainless-steel or glass water bottle for clean and sustainable hydration. You can also try a coloured water bottle or cups to draw your attention to the container and continually remind you to take a few sips.

The busyness of modern life can pose challenges to meeting our nutritional needs in a healthy and fulfilling manner. A little prep can go a long way by supporting our energy metabolism with foods rich in B vitamins and iron. Make a smart strategy for those times you have to hit the food court, and stay hydrated for boosted energy.

**Michelle W. Book**

A graduate in holistic nutrition and spokesperson for the Canadian Health Food Association (CHFA), she focuses on living life and raising a family focused on holistic health and wellness.
Mindful Eating
Transcending the Trance of Habit

“Eating connects us. It connects us with the food that we invite into our bodies. It connects us with the earth, plants, animals, and sky from which it is made. It also connects us with each other and, ultimately, connects us to ourselves. Whether we are aware of it or not, at a very primitive and even spiritual level, eating connects us with all that is, all that was, and all that will ever be. Eating is a very big deal when we think about it.”

—from YUM: Plant-Based Recipes for a Gluten-Free Diet

Where Mindfulness Practices Came From

While the origins of mindfulness practices go back thousands of years to the early days of Buddhism, mindfulness techniques have been brought to the mainstream and secularized, most notably by Dr. Jon Kabat-Zinn at the University of Massachusetts Medical School with his development of what he called Mindfulness-Based Stress Reduction (MBSR).

Zinn’s East-meets-West integration of ancient wisdom teachings with practical modern-day health applications made it possible for everyone to benefit from age-old life-enhancing practices, regardless of their spiritual orientation of the world. His initial work focused on using MBSR to help patients who suffered from anxiety, stress, pain, and other illnesses. MBSR and its counterpart MBCT (Mindfulness-Based Cognitive Therapy) for depression and anxiety have become mainstays in mental health, grounded in the impressive accumulated research studies supporting their effectiveness.

Awakening from the Trance of “Mindless” Living

I like to think of mindfulness as simply the practice of living with intention and being awake, instead of being lost in the trance of “mindless” living. As easy as that may sound because we are habit-driven beings, this task is much more challenging than you might think. However, when we invite ourselves to awaken our senses and to be fully present with the life that is around and within us, something else magical also arises—pleasure and gratitude. And since both pleasure and gratitude contribute to feelings of greater joy and wellbeing, it’s easy to understand why mindfulness practices are so powerful in the treatment of both anxiety and depression.
Mindful Eating

Since few things that we do are as habit-driven as food preparation and eating practices, you can imagine how mindful eating came to be. You can also appreciate why the trance of mindless eating can become a source of physical and emotional harm for a lot of people, especially given the high-intensity fast-food culture that we are now living in.

Can you envision a world where everything is slowed down and the moments in life are savoured, like a fine wine? Expanding on this, the next time you are about to eat an apple, for example, indulge yourself in going down the rabbit-hole of mindful eating using the mindful eating experiment below.

Invitation for Reflection

How might your life be different if you decide to bring more of this consciousness to your life when you eat, even if in a shorter form than in the below demonstration? What impact might such a shifted paradigm of eating and living more mindfully shift the landscape of your relationships?

Mindful eating is a simple way to change how you feel about yourself, others, your body, and the world. It can be your trusted friend that just might surprise you with feelings of improved mood and happiness. Best of all: It doesn’t even cost a penny! Enjoy!

Theresa Nicassio, PhD, Psychologist

Theresa is a kindness advocate, chef, wellness educator, and the award-winning author of YUM: Plant-Based Recipes for a Gluten-Free Diet.

Mindful Eating Experiment

Invite yourself to reverse the clock as you think about that apple (or peach or...) in your hand that you are about to take a bite from, and enter the world of wonderment as you ponder the following questions:

1. Where did this apple come from?
2. Who planted the seed and nurtured the soil that the tree grew in? How did caring for the tree contribute to the life of that person? What was their life like?
3. How many years had the tree been watered and nourished before this apple came to be?
4. Who witnessed the seedling grow into the juvenile and then mature tree, lovingly supporting it with stakes, and pruning it year after year?
5. Who was there to enjoy the sweet fragrance of the beautiful blossoms that came and went every year, with some of the blossoms offering nectar for the bees to make honey from, subsequently making the fruiting of the blossoms possible?
6. How was it that this apple made it to full fruition when many of its siblings fell to the ground for one of many reasons, aborting their existence before they ever had a chance to reach their prime?
7. Who harvested this apple and how did it move from the tree to your hand? How far did it travel, and through what means of handling and transportation? How many people touched or moved this apple, and how much fuel and how many dollars were spent to move this apple? How much of a carbon footprint was left behind in order for this apple to move from seed to fruit to food for you?
8. Even before you take your first bite of this apple, can you notice its sweet fragrance and colour and texture, as well as take a moment to feel gratitude for all those whose lives have been touched in order for you to have the privilege of enjoying its deliciousness and to be nourished by the nutrients that it beholds?
9. Now, without biting, slowly place your mouth on the skin of this piece of fruit, feeling humbled by the greatness of this gift from the earth and its creatures.
10. From this deeply pensive place, notice what it’s like to allow your teeth to break through the skin, releasing the sweet juiciness and crisp flesh of this delightful treasure that is generously offering itself to you to support your life.
11. As you chew, do so as slowly as you can, feeling the sensation and experiencing the taste and texture in its fullness, as your own body’s digestive system awakens and begins the cascade of complex processes required to break down, integrate, and absorb the nutrients you require for life itself, while simultaneously separating out the chemicals and products your body needs to expel through the many excretory systems in your body.
12. Finally, allow yourself to relish in the lusciousness of gratitude and awe that you have had the opportunity to share in this relationship with this very apple, noticing what arises within you as you do so.
Lentil Bolognese and Zucchini Noodles

Lentils are a powerhouse food when it comes to managing mental health and digestive health.

Their high folate (vitamin B₉) content can be great for managing depression, due to its ability to balance chemicals in the brain. Folate supports nerve function and helps the body to metabolize the “happy” brain chemicals: dopamine, serotonin, and noradrenalin. It also helps convert your food (carbohydrates) into fuel (glucose), helping to fight off fatigue.

Pretty sweet for your mental health, eh?

Plus, lentils are also incredibly high in fibre, making them fantastic for your digestive health.

They boast 16 g of dietary fibre in just one cup, and contain both soluble and insoluble fibre. This makes them great for those suffering from many digestive disorders, like irritable bowel syndrome or constipation.

Fibre is an important tool for removing toxic waste from the body, which helps to prevent disease, digestive disorders, and fatigue.

Lucky for you, this recipe is high-fibre, low-allergen, and vegetarian. The sauce freezes well, so make it in bulk for some quick and easy lunches!

**Digestive Support**

If you struggle with digesting lentils, or are on a low-FODMAP diet, canned lentils (maximum of ½ cup) are considered safe, and boiled lentils (maximum of ¼ cup) are also safe.

**Ingredients**

- 2 zucchinis, spiralized
- 1 cup cooked or soaked lentils
- 8 Roma tomatoes
- 1 can (156 ml) low-sodium tomato paste
- 2 bay leaves
- 2 tbsp. oregano
- 2 tbsp. parsley
- 3 tsp. chili powder
- 1 tsp. garlic powder
- 1 tsp. onion powder
- Salt and pepper, to taste

**Instructions**

Combine all ingredients, except zucchini and lentils, in a blender.

Pour into a medium pot, add lentils, and bring to a boil, then reduce to a simmer and let sit for a minimum of 20 minutes.

Serve on top of raw zucchini noodles.

Serves 4.
My latest creation is the raw caramel apple tart, which is a nutty crust filled with a layer of apple cream and topped with caramel apple chunks. It’s a nice thing to serve to friends or family.

**Raw Caramel Apple Tart**

*by Heather Pace*

Tart Shell Instructions
Grind the almonds to flour in a food processor. Add the mulberries and ground flax, and continue grinding. Add the water and pulse to incorporate. The dough should hold together when pressed. If not, add another ½ tsp. water.

Press into the bottom of 12 mini silicone muffin cups or into several mini tart pans. Place into the freezer while making the cream.

**Apple Cream Instructions**
Blend all ingredients until smooth in a high-speed blender (make sure the apple is at room temperature). Spoon some of the cream into the bottom of the tart shells and chill in the freezer while making the caramel.

**Caramel Apple Instructions**
Whisk together all ingredients except the apples to make the caramel sauce. Fold in the apples. Spoon the mixture over the tarts and serve.

Serves 12.
Brownie Ingredients
- 1 cup almonds
- 1 cup shredded coconut
- 1 cup pecans
- 1 cup packed dates, pitted
- ½ cup raisins
- ½ cup + 1 tbsp. cacao powder
- 1–3 tsp. water
- ⅛ tsp. Himalayan salt

Pumpkin Pie Frosting Ingredients
- 1½ cups packed, diced sweet potato (peeled)
- ½ cup dates, soaked in ½ cup warm water for 30–60 minutes
- ¼ cup soak water
- 2⅓ tsp. pumpkin pie spice
- ⅛ tsp. pure vanilla extract
- ¼ cup coconut oil, melted

Cinnamon-Chocolate Drizzle Ingredients
- 2 tbsp. maple syrup
- 1 tbsp. raw cashew butter
- 1 tbsp. + 1 tsp. cacao powder
- ¼–⅓ tsp. cinnamon
- 1 tbsp. coconut oil, melted

Brownie Instructions
Grind the almonds and coconut in a food processor into crumbs. Add the raining ingredients and process until they’re all ground down and the mixture forms a dough.

Press into an 8” × 8” pan. Set aside.

Pumpkin-Pie Frosting Instructions
Blend all but the coconut oil until completely smooth in a high-speed blender. Add the oil and blend again. Spread over the brownies.

Chill in the fridge for 6–8 hours.

Cinnamon-Chocolate Drizzle Instructions
Whisk all ingredients together in a small jar. Drizzle over the chilled brownies.

Serves 16.

Raw Pumpkin Spice Brownies

Fall is in the air, and Thanksgiving is just around the corner. It’s time for apples, pears, cinnamon, pumpkin, and nutmeg! I’ve paired a raw chocolate brownie with a pumpkin-pie frosting and a drizzle of cinnamon-chocolate sauce. They’re really good!

Heather Pace
A classically trained chef turned raw-dessert chef, she is a travel bug, a chocoholic, and a certified yoga instructor.
sweetlyraw.com
Protein Requirements — What Is Required for Optimal Health?

There are many controversies in health-care regarding the proper amount of dietary protein needed for optimal health. Previous concerns of high-protein diets included increased risk of renal (kidney) diseases, and decreases in bone mineral density from leaching of calcium and nutrients from [ . . . ]

Chronic Pain – Natural Solutions

Chronic pain affects a large percentage of the general population on a daily or otherwise regular basis. It includes a variety of different conditions, such as osteoarthritis (“wear-and-tear” arthritis), rheumatoid arthritis, migraine, fibromyalgia, low-back pain, and even repetitive strain conditions such as [ . . . ]

Baked Apple Crumble

Now, I love raw apple crumble, but there’s just something special about a warm crumble straight out of the oven. And oh! the smell while it’s baking. Mmm! With a scoop of dairy-free vanilla ice cream on top (I like Coconut Bliss), it’s absolutely perfect. Even more decadent with a drizzle of raw caramel sauce. [ . . . ]

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Visit our blog starting October 3, 2017 for all the details.
You know probiotics can do some amazing things: Boost immunity, improve digestion, fight off disease—pretty much everything short of doing your taxes. What you might not know is that there are many different strains of probiotics, each with its own specialty. Kind of like a family of overachievers.

Probiotic Intensity is formulated with 18 unique strains, each with their own species-specific benefits, including two sought-after strains: *Bifidobacterium infantis* and *Lactobacillus reuteri*. No need to learn Latin; just know our formula contains strains sourced from dairy, plant, and even humans. That’s right: When it comes to probiotics, it pays to trust your fellow man.

And, when it comes to getting the most out of your probiotics, you can count on our natural water-based PH5D enteric-coated capsules to make sure our probiotics:

- Survive harsh stomach acids
- Reach the intestines alive and active
- Deliver all 20 billion cells for healthy benefits

Learn more about our probiotic line and enteric-coating benefits at newrootsherbal.com