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a Food
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Harder Than Before

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May/June 2018

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Editor's Letter



For this issue, I'm thrilled our collaborators have agreed to discuss food intolerances. May is Celiac Awareness Month, which makes it an important topic for me to address. With our daughter's diagnosis with this disease last year, I have a deeper understanding of the difficulties

surrounding food intolerances and allergies.

Upon being informed that the Québec Foundation for Celiac Disease needed a volunteer for the role of Regional Delegate, I did not hesitate to sign up. What I found appealing was to be able to help members of the foundation break the feeling of isolation. For example, my daughter found it unfair that she was the only one with celiac disease at her school. I could then easily imagine how helpless a family—or worse: a single elderly person—would feel without basic knowledge of the subject. Just a few years ago, I barely knew anything about the condition. Celiac disease is just one example of a multitude of food-related issues that can make people's lives much more complex. Indeed, there will always be days that are more difficult than others. For us, it's often when we eat out, travel, or attend parties—not to mention those times where she does not get invited because it's "too complicated..." Just like Theresa Nicassio describes with her experience in her article, my daughter nevertheless has welcomed her illness as a gift.

It is, in fact, possible to find the positive in certain challenges. In my daughter's case, these difficulties have brought us even closer together. Melissa West shares her similar experience through jogging with her daughter. It has inspired me to resume running with our daughter—as she's already a member of the running club at school, it will be her turn to inspire and encourage me!

Our spring theme also features several articles on topics that are fitting for this long-awaited season! You'll learn more about seasonal allergies, irritable bowel syndrome, weight loss, sports recovery, and much more.

Enjoy!

Sonia Lamoureux
Editor-in-Chief

flourish

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Blowin' in the Wind

Natural Relief from Airborne Allergens

by Gordon Raza, BSc

For many of us, winter activity revolves around making enough visits to the health club to look “poolside-presentable” for our winter getaway. Spring weather then paves the way for cyclists, runners, boaters, gardeners, and even lovers that crave the great outdoors.

Wait a minute! The spring, summer, and fall months also mark the release of massive amounts of pollen from trees, grasses, and the notorious hay-fever culprit, ragweed. With approximately twenty-five percent of Canadians having some form of airborne allergy, it's worth exploring ways to coexist.

Pollen release occurs mainly between dawn and late morning, so avoiding the outdoor exposure between roughly 5 and 10 a.m. is recommended. Dry, windy weather tends to stir up atmospheric pollen; conversely, rainy weather tends to suppress pollen counts. An allergic reaction, or histamine response, is a complex chain of events where the immune system perceives a threat. When pollen is inhaled, it passes through the lungs into the bloodstream; this alerts white blood cells to produce antibodies called immunoglobulins E (IgE). These antibodies then trigger the release of histamine and serotonin from specialized storage cells (mast cells and basophils) to cause the common symptoms of sneezing, itching, runny nose, and watery eyes.

So, if sleeping in or “singing in the rain” doesn't appeal to you, consider a tandem of natural health products you can depend on long-term, without the side effects or risk of addiction inherent with many over-the-counter antihistamines. Black cumin seed oil and quercetin bioflavonoids span a broad therapeutic range as a unique strategy to combat seasonal allergies.

Black cumin seed oil has a unique fatty acid profile that includes naturally occurring linoleic acid, which stabilizes cell membranes to exert potent antihistamine action. It also serves as a building block for production of prostaglandins, the hormone like mediators of the inflammatory response.

Quercetin is among the group of plant pigments called flavonoids. These potent compounds strengthen the membranes of specialized cells (mast and basophil) to prevent the release of histamines. Histamines are the cause of common allergy symptoms that include sneezing, itching, runny nose, and watery eyes.

These beneficial compounds are naturally occurring for ease of assimilation to quench your body with the nutrients it requires to enjoy an active lifestyle—after all, it's in our nature!

Allergies are difficult to diagnose and subsequently manage, take control of your health with black cumin seed oil and quercetin.

ND's Critic

This article describes what I see in my practice. Allergies are worse and affect people differently at certain times of year. This is a very helpful reminder of some of the things we can do about it.

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Take Your Multivitamins

There Is Consensus!

by Guillaume Landry, MSc, Naturopath

In any case, this is the latest conclusion of a joint effort by 14 experts in nutrition science, from all over the world, on the potential health benefits of multivitamin and mineral supplements (MVM).

To clarify the role of MVMs in maintaining the health of individuals, doctors reviewed the literature and established a series of issues worthy of discussion. For each item discussed, consensus emerged that MVMs:

- Improve absorption of micronutrients when formulated and dosed properly;
- Help treat diseases caused by nutritional deficiencies;
- Provide benefits, even when taken in doses greater than the recommended daily allowance (RDA);
- Are effective for the prevention of chronic diseases, such as cardiovascular diseases and cancer; and
- Improve the health status of people with disorders that cause micronutrient deficiencies, etc.

We Are All Lacking, More or Less, a Few Nutrients

By now, you're asking: "What's new under the sun?" Why does this concern you? Ah! well, let's just say that, in these times of all different sorts of lifestyles and consumerism ever-forging ahead, it never hurts to remember the proven fact that our diets, no matter what they are (whether standard American, traditional, vegan, keto, macro, paleo, etc.), do not fully meet—and even less exceed—the needs of the body for certain nutrients. Therefore, beware of ideologies and those that rely on RDAs, because they are clearly insufficient for most of us.

This is what naturopath pioneers Murray and Pizzorno have proclaimed in North America for nearly 30 years. Part of the problem emerged after the war, with not only the advent of intensive agriculture that is washing away the Earth's natural resources, but also with the globalization of trade. For example, an apple or an apricot picked while it is still green contains almost no vitamin C, and then there is the treatment needed for the thousands of kilometers they must travel. To raise awareness of these problems, agricultural engineer Bourguignon, who is committed to more intelligent and reasonable agriculture, travels the globe and sounds the alarm to whomever cares to hear about our society's choices of industrialized food that are leading to the impoverishment of the soil, and, subsequently, the lack of nutritional value in our diet.

Oh, So Many Consequences!

Among them, a contemporary society which, frankly, is obese and paradoxically suffers from severe nutritional deficiencies, which doctors and naturopaths witness every day. But it is not just our food choices that affect the body's homeostasis, vitality, and ability to assimilate food. We know what it is, and you've read and heard it hundreds of times: The chronic oxidative stress of our so-called "modern" lifestyle (crazy, as some would say); exposure to chemicals, heavy metals, radioactivity, and waves; overmedication; dysbiosis; lack of sun, rest, quality of life, etc. Let's face it: Apart from a few indomitable people, we are all concerned and affected by subclinical deficiencies due to our lifestyles and our environment to which we are inevitably exposed. The most common include magnesium; zinc; iron; selenium; and vitamins B, C, and D; along with trace minerals and phytonutrients.



Using MVMs as Part of the Solution to Deficiencies

Taking good care of one's diet and lifestyle is obviously the basis for fulfilling our needs. We also have supplementation with modern MVM formulas which are comprehensive; synergistic with minerals, vitamins, and nutraceuticals; and adapted to our realities, personalities, and even biochemical individualities.

The SU.VI.MAX study (vitamin and mineral antioxidant supplementation), conducted from 1994 to 2003 in France, tested the effect of intake of antioxidant vitamins and minerals in doses close to those that could be expected from a healthy diet. After seven and a half years, a 31% decrease in the risk of cancer and a 37% decrease in the risk of death were observed.

It's not uncommon nowadays to see people struggle, whether personally or among those close to us, with leaky-gut syndrome, which leads to so many deficiencies and inflammatory, autoimmune, and psychiatric diseases. MVM supplementation is part of the first-line solutions for correcting these deficiencies, along with other appropriate remedies and behaviour.

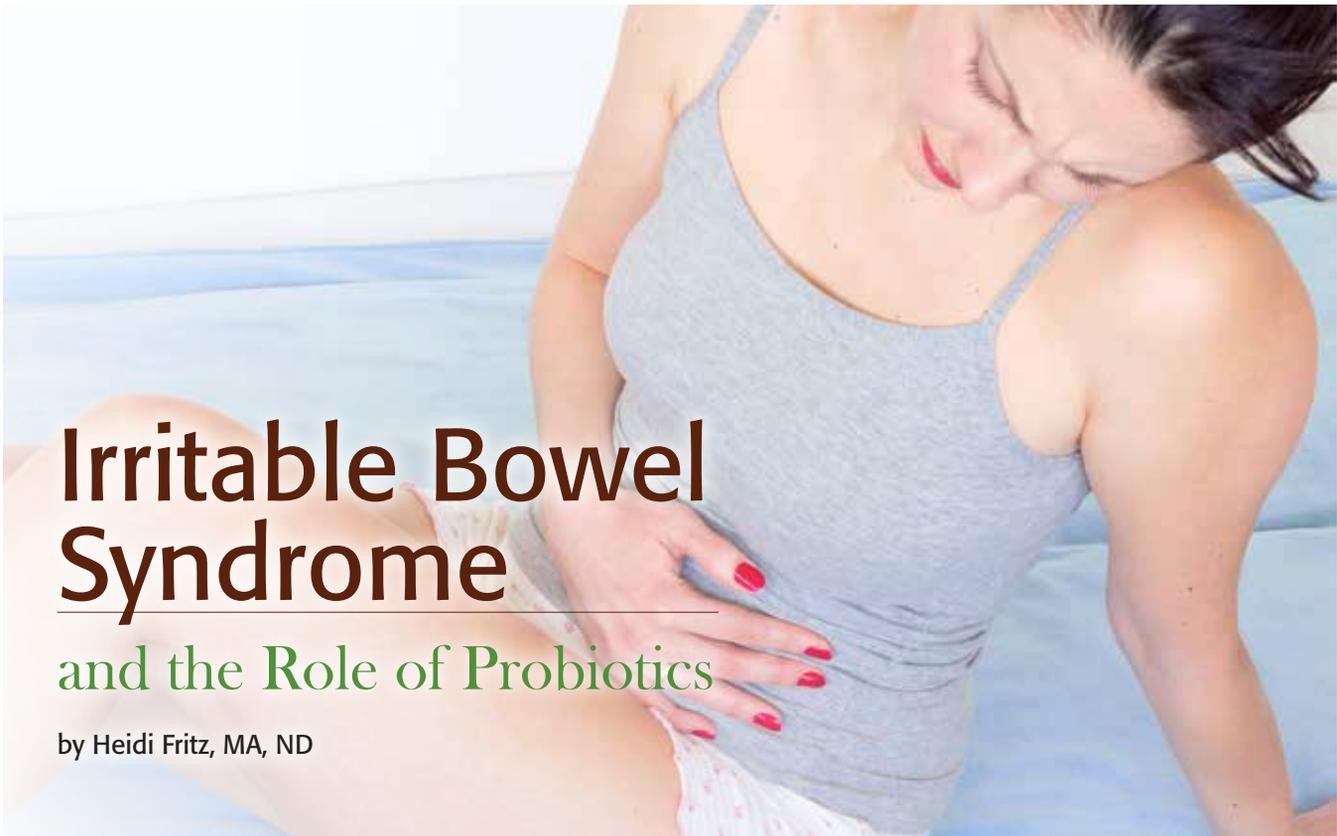
This said, bear in mind that dietary supplements only act as catalysts of the body's self-healing processes, or as potentiators for allopathic or traditional treatments. Also, if the body's capacities are exceeded, do not expect convincing results. It is always useful, even with "multi" formulas, to seek the advice of a health-care practitioner. You can therefore specify whether you are athletic, pregnant, suffering from "workaholism," severely sick, or just plain tired. You can even ask about types of vitamins and dosages, and whether there are antioxidant complexes, sulfur compounds, iron, vitamin A, etc.

What About Iron and Vitamin A Supplementation?

The question of supplementation with iron and vitamin A is still debated within the scientific community. What we can take away is that—unless you have been diagnosed with anemia or you are a woman of childbearing age, pregnant, or affected by heavy menstrual cycles—you don't need iron supplementation. Excess iron oxidizes to such an extent that it has been singled out as a risk factor for cardiovascular disease, cancer, and metabolic disorder. Although these links remain to be confirmed, experts agree on the recommendation of limiting iron supplementation and sticking to the recommended dietary intakes. The same goes for fat-soluble vitamin A, which is regularly added to consumer products. Supplementation should be strictly controlled, as hypervitaminosis A is toxic to the liver, dangerous for fetuses, teratogenic at 7,500 mcg/d, and can lead to osteoporosis. It's therefore not recommended for self-medication, but rather used in developing countries to treat deficiencies due to malnutrition. In short, because of these risks and controversies, some companies prefer to rightly apply the precautionary principle and offer iron- and vitamin A-free formulas.

Conclusion

MVMs and nutraceuticals, as well as probiotics and essential fatty acids, are the recognized pillars of complementary micronutrition that should remain primarily qualitative. So be sure to choose a formula, namely an MVM, which is well thought out, certified, and meets your own needs, in addition to choosing local and seasonal food as often as possible.



Irritable Bowel Syndrome

and the Role of Probiotics

by Heidi Fritz, MA, ND

Irritable bowel syndrome (IBS) is a functional disorder of the digestive system, specifically the intestines, that results in symptoms of chronic diarrhea and/or constipation, bloating, and abdominal pain. IBS is thought to affect approximately 10–20% of the population in Western countries, and is most common among younger to middle-aged women. There is no diagnostic test for IBS, and the diagnosis is typically made based on symptoms, and after ruling out more serious bowel problems such as inflammatory bowel disease, which may be visualized through a colonoscopy. Symptoms of IBS go through periods of flare and relative quiescence, influenced by factors such as psychological stress, diet, previous gastrointestinal infection, and even other circadian patterns such as sleep; for instance, rates of IBS are significantly increased among shift workers. In addition, patients with IBS have been found to exhibit altered gut permeability as well as altered bacterial flora.

Medical treatments for IBS are limited. It has been proposed that probiotics may represent a safe and effective treatment option.

Intestinal Permeability

First, patients with irritable bowel syndrome exhibit increased intestinal permeability. Known commonly as “leaky gut,” increased intestinal permeability means that the cells responsible for intestinal barrier function can no longer effectively keep out certain types of food particles. As these enter the intestinal tissue and local bloodstream, they are responsible for triggering symptoms of IBS, either through an immune response or through simple irritation of the tissues. One study showed that as many as 64% of patients with diarrhea-dominant IBS had increased small bowel permeability based on the lactulose/mannitol test.

This study also showed that supplementation with probiotics can normalize intestinal permeability in a large percentage of these patients: After four weeks of treatment with a probiotic formula containing *Streptococcus thermophilus*, *Lactobacillus bulgaricus*, *L. acidophilus*, and *Bifidobacterium longum*, the percentage of patients with increased intestinal permeability was reduced from 64% to 28%. Importantly, this was associated with a concomitant decrease in IBS symptoms.

Another study in children with IBS or functional abdominal pain found that 59% of children exhibited increased small intestinal permeability. Twelve weeks of treatment with *Lactobacillus rhamnosus* GG (LGG) was associated with a “significant decrease in the number of patients with abnormal results from the intestinal permeability testing.” This was not observed in the placebo group. Again, the improvement in intestinal permeability was accompanied by an improvement in IBS symptoms: “LGG, but not placebo, caused a significant reduction of both frequency ($p < .01$) and severity ($p < .01$) of abdominal pain.”

Altered Gut Microbiota

In addition to alterations of intestinal barrier function (which may be improved by probiotics), patients with IBS demonstrate altered gut microbiota. “Dysbiosis” refers to a relative imbalance among the dominant bacterial and/or yeast species inhabiting the gut. This could be characterized as a qualitative alteration. Other alterations in gut flora may be quantitative, that is, an overgrowth of otherwise normal bacteria. This describes what may occur in small intestinal bacterial overgrowth (SIBO). While it is normal and healthy for the large intestine to harbor billions of bacteria, the small intestine has relatively fewer, under healthy circumstances. In SIBO, the number of bacteria in the small intestine become greatly increased, resulting in symptoms of IBS such as bloating, pain, and altered bowel habits. Probiotic supplementation is an important strategy in restoring and maintaining a healthy profile of the gut flora.

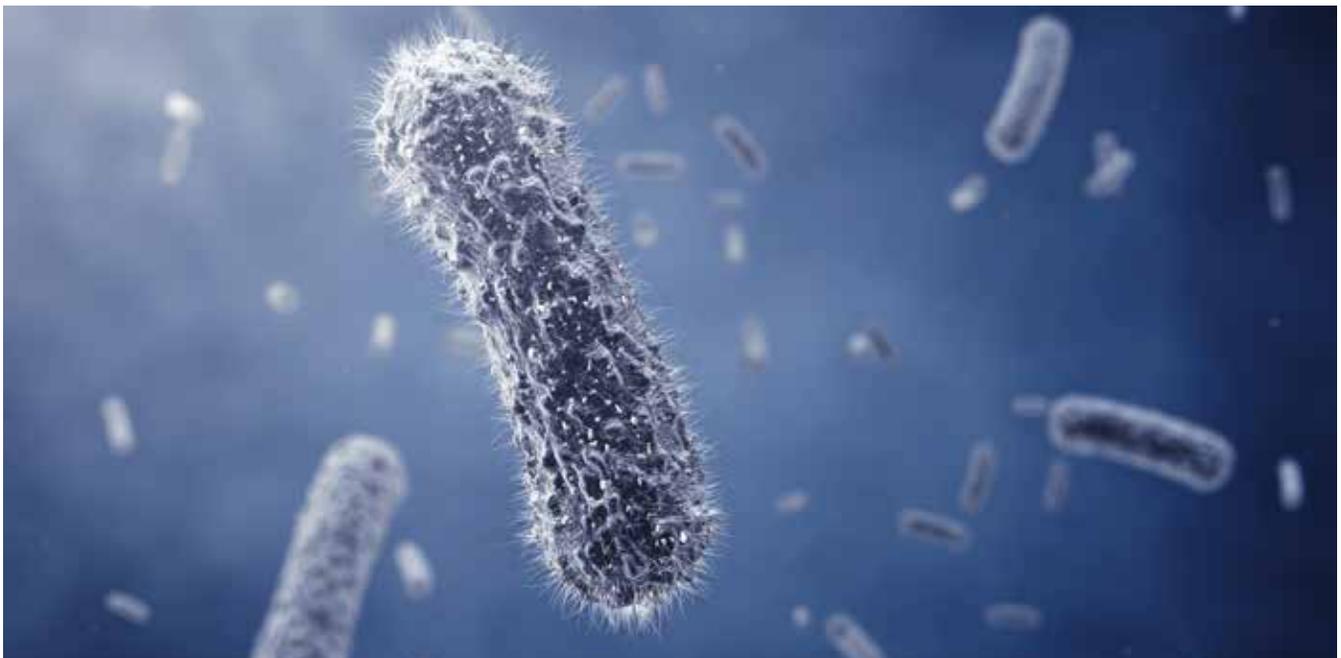
Dysbiosis

Many studies have clearly demonstrated high rates of dysbiosis among patients with IBS. A 2018 review summarized this data by suggesting that in IBS there is a “relative abundance of proinflammatory bacterial species including Enterobacteriaceae, with a corresponding reduction in *Lactobacillus* and *Bifidobacterium*.” *Lactobacillus* and *Bifidobacterium* species have important roles in maintaining intestinal health: Production of bacteriocins, molecules that kill infectious organisms such as *Salmonella* and *Listeria*; and promotion of a more tolerant immune response through interaction with dendritic cells in the gut. Other species that are decreased in IBS, such as *Bifidobacterium* and others, have a role in producing short-chain fatty acids, which are an important fuel for intestinal cells (enterocytes).

A randomized, double-blind, placebo-controlled trial examined the effect of probiotic supplementation on both the microbiome and IBS symptoms. The study assessed 150 patients with constipation-dominant IBS who received one of two oral probiotics or a placebo for two months. The three treatment

groups received: 1) *L. acidophilus* and *L. reuteri*; 2) *L. plantarum*, *L. rhamnosus*, and *B. animalis* ssp. *lactis*; and 3) placebo. Both groups receiving probiotics experienced a significant reduction in their symptoms compared to the placebo group. These symptoms included bloating, abdominal pain, constipation, abdominal cramps, and flatulence. Analysis of the fecal microbiome indicated that there was a significant increase in the species of bacteria being supplemented, in both treatment groups, while this was not seen in the placebo group.

Another randomized, double-blind, placebo-controlled trial evaluated 49 patients with IBS. Patients were randomized to receive a probiotic for four weeks (*Bifidobacterium longum*, *B. bifidum*, *B. lactis*, *Lactobacillus acidophilus*, *L. rhamnosus*, and *Streptococcus thermophilus*), or placebo. After four weeks, 68% of patients receiving probiotics—but only 37% of patients receiving placebo—reported that their IBS symptoms were “substantially relieved”. Meanwhile, fecal analysis indicated that *B. lactis*, *L. rhamnosus*, and *S. thermophilus*





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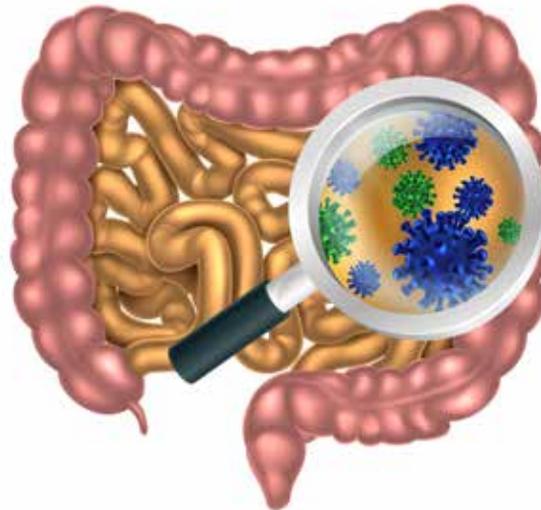
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increased significantly in the probiotics group, while only *B. lactis* had increased in the placebo group, after four weeks. These studies suggest that supplementation with probiotics may improve dysbiosis associated with IBS as well as ameliorate IBS symptoms.



Small Intestinal Bacterial Overgrowth

With respect to bacterial overgrowth, one study found that up to 46% of patients with IBS also had evidence of small intestinal bacterial overgrowth (SIBO). This was diagnosed through a glucose breath test. Similar results were reported in another study, that found SIBO in 45% of IBS patients, tested with a lactulose breath test.

A small trial found that supplementing IBS patients who also had SIBO with *Lactobacillus casei* for six weeks resulted in an improvement of SIBO parameters (decrease in hydrogen gas on the SIBO breath test, indicating less fermentation). This was accompanied by a 55% decrease in overall IBS symptoms among those subjects who started the study with a moderate degree of SIBO. Beyond this study in patients with IBS who had SIBO, there are further studies in patients not diagnosed with IBS but who had SIBO and who experienced benefit with probiotic supplementation.

IBS is a multifactorial condition, and achieving the best treatment outcome depends on accurately assessing and modifying all contributing factors including stress, diet, sleep, and others. Nonetheless, data indicates that most IBS sufferers are characterized by various alterations of the intestinal barrier function and gut microbiome, and these may be a common point of intervention. Probiotic supplementation may correct these alterations. Human studies demonstrate that probiotic supplementation improves symptoms of IBS. Given their safety and scientific evidence, probiotics may be a good emerging treatment strategy for managing IBS.



Hypothyroidism

Causes and Management

by Dr. Ashley Kowalski, HBSc, ND

Hypothyroidism: What Is It?

Hypothyroidism is a term used to describe an underactive thyroid gland. Hypothyroidism is further classified according to “type”: subclinical, primary, or secondary hypothyroidism. The main function of the thyroid gland is to regulate the metabolic processes essential for normal growth, development, and tissue differentiation. The thyroid gland can become “sluggish” for various reasons, as we will explore in more depth. Normally, the thyroid and peripheral tissues convert thyroxine (T_4) into its more active form of triiodothyronine (T_3). Thyroid hormone production is influenced by various factors, including thyrotropin-stimulating hormone (TRH) from the hypothalamus, the levels of thyroid stimulating hormone (TSH) released from the pituitary gland, and the availability of iodine and tyrosine. TSH production is regulated via means of a feedback loop between the hypothalamus, pituitary gland, and thyroid.

Hypothyroidism results in a slower basal metabolic rate (BMR), which ultimately leads to weight gain. Other signs and symptoms of hypothyroidism include irregular bowel movements (constipation), low energy, dry skin, hair loss, irritability, mental impairment, cold intolerance, joint/muscle pains, and delayed or absent reflexes, to name a few. Keep in mind that not every single one of these symptoms will necessarily be present with hypothyroidism.

What Causes Hypothyroidism?

A common cause of hypothyroidism is Hashimoto’s thyroiditis, which affects an estimated 5% of the general population, making it one of the most prevalent autoimmune diseases. It is reported to occur in approximately 10–20% of all women, and less frequently in men. Hashimoto’s is regarded as a disorder of T cell–mediated immunity, with the infiltration of self-targeting T and B lymphocytes in the thyroid gland. Additional autoimmune conditions may be present in those who have a diagnosis of Hashimoto’s, so it is important to evaluate for coexisting autoimmunity.

Stress can play a crucial role in thyroid dysregulation, by triggering the release of noradrenaline, cortisol, and corticotropin-releasing hormone. These hormones have an inhibitory influence on TSH secretion and suppress enzymes involved in the conversion of T_4 to T_3 .

Poor gastrointestinal (GI) health may also be responsible for autoimmune thyroiditis. Did you know that 70–80% of the immune system is found within the GI tract? Lifestyle factors such as stress, medication/antibiotic use, and poor diet directly impact the integrity and health of the GI tract. When the GI tract loses its integrity, the immune system can ultimately become confused, and the body makes mistakes! In the case of intestinal hyperpermeability, the immune system misidentifies normally harmless antigens (such as foods) as being foreign and mounts immune responses to them. The protein structure of certain foods resembles that of the thyroid, and cross-reactivity can occur as a result; the body can turn against itself, causing an autoimmune reaction. On a side note, poor GI health will also likely be evident as a result: bloating, gas, irregular bowel movements, heartburn, and abdominal cramps are possible, but are just some of the symptoms that correlate with poor GI health!



Screening

Your health-care practitioner will screen for signs and symptoms of an underactive thyroid. She/he will likely order a thyroid panel (possibly including iodine via a 24 hour urinary excretion test) to determine the state of the thyroid gland, and perform a physical exam to assess for nodules or irregularities. An ultrasound may also be ordered to assess the thyroid when nodules are palpated. In hypothyroidism, TSH tends to be elevated, with T_4 and T_3 being low. Elevated thyroid peroxidase (TPO) and thyroglobulin (TG) antibodies on lab results signify that the thyroid is being “attacked.”

Natural Approaches to Treatment

Dietary Interventions

Gluten-Free Diet: The protein structure of gluten cross-reacts with that of the thyroid. Studies show that patients improve on a strict gluten-free diet. When people removed gluten from the diet, antibody levels decreased and thyroid function was restored. There may also be additional offending foods that need to be eliminated from the diet.

Increase Protein Intake: This is important, as protein is a precursor to both tyrosine and stress hormone production (e.g. catecholamines).

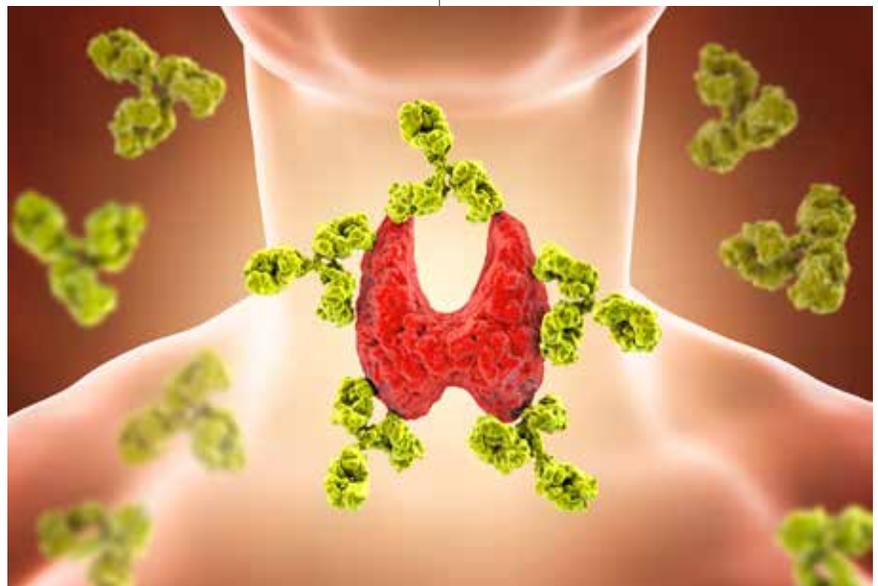
Nutritional Interventions

Iodine—A micronutrient required for thyroid function and synthesis of thyroid hormones, iodine can be obtained in the diet from seafood, animal products, and fruits like cranberries and strawberries. Aim for about 150 mcg/d, unless pregnant or lactating (250 mcg/d). Meanwhile, a number of studies indicate that moderate or mild iodine excess (> 220 mcg/d) is associated with a more frequent

occurrence of hypothyroidism—the exact mechanism has not been clarified. A recent study suggested that the apoptosis of thyroid follicular cells seen in hypothyroidism development is likely caused by suppression of autophagy activity which is induced by iodine excess. High doses of iodine should be discouraged in Hashimoto's.

Selenium—A micronutrient that increases active thyroid (T_3) hormone production and modifies the inflammatory and immune response. In the absence of selenium, reverse T_3 is produced (which is metabolically inactive). Selenium is particularly high in Brazil nuts and foods such as tuna and oyster. The recommended dietary intake is between 55 and 75 mcg/d. Three meta-analyses have confirmed a suppressive effect of selenium supplementation on TPO and TG antibodies. The patient groups in the latter study were receiving 200 mcg of selenomethionine. In order to predict whether a patient with Hashimoto's would benefit from selenium supplementation, the clinician should first investigate the patient's iodine status.

Vitamin D—Several studies have shown a correlation between vitamin D deficiency and thyroid



autoimmunity. Vitamin D supplements, especially skin exposure to sunlight, are both effective in reducing thyroid peroxidase antibodies in patients with vitamin D deficiency. Vitamin D has immunomodulatory function. It is important to get your vitamin D levels tested prior to supplementation—as it is a fat-soluble vitamin and therefore has the potential to accumulate in the body, leading to toxicity in high doses due to the buildup of calcium (hypercalcemia) and possibility of nephrolithiasis. In those at risk of heart disease, your health-care provider may also prescribe vitamin K alongside vitamin D. High vitamin K status is associated with reduced coronary artery calcification, cardiovascular disease, and mortality risk.



Herbal Interventions

Withania somnifera: This herb is an adaptogen, in that it helps modulate the stress response and mitigates symptoms associated with stress. This herb supports the conversion of T₄ to T₃ and is thus beneficial for proper thyroid function.

Conclusion

Hypothyroidism can result from an autoimmune attack, poor digestive health, nutritional deficiencies, as well as adrenal fatigue. Common approaches to treatment include eliminating food sensitivities and healing the GI tract, modulating the immune system and decreasing

inflammation (in the case of Hashimoto's), nutritionally providing the precursors necessary for thyroid function, and supporting the adrenal glands to reduce the impact of stress on the endocrine system. Naturopathic medicine addresses thyroid issues with diet, nutritional supplementation, and herbal medicines. Consult with your naturopathic doctor before self-diagnosing and initiating treatment for thyroid issues.

See our blog for the article including references at flourishbodyandmind.com



Dr. Ashley Kowalski, HBSc, ND

Ashley is a licensed Naturopathic Doctor practicing in Ontario.

Some of her main focus of interests are digestive complaints/food sensitivities, women's health, and thyroid issues.

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ND's Critic

This article presents an excellent review and introduction to a common condition. It also provides a supportive framework for what to look out for, how to test, and what to do about it.

Dr. Michelle Lo, ND

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May Is Celiac Awareness Month!

The Canadian Celiac Association combines efforts across the country each year to educate Canadians about celiac disease, dermatitis herpetiformis (chronic skin condition), and the gluten-free diet.

Wish to lend a hand?

Visit celiac.ca for more information or to make an online donation.



What is a Food Intolerance?

by Dr. Angeli Chitale, BSc, ND

“Let your food be your medicine and your medicine be your food.”

—Hippocrates, the father of medicine.

Food—Your Foundation of Health

Nutrients from food (carbohydrates, fats, proteins, vitamins, minerals, enzymes, fibre, and water) are building blocks required for repair of worn-out and damaged cells in the body. Repair and replacement is always going on inside us, which is essential for maintaining health and preventing disease.

If what you ate is the source of unpleasant symptoms, it is a sign something is not quite right. When you are experiencing vague symptoms without fever or another diagnosis, it is worth exploring undiagnosed food sensitivities.

Common foods and food additives can trigger symptoms which sometimes look like other illnesses—and it can be confusing. When the symptoms affect your life to the point that daily activities become restricted or limited, it is a good idea to seek help from a medical professional such as a naturopathic doctor. If left untreated, symptoms can lead to more serious health consequences such as malnutrition, fatigue, yeast and parasite overgrowth, or SIBO, which can cause further health issues.



Common Symptoms Associated with Food Intolerance

- Feeling heavy and bloated
- Abdominal pain
- Phlegmy cough (need to frequently clear your throat), runny nose, and itchy eyes or throat after eating
- Increased heart rate or a hot-flushed feeling—signs that your sympathetic (fight-or-flight) nervous system is having a response
- Sleep disturbances
- Dark circles under eyes; puffy, swollen eyes, face, or lips
- Joint pain
- Headaches
- Diarrhea, constipation
- Inflammation anywhere in the body
- Feeling “flu-like”

Possible Reasons for a Food Intolerance Reaction

1. **Quantity:** “The poison is in the dose.” It is not the right food in the right amount for you at this time.
2. **Timing:** “Timing is everything.” It is not the right time to eat.
3. **Combination:** It is not the right combination (eating a heavy fatty meal with fruit).
4. **Food:** It is not the right food right now.
5. **Illness:** You may have a digestive condition (IBD, Crohn’s disease, ulcerative colitis, infectious enteritis, etc.) which needs more investigation and treatment.
6. **Stress** can be held for many in their “guts” for this group of people. Many symptoms related to IBS can be successfully addressed by treating stress.

How Long Does It Take to React to a Food?

Food reaction timing varies depending on the food, your exposure level, and your sensitivity level.

Reactions start within seconds or weeks after consuming a particular food, and can last seconds or weeks after exposure. Naturopaths will generally recommend you keep a food journal to track your responses, as well as test for sensitivities, allergies, parasites, and small intestinal bacterial overgrowth (SIBO).

What Is the Difference Between Allergy and Intolerance?

Food Intolerance Is not the Same as Food Allergy

Allergic reactions involve an immune protein called IgE antibodies, while intolerances involve IgG antibodies. Whether you have an intolerance or allergy is difficult to judge by symptoms alone.

INTOLERANCE	ALLERGIES
Can occur hours, days, or weeks after eating	Sudden unexplained or chronic symptoms may be a sign of food allergies
<ul style="list-style-type: none">• Irritable bowel syndrome (IBS)• Bloating and gas after eating• Anxiety• Mood imbalances• Headache• Migraines• Fatigue• Weight gain• Fibromyalgia• Joint inflammation and pain• Dysbiosis• Skin conditions (eczema, psoriasis)	<ul style="list-style-type: none">• Hives• Swelling of the face, lips, tongue, eyelids• Difficulty breathing• Bloating• Cramping• Diarrhea• Nausea• Vomiting

What Can You Do About It: Find the Facts

1. Get Tested

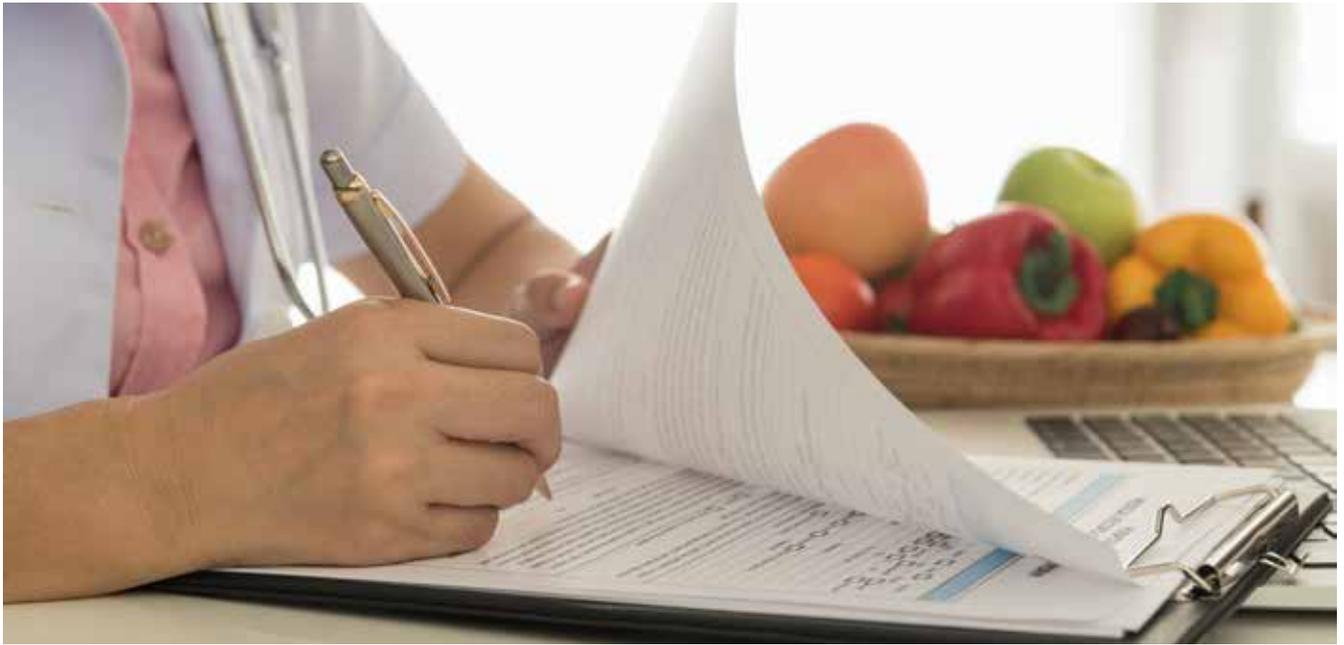
If you experience any of the symptoms above, consider food testing to find out whether it is an intolerance or an allergy. Once you have a proper diagnosis, you can take action to reduce symptoms.

A simple blood test is all that is required to get tested.



2. Track Your Symptoms

After completing your blood test, record your symptoms for a week or so. Keep a detailed symptom and diet diary to identify reaction times. Pay close attention to your main symptoms; energy highs or lows; changes in bowel habit (timing, consistency, size, etc.) and mood including anxiety, depression, and irritability. Track digestive symptoms—including “IBS”-type bloating, gas, constipation, or diarrhea as well.



3. Rotate Your Diet

The rotation diet is designed to decrease antibody production (IgG) and reduce symptoms. Your personalized diet plan will combine information from your test results, your diet/symptom diary, and any other clinical findings. To heal, you must consume less offending foods and take the steps below, supervised by a trained and knowledgeable health-care professional.

4. Food as Medicine

Naturopathic medicine regards food as the highest form of medicine, and as the cornerstone of wellness and prevention. A majority of symptoms can be reversed by following the four “R”s below—which are part of treatment plans I create for patients with food intolerances, IBS, and other digestive health issues.

1. Remove foods which are causing an immune response (inflammation) and symptoms (which you find out by getting tested).
2. Replace nutrients required for proper digestion (digestive enzymes, bitters, acids [apple cider vinegar]).
3. Repair damage. Cells which line the entire gastrointestinal tract become damaged and can cause “leaky gut,” where the damaged lining of the small intestine allows undigested food particles, toxic waste products, and bacteria to “leak” through the intestines and flood the bloodstream.
4. Reinoculate or correct bacterial imbalances. Treat yeast, Candida, parasite overgrowth, and SIBO, and introduce beneficial gut bacteria over a long period of time.



Naturopathic treatment with the dietary and therapeutic recommendations presented allow your immune system to take a much-needed break from chronic inflammation. By healing the digestive system, normal digestive function (mechanical and chemical breakdown of food, absorption of nutrients, and elimination of waste) is restored. By correcting bacterial imbalance, your long-term gut health is protected from further reinfections.

Ideally, some of the previously offending foods can be reintroduced in small doses to test your tolerance. You may have to eat these foods minimally (see rotation diet above) in order to remain symptom-free. For most patients, the cure is sweeter than the pain of chronic symptoms, making this plan a manageable approach to being symptom-free!



Angeli Chitale, BSc, ND

Dr. Angeli Chitale is a licensed naturopathic doctor with additional training and certification in treatment of both thyroid and endocrine conditions including fertility for men and women.

restorativemedicine.ca

Heme Iron:

It's All a Matter of Digestion...

by Guillaume Landry, MSc, Naturopath

Anemia and Advantages of Heme Iron Supplementation

Take a deep breath, because without iron, there is no cellular respiration! This trace metal allows oxygen to travel from lungs to every cell in the body, thanks to hemoglobin that is found in our red blood cells.

Apart from being the cofactor in many enzyme reactions, it also stimulates the immune system and reduces stress. It is present in most foods, and the largest amount is found in animal products: blood sausage, crustaceans, beef, fish, eggs, rabbit... In vegetables, it's plentiful in whole grains, sesame, cocoa, raw spinach, legumes, etc. Since it's water-soluble, you can add it to your soup. As well, keep in mind that tannins (tea, coffee), zinc (antagonist), calcium, as well as certain fibres and medicine may reduce its assimilation.

Absorption of iron happens in the duodenum and jejunum, the first two parts of the small intestine. Its bioavailability depends on its form: heme iron (from blood, connected to hemoglobin and myoglobin) makes just 6% of the intake, as opposed to the mineral nonheme iron from vegetables. The bioavailability of the nonheme iron ranges between 1 and 10%, a lot lower than that of heme iron, which is close to 40%. The major advantage of heme iron is that it is easily digested, especially from a meal. On the other hand, the digestion of nonheme iron is more demanding, consists of more steps, and must be released from food by the stomach's hydrochloric acid, which reduces ferric iron Fe^{3+} to ferrous iron Fe^{2+} , for ease of assimilation. In fact, the "pandemic" of hypochlorhydria (disturbance in production of hydrochloric acid) is often wrongly treated using antacids, which only make the problem worse.

Anemia caused by martial (iron) deficiency is common in women in their reproductive age and in children less than 3 years old. The WHO estimates that it affects 800 million people worldwide. Chronic blood loss (abundant periods, ulcers, hemorrhoids...), pregnancy, badly adapted vegetarian and vegan diets, excessive training (strains and sweating), and bad digestion all contribute to iron-deficiency anemia. The sequestration of iron by leucocytes deprives the body during infection, cancer, and inflammatory diseases.

Inversely, an excess of iron oxide could become harmful if it exceeds your RDA (Recommended Daily Allowance), which depends on the person and their situation. These cases represent a rare genetic disorder called hemochromatosis or overdose by supplementation. Read the labels well, and don't take too many iron-containing supplements!

A food supplement that contains nonheme iron could eventually cause symptoms such as constipation, diarrhea, nausea, and pain. At recommended doses, heme iron does not have any side effects. In addition, active forms of vitamins C, B₉, and B₁₂; copper; and manganese accelerate the digestion of iron. So, look for a supplement with these cofactors.

If you need iron, there is no doubt that you will benefit from its highly absorbable heme form.

Recommendation: Iron supplementation should be prescribed by a health-care practitioner following a medically diagnosed deficiency. For proper use, consult your doctor or your naturopath.

ND's Critic

This article got it right! Too often I see patients who are suffering from the side effects of nonheme iron. This highlights a better way and people don't have to be iron-deficient.

Dr. Evan McCarvill, ND

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Losing Weight *Harder Than Before*

by Jean-Yves Dionne, Pharmacist

Canadian researchers from the universities of York (Toronto) and Alberta (Edmonton) have shown that it's harder to lose weight today than it was in 1971. They compared information from a database (The National Health and Nutrition Examination Survey [NHANES]) that includes 36,377 U.S. adults whose eating habits were studied between 1971 and 2008, and 14,419 more adults whose physical activity was studied between 1988 and 2006. Based on a statistical model, their analysis reveals that a person eating the same number of calories in 2008 as a similar person in 1971 weighed 10% more! Additionally, in a comment by nutritionist Leslie Beck (from Toronto) about this study, we learn that, according to a Statistics Canada survey, we actually consume fewer calories than our parents! And yet...

Overweight and Obesity Rates Continue to Climb. *Why?*

The study results lead us to one explanation. In the U.S., consumption of carbohydrates (by proportion of total diet) increased by 10–14%, but consumption of protein and fat decreased by 5–9%. This shows that type of food has changed: it is now more industrialized and more refined. Like the researchers, Leslie Beck points an accusing finger at the unnatural energy sources that exist today. She also draws our attention to other potential causes.

We live in a much more toxic environment now than in the 1970s. Numerous chemicals have appeared in our environment, and many of them act as hormone disruptors (pesticides, food additives, cosmetics, flame retardants, etc.). Constant exposure to these substances—from the womb to the tomb—could be reprogramming our metabolisms.

And that's not all! Several drugs, such as antidepressants, have weight gain as a side effect, and the number of prescriptions for these drugs is growing.



Our hectic lifestyle, the necessity (often self-imposed) of being constantly connected (cyberaddiction), and chronic lack of sleep (we sleep on average one hour less per night than 100 years ago), with ensuing high levels of stress, affect our levels of cortisol (the stress hormone) and can increase blood sugar and waist size.



I Want to Lose Weight, But How?

If I tell you that losing weight means diet and exercise, you will tell me there's nothing new here. True. But what you may not be aware of is that cutting calories isn't necessary to lose weight. The trick is to improve the quality of what we eat: Reducing additives and refined foods, and increasing raw food and home-cooking. We eat too many carbohydrates (sugars and starches), and not enough protein and good fats.

Next comes physical activity. If we are more efficient than our parents at storing energy, then we must also be more effective at burning the surplus. The choice of activity is yours, but it is important to exercise enough to heat up, for at least half an hour a day, five times a week.

Finally, since hormonal disruptors can also be among the culprits, we must also incorporate organic foods in our diets as much as possible, reduce our use of plastic in the kitchen, etc. Since they can accumulate in the body, we must find a way to get rid of them. Many authorities in conventional health sciences have spoken out against detox products, but perhaps we should consider these more. Some plants, including milk thistle, can help the body facilitate the removal of these noxious substances.

In her article, Leslie Beck ends with these words of wisdom: If you have a good diet, you are active, and you love life, remember that your healthy weight may be higher than you think. In addition, some people are more sensitive to environmental factors, and therefore have more problems controlling their weight. In short, be realistic with your weight goals, and free yourself from size obsession. Life is too beautiful and short to miss out on for a spare tire, no matter where it resides on your body.

To your health!



Jean-Yves Dionne

A pharmacist, trainer, clinical consultant, and scientific advisor in natural health products. He also teaches at the Université de Montréal and at Université Laval.
jydionne.com

WHAT CAN I DO TO OPTIMIZE THE BENEFITS OF MY PROBIOTICS?



Opt for a probiotic with an enteric coating! **AcidophilusUltra** features our natural water-based enteric coating, which means that 100% of our probiotics survive stomach acids and reach your intestines, where they provide maximum benefits.

WE ALWAYS DELIVER THE GOODS. YOU FLOURISH.

Learn more about our full probiotic line at newrootsherbal.com



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Gastrointestinal Viability of Probiotics



A CAPSULE STORY...

by Guillaume Landry, MSc, Naturopath

Today, treatment with probiotics (from “pro-,” meaning “for,” and “bio,” meaning “life,” hence “for-life”) has become one of the pillars of contemporary naturopathy and is a must for many gastrointestinal, rheumatological, neurological, hormonal, and mental health conditions.

However, when it comes time to choosing a probiotic that’s right for you, standing in front of shelves increasingly occupied by an array of diverse products, a question remains:

Will the probiotics provided in traditional, vegetable, gelatin, or delayed-release capsules deliver all their claimed benefits?

THE ANSWER IS NO.

Why? Because gastric acid destroys these capsules and kills 40 to 90% of their probiotic content, depending on the strains. The carnage is accentuated when these capsules are taken without a meal, where the stomach acid comes directly in contact with the probiotics.

These claims are the result of observations and studies conducted according to rigorous and independent scientific protocols, during which the gastric environment is reconstructed with or without a simulated gastric food bolus. The results of this research clearly demonstrate that nonenteric capsules, often made of hypromellose, get disintegrated in the stomach, and that the majority of probiotics contained in these capsules—both *Lactobacillus* and *Bifidobacterium* species—are destroyed by gastric acidity.

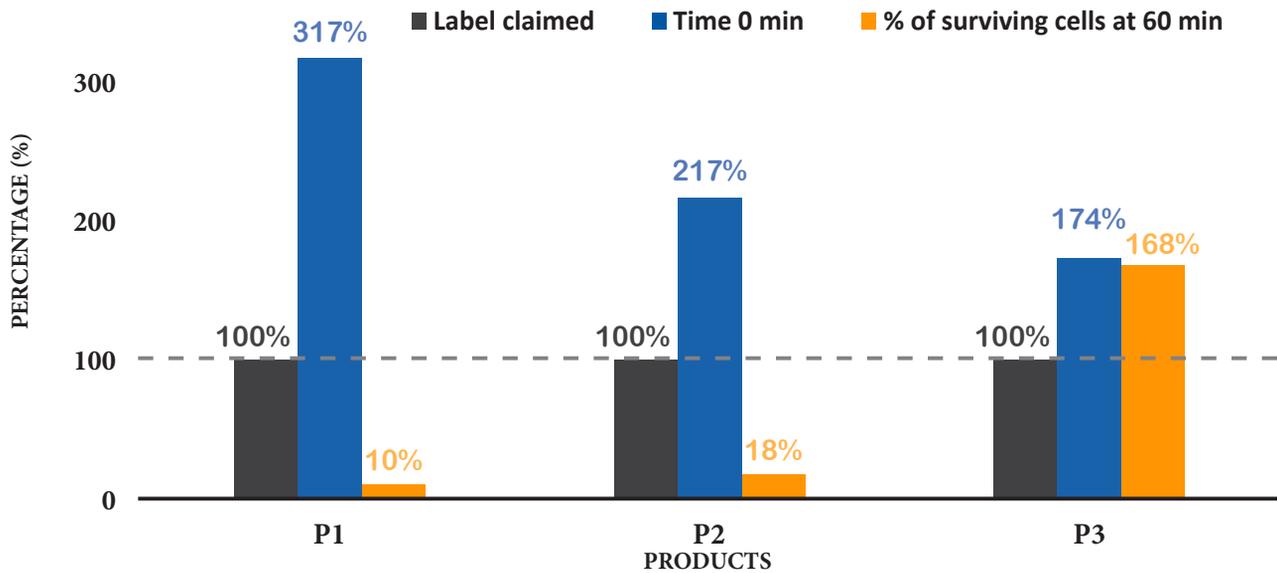


Table 1: Percentage of Viable Cells with Respect to the Initial Counts

As a result, despite the difference in sensitivity of each strain to the gastric environment, the conventional capsule seriously compromises the ability of probiotics to deliver their benefits in the intestines, because only a very small fraction ever reaches them. The table above is from a study done by NHP Laboratories, illustrating this loss of viability compared between two products without enteric coating and the other with enteric coating.

Table 1 shows the percentage of initial viable cell counts and the percentage of cells after 60 minutes of incubation relative to the label claim. Product P3 showed a minimal change in survival rate of 168%, exceeding the label claim. This is attributable to an enteric coating being present on the P3 capsules.

An important element in this table, the 60-minute exposure time, can be in reality (in vivo) as long as 3 hours depending on variables such as age, gender, body composition, pregnancy, diabetes, hypertension, etc. It should also be noted that the main criterion determining the number of surviving bacteria after exposure remains the nature of the capsule. In fact, overbuilding during the production of probiotic capsules (up to more than 300%) may be sufficient to ensure the concentration claimed at the time of expiry (which must be at least 80% according to Health Canada), but is by no means sufficient to guarantee, at this same date or prior, the functional viability of the probiotics.

The viability of probiotic strains is essential: It is, actually, part of the definition given by the World Health Organization.

Following the study by NHP Laboratories, we have to remember two important points:

- Gastric acid destroys capsules and kills between 40 to 90% of the probiotic content not protected by an enteric coating; and
- Conventional capsules severely compromise the probiotics' capacity to deliver their benefits to the intestines.



Peace, Love, Culinary Spontaneity, and Enzymes

A typical winter Sunday often involves setting a meal plan for the upcoming week, then sticking to the script, which often involves an inquisitive e-mail titled: "Did you take that casserole out of the freezer for dinner tonight?"

Spring and summer cuisine features detours to local markets to satisfy cravings for fiddleheads, asparagus, kale, radishes, snap peas, corn, and local lettuce you won't find at the supermarket. Warmer weather tends to inspire us to get creative with Pinterest-inspired meals on-the-fly.

Here's where enzymes enter the equation: Additional fibres, grains, fats, naturally occurring sugars, gluten, and plant-sourced proteins can be challenging for your digestive system. Plant-sourced digestive enzymes, in convenient capsules, are a great way to help you enjoy summer produce free from gas and bloating. Finding the best fit is simple: Enzymes tend to correlate with their target food; protease for protein, maltase for grain, and lactase for lactose... Bon appétit!



Natural Health Products in Sports Recovery

by Philip Rouchotas, MSc, ND

Everyone knows that exercise is good for us, but sometimes a rapid increase in exercise results in pain and injury. Better sports recovery enables one to extract the maximum benefit from exercise, avoid injury, and enhance performance. Sports recovery thereby applies to anyone engaging in athletic activity, from someone trying to stick with an entry-level walking program to elite-level body builders. Regardless of workout intensity, increased muscle loading and energy expenditure result in certain changes to muscle-cell architecture.

Exercise adaptation includes an increased number of mitochondria (the energy-producing unit of the cell), increased myoglobin (cellular oxygen stores), increased protein synthesis (enlarged muscle cells), and increased efficiency in clearing metabolites such as lactic acid. However, beneficial adaptation is also accompanied by damage to muscles (and supporting tissues), and depletion of muscle energy stores (ATP). On a cellular level then, sports recovery means enhancing the repair of muscle damage and replenishing energy stores in order to maximize performance in the next bout of training. Several natural health products have been studied in this regard.

Repairing Muscle Damage

Delayed onset muscle soreness (DOMS), typically experienced 24–36 hours after exertion, results from structural damage to the muscle, which may include microtears and even “rupture of the cell membrane and disruption of the contractile elements of individual muscle fibers.” DOMS is also characterized by inflammation. Supplementing protein ensures adequacy to support tissue repair as well as to supply the increased demands for new protein synthesis within the muscle cells. Branched-chain amino acids are especially important.



The 2017 position paper of the International Society of Sports Nutrition on protein states that, in general, an “overall daily protein intake in the range of 1.4–2.0 g protein/kg body weight/day (g/kg/d) is sufficient for most exercising individuals.” Generally, this equates to roughly 115 to 160 g protein per day for a 180 lb individual—this may be difficult to obtain from dietary sources alone. The paper also states that “(protein) supplementation is a practical way of ensuring intake of adequate protein quality and quantity, while minimizing caloric intake, particularly for athletes who typically complete high volumes of training.”

A recent study investigated the effect of protein supplementation after performing eccentric exercise (this type of movement is most damaging to muscle cells). Sixty sedentary college-age men were exercised maximally, then given either a protein drink, protein-and-antioxidants drink, or a carbohydrate-based drink. The protein was given immediately after, 6 hours after, and 22 hours after exercise. The study found that supplementing with protein following exercise was associated with significantly better recovery of muscle function as measured by contraction strengths 24 hours after exercise, compared to control.

Another study was conducted in 120 untrained middle-aged men allocated to begin high-intensity resistance training (HIT). Protein supplementation provided an overall intake of 1.5–1.7 g/kg_{bw}/d. Results showed that protein supplementation significantly augmented the effect of training alone on increasing lean body mass.

Branched-chain amino acids (BCAAs) include leucine, isoleucine, and valine. These amino acids are required in a particularly high amount for muscle protein synthesis. Studies show that protein supplements with additional BCAAs further support muscle repair and synthesis. One study examined the effect of giving a protein drink enriched with either leucine (4.2 g) or a non-BCAA following exercise. Muscle biopsies showed that supplementation with protein plus leucine resulted in significantly greater new muscle protein synthesis following exercise, compared to the standard protein drink with non-BCAA.



Repleting Energy Substrates

Maximizing the muscles' ability to produce energy (adenosine triphosphate; ATP) is critical in sports recovery. ATP is the cells' basic unit of energy, sort of like gasoline to a car. The more molecules of ATP a cell has, the more contraction of muscle fibres is possible. ATP is generated by three basic energy systems: the ATP-phosphocreatine (ATP-PCr) system, the glycolytic system, and the oxidative system (in the mitochondria). Muscle cells generate ATP using each of these systems in nearly every type of exercise. Each energy system has a specific role. The phosphocreatine system is the primary source of ATP during the first 10 seconds of high-intensity exercise such as sprinting. The glycolysis system uses muscle glycogen/glucose stores to produce ATP, but it also produces lactic acid. A more efficient system is the mitochondrial oxidation of fats, which produces more ATP molecules; however, this process is slower and requires delivery of oxygen, which may be limited during exercise. Endurance activities typically rely more heavily on mitochondrial oxidation of fats. After exercise depletes muscle stores of glycogen and ATP, optimal recovery involves regenerating these energy substrates.

Creatine and L-carnitine are nutritional supplements that improve the function of these energy-production systems.

Creatine is a component of the phosphocreatine energy system and is depleted after exercise. Supplementation with 2–3 g creatine per day has been shown to increase resting muscle phosphocreatine stores, and may also help in the resynthesis of muscle glycogen stores after exercise. In its review paper, the International Society of Sports Nutrition states that “a large body of evidence (shows) that creatine can not only improve exercise performance, but can play a role in preventing and/or reducing the severity of injury, enhancing rehabilitation from injuries, and helping athletes tolerate heavy training loads.”

A recent study examined the effects of creatine supplementation among young soccer players. Soccer players were given roughly 2 g creatine or placebo daily for 14 days, and their physical performance was assessed through a Wingate Anaerobic Test. Results showed that creatine supplementation increased both peak power output (PPO), mean power output (MPO), and total work compared to baseline. This was not seen in the control group.

Another study examined the effects of creatine among elderly subjects participating in an exercise regime. Subjects were given approximately 5 g creatine daily during 12 weeks of resistance training. Results showed that resistance training improved muscle mass, strength, and endurance; however, the addition of creatine to resistance training significantly increased body and muscle mass compared to placebo. Creatine enabled males to resistance-train at a greater capacity over time compared to males on placebo. This is an important finding for older individuals, since age is associated with gradual loss of muscle mass and greater risk of injury.

L-Carnitine is a rate-limiting component of the fatty acid transport system that shuttles fatty acids into the mitochondria, where they are oxidized to energy in the form of ATP. Many studies indicate that L-carnitine is effective in improving the function of many kinds of muscles, including the heart. Several studies demonstrate the efficacy of L-carnitine in sports recovery. One study found that supplementation of 3 or 4 g L-carnitine immediately prior to exercise prolonged the time to exhaustion in a group of Canadian football players.



Another study examined 14 healthy males who were given 4 g L-carnitine plus 80 g carbohydrate supplement or carbohydrate supplement only (control) daily for 24 weeks. Subjects were given exercise tests (cycling) and had muscle biopsies taken. Supplementation with L-carnitine increased muscle carnitine content by 21%, while this was not seen in the control group. The L-carnitine group also exhibited better energy metabolism during exercise. Muscle lactate content was 44% lower, and the muscle phosphocreatine/ATP ratio was better maintained in the L-carnitine group compared to control. This is also consistent with better fat oxidation during exercise. The L-carnitine group also had an 11% increased work output compared to baseline, while the control group showed no change.

In conclusion, sports recovery is important in helping you minimize injury and maximize performance during exercise training. This includes supporting efficient muscle repair as well as refueling the muscle cells. Nutritional supplements that have been shown to improve recovery include protein supplementation, branched-chain amino acids, creatine, and L-carnitine.

Eighty-Six Degrees of Joint Pain

We all know someone who can predict ominous weather simply from a “feeling in their bones.” Truth is, many scientists blame the higher humidity associated with low-pressure systems for exerting more stress on weight-bearing joints, resulting in arthritic pain. Researchers also suspect these atmospheric conditions increase swelling and pain within the joint capsule itself.

Still not convinced?

Five years of online search data correlating local weather patterns with the word “arthritis” showed a drastic drop-off when temperatures warmed up to 86 °F (30 °C).



Get in the Game!

Tips to Sideline Arthritis Pain

by Gordon Raza, BSc

When it comes to arthritis pain, it's well-known that muscles and joints get nutrition through movement; this movement stimulates both circulation and lubrication within joints. Physical activity and exercise also strengthen muscle groups which in turn stabilize points of articulation, especially weight-bearing joints.

The “catch 22” for many is overcoming joint and muscle pain enough to reap the pain-reducing benefits of physical activity. Research published in the *Journal of Health Psychology* polled 118 active women with arthritis which determined what may seem obvious to most of us: Those women with a higher level of pain acceptance (tolerance) were significantly more active.

Let's discuss some nutrients that can level the playing field to allow those of us more susceptible to arthritis pain to benefit from an exercise regimen.

When it comes to joint mobility, supplementation with a high-potency EPA/DHA fish oil is a great start: It reduces chronic inflammation associated with arthritis—you can feel results within weeks.

Dimethyl sulfoxide (DMSO) is a terrific topical analgesic when applied to sore or damaged joints or muscle tissue prior to training. DMSO mediates pain transmitted by C-type nerve fibres which are not insulated with a myelin sheath, which delivers accelerated pain relief. DMSO also reduces inflammation in several ways, as it exerts antioxidant activity and scavenges free radicals at sites of soft-tissue trauma or injury. However, the principal avenue of relief from inflammation is its ability to directly interfere with prostaglandins, naturally occurring compounds that provoke inflammation. DMSO penetrates fast to get you rolling.

Topical application of soothing botanicals makes a great postworkout reward. Look for natural extracts of *Arnica montana* and *Calendula officinalis*. Compounds within their bright yellow flowers penetrate deep within the skin to tame postworkout muscle pain, ease inflammation, and initiate collagen formation critical for healing of soft tissue. Clinical trials have also shown *Arnica montana* to be effective for the management of pain associated with osteoarthritis of the knee.

Look for these nutrients to establish a dynamic ritual that can unleash your inner athlete and develop the strength to break free from the limitations of arthritis. “No pain no gain” is an age-old cliché! Topical application of DMSO pre-workout with *Arnica*- and *Calendula*-containing topicals post-workout will allow you to push the boundaries of soreness versus pain to reach your true potential.

ND's Critic

It's very common for me to see patients dealing with some sort of arthritis pain. I'm glad this article highlighted that high potency fish oil helps with inflammation, as patients can really benefit.

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Move Thy Butt!

Yoga for Runners

by Dr. Melissa West

Maybe just like you, I am a typical Generation X mom of a Generation Z daughter. I myself was a latchkey kid, the daughter of divorced parents, who dedicates her life to personal development with a strong focus on work-life balance. My daughter is part of the always-connected “iGeneration,” a socially aware, yet incredibly anxious and depressed group, plagued by social-media comparison.

A couple of weeks ago, my daughter came home from school lit up—and not from the screen of her iPhone. She had placed gold in the 1500 metre in gym class. It was at that moment that the seed of our-couch-to-5K journey was planted. We found the app, laced up our shoes, and began running together.

Running is well-known for its ability to reduce stress, anxiety, and depression, as well as boost self-confidence. Running together creates a bond, connection, and ongoing conversation that helps us to move forward as a team through the highs and lows of life.

“One run can change your day; many runs can change your life”

— Anonymous

Of course, it has been almost twenty years since this mom has hit the trails, so I am relying on my yoga practice to keep me in peak condition for my running days with my daughter. Here are my favourite yoga poses for running.



Supported Fish Pose

This pose opens your throat and chest to clear that passageway so that your diaphragm can push out the stale air and bring in fresh air when you breathe. Proper breathing lets you run longer and faster so that you can keep up with the gazelle that is your daughter. Rest back and breathe easy in this pose for 5–10 min.



Bridge Pose

This yoga pose strengthens your glutes and opens your hips. Strong glutes stabilize your pelvis and knees, support your body when you are on one leg, and move your hips and thighs. Strong glutes also help to prevent many common runner’s injuries such as patellofemoral syndrome, IT band syndrome, and knee injuries. Hold for 10–30 breaths.



Locust Pose

Hip extensions for a firm behind! Most of us spend our days sitting, which tightens our hip flexors and weakens our glutes. Strong glutes help with hips extension and shock absorption when running. If those glutes are weak and don’t engage, when you are running, the force from the ground will transfer through weaker muscles such as the hamstrings, which can result in calf injuries, hamstring strains, and Achilles tendonitis.

The hip extension combined with strong glutes in locust pose is the most important factor in your ability to run faster. It is hip extension that drives your leg backwards after your foot comes into contact with the ground. In this pose, think about extension more than lifting, and hold for 5–10 breaths on each side.



Supported Chair Pose

I love supported chair pose for its eccentric contraction: That is, your muscles are lengthened during controlled contraction. As you lower yourself and hold this pose, your glutes and hamstrings are eccentrically contracting—in other words, you are building strength and flexibility at the same time. Find a park bench or rail, keep your chest high, and sit back for 10–30 breaths.

If you live on Vancouver Island, be sure to wave to my daughter and I as we sport our tutus with thousands of other women celebrating the power of coming together to reach our goals in the 7th Annual Goddess Run on June 2, 2018.



Dr. Melissa West

She helps you restore your energy every Friday on YouTube with her library of over 400 restorative, yin, and hatha yoga videos.

melissawest.com

WALK THIS WAY...

According to Harvard Medical School, a 21-minute daily walk can reduce your risk of heart disease by 30% as well as lower the incidence of diabetes, high blood pressure, elevated cholesterol, and even cancer.

They recommend you walk this way: stand tall (no hunching), and gaze straight ahead to avoid stress on your upper back and neck.

Tackling Sugar Cravings

Naturopathic Approaches

by Dr. Laura Pipher, ND



History of Sugar

Historically, human beings had access to fructose in the form of fruits, honey, and certain vegetables, and the consumption of these high sugar foods increased the chances for survival during periods of food scarcity, due to the ample calories sugar provides. Sugar has the ability to lay down fat; however, the forms widely available in nature also contain fibre which slows and limits its absorption, allowing blood sugar levels to stay stable while consuming these calories. Human pleasure and reward centers in the brain enabled the drive for sugar-seeking behaviour when blood sugar levels were too low; however, even with the 24/7 availability of sugar, human reward centers have not evolved to match this, leading to the problem of overconsumption.

The Sugar Craving

A craving is defined as “a strong irresistible desire to consume a specific substance” and can be triggered by many external cues such as the sight or smell of a food. A simple molecule of sugar contains glucose and fructose, and the most common forms of sugar include sucrose, which is also known as table sugar, and high-fructose corn syrup. Sweet sensations are one of the most intense sensory pleasures that humans can experience in modern day, and since sugar is not an essential carbohydrate, our seeking of sugar greatly exceeds our metabolic need. When we consume sugar, there is a release of opioids and dopamine in the brain, leading to a sensation of pleasure and reward. A sensitization to the levels of opioids and dopamine trigger a requirement for an escalation of intake in order to achieve the same level of reward, as well as a dependence on endogenously released opioids and dopamine. With the high release of dopamine, periods between sugar intake can result in a dopamine-deficient state. After several weeks to months of chronic sugar intake, this dopamine-deficient state between sugar consumption can lead to withdrawal, which presents in the form of ADHD-like symptoms including hyperactivity, decreased performance, distraction, attention deficit, and states of depression, all temporarily relieved by consuming sugar.



Is Sugar a Drug?

In many experimental animal studies, it has been determined that food and drug rewards appear to act on similar neural pathways. It has even been suggested that refined added sugars can be habit-forming in a similar manner as cocaine, nicotine, alcohol, tobacco, and caffeine. The modern-day processing of sugar can mimic the processing of a drug, with sugarcane crushed, boiled down to a syrup, shaken, and stripped of all its vitamins, minerals, and molasses. In order for sugar to be considered addictive in humans, it must be able to induce a withdrawal; however, the threshold for which this withdrawal occurs and the extent of the withdrawal produced varies from person to person. Sugar and high-glycemic carbohydrates also have an effect on brain serotonin, causing a surge after consumption and leading to long-term depletion, which can have impacts on mood. A drop in blood glucose can also further sugar dependence, which can explain its connection with depression, anxiety, bipolar disorder, and ADHD.

In lab rats, sugar has produced bingeing, craving, tolerance, withdrawal, cross-sensitization (increased response to drugs), cross-tolerance (tolerance of other drugs), cross-dependence (sugar suppressing withdrawal from drugs), and reward. Animals that prefer sweetness have been shown to self-administer cocaine at a greater rate. Furthermore, once sugar is introduced to lab rats who are already addicted to cocaine, the rats will almost always switch over to consuming sugar when the reward for sugar surpasses that of cocaine.



The Health Implications

Sugary foods and beverages increase the risk not only for obesity, but also for elevated blood pressure, insulin resistance, fatty liver, and dyslipidemia, and fructose in particular has been shown to be the main culprit responsible. When fructose consumption is kept low, very little is converted into fat; however, excessive consumption of fructose drives fat storage in the liver, leading to fatty liver disease.

Leptin is the hormone released from adipose tissue to drive satiety, by acting on the hypothalamus in the brain in order to avoid overconsumption. Studies in animals have found that when leptin is inactivated, they are unable to regulate their food intake, and massive obesity results. Fructose has been shown to induce leptin resistance, reduce insulin sensitivity, and reduce fat oxidation and energy metabolism, activating the process that leads to fat storage.



The Role of Stress and Hormones

Stress has been shown to trigger an increase in appetite, alcohol intake, and abuse of substances; however, the effects of stress on food consumption seem to be different in men and women. Women tend to eat healthier when they do not feel stressed, and tend to consume more sugar and saturated fat when they are stressed. These sweet cravings have also been shown to be more common in women who are overweight, suffering from PMS, or depressed, and weight gain has been associated with leptin resistance, leading to a vicious cycle. As women and men have been shown to display different eating patterns as a result of stress, it is critical to evaluate the role that hormones may play in this.

During the menstrual cycle, the dominant hormone during the follicular phase is estradiol, and the luteal phase is progesterone. Estradiol has been shown to reduce food intake and the tendency to binge-eat, while increasing the sucrose taste threshold in rats. Similarly, women with lower estradiol in the luteal phase were shown to have less cravings, whereas higher estradiol levels lead to higher carbohydrate and sweet cravings. There was an inverse relationship between estradiol and leptin in the follicular phase, meaning that the higher estradiol in

the follicular phase was paired with a lower satiety cue in women. Sweet preference was significantly lower in the luteal than the follicular phase, indicating that the higher circulating progesterone may serve as a protective mechanism for sweet cravings. Sex hormone-binding globulin (SHBG) reduces the bioavailable estrogen, and increases along with estradiol throughout the menstrual cycle. Higher SHBG levels have also been associated with higher sweet and refined carbohydrate cravings.



Exercise

Regular exercise can offer protection against all-cause mortality, by having direct implications on high blood pressure, metabolic syndrome, type 2 diabetes, breast cancer, colon cancer, heart failure, and ischemic heart disease. Exercise is a natural antidepressant, and it has been shown to increase resistance to the development of depression and anxiety by inducing neurotransmitter activity and euphoria. Twelve weeks of moderate-intensity aerobic exercise has been shown to decrease food cravings and increase cognitive restraint, giving exercise the capability to break the vicious cycle of cravings by competing with reward centers in the brain.

ND's Critic

This article provides a good review of some of the evidence about sugar. This is a nice reminder that there's a lot that happens in our bodies behind the scenes when we consume sugar.

Conclusion

When evaluating patients and attempting to reduce sugar intake, it is important to consider the many different factors which may be contributing to the increased prevalence of cravings including diet and lifestyle, genetics, stress levels, neurotransmitter activity, body composition, and hormones. Taking a holistic approach through proper diet, exercise, stress moderation, and hormonal control will ensure future success in reducing sugar consumption over the long term and improve health outcomes.

See our blog for the article including references at flourishbodyandmind.com



Dr. Laura Pipher, ND

Dr. Laura is passionate in helping others live their best lives and reach all of their goals, neither of which are possible without good health.

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PROUDLY 

The Gift of Celiac Disease

An Unexpected Silver Lining

by Theresa Nicassio, PhD, Psychologist

“Just for the record darling,
not all positive change feels
positive in the beginning.”

— S.C. Lourie

While pondering about this year’s Celiac Disease Awareness Month, I was surprised by how my thoughts kept making a beeline to the gifts of this newly discovered autoimmune disorder. These gifts come not only in the form of personal transformation, but also as windows of opportunity for greater health on a global level. A lifetime sufferer of gluten-related health challenges myself, finally having been clinically diagnosed with celiac disease in 2010 at age 45, this may seem strange that I now find myself extolling the gifts of such a life-changing and sometimes devastating condition. Even so, here I am doing just that.

I’d like to begin by sharing a bit about my own personal transformation that was a result of being diagnosed with celiac disease, but then I’d like to share my excitement about the much bigger implications that are being discovered by researchers who had the courage to remove their blinders and question what had previously been unquestioned about our society’s most beloved grain.

Celiac Disease and Me

Not unlike many other gluten-sensitive sufferers, learning that wheat and other forms of gluten were my nemesis and not my friend came with a barrage of mixed emotions. Probably the most obvious of my reactions and of those in my family was confusion and uncertainty, both of what to eat and of how to navigate awkward social situations that typically involve gluten-containing food. There was also the poignant feelings of grief and sadness, knowing that many previously beloved foods that carried with them positive memories and associations of celebration would no longer be a part of my life. If you or someone you love has celiac disease, you know these feelings all too well.

Why I Felt Grateful for the Diagnosis

The most unexpected and long-lasting emotions for me, however, were relief and gratitude. Having spoken to countless others who have received similar gluten-related diagnoses, especially those who suffered very significant symptoms, this response is very common.



Unlike many other health problems, celiac disease is a rare example of a condition that has a very specific and effective solution. By following a strict gluten-free diet, you can find relief. This sense of a simple (even if not easy) solution psychologically creates a sense of empowerment to make a difference in how you feel. You can imagine the sense of “Ahhh” many of us feel once we are fully able to digest the reality of our condition. This is a gift I am forever grateful for.

The News You Won't Want to Hear If You Don't Have Celiac Disease

As empowering as such personal transformation is, the bigger implications I'm about to share with you will blow your socks off. That said, once I share what I'm about to say, you might want to initially run from the room screaming, most likely with your hands simultaneously over your ears and eyes, if only you had a second set of hands. In other words, while the news is important and empowering, it's not at all what you will want to hear—pretty much guaranteed. Don't worry, while I don't enjoy being the bearer of what can seem like bad news, I also am not a fan of ignorance and suffering that is easily avoidable.

Canaries in the Coal Mine

In a nutshell, what medical researchers like world-renowned pediatric gastroenterologist, Harvard Professor, and author Dr. Alessio Fasano have unveiled is that those living with celiac disease have in essence been like the canaries in the coal mine that are demonstrating the deleterious effects of gluten on not only those with celiac disease or nonceliac gluten sensitivity, but on those without any known sensitivities as well.

All Humans Are Unable to Digest Gluten

Without getting into the complexities of the science, what Fasano and other researchers have discovered is that the human body is unable to properly break down the gluten molecule (which is a combination of two proteins), because we lack the proper enzymes in our liver and pancreas to do so. Even worse: They are now better understanding how the large undigestible fragments interact with the body.

Zonulin, Leaky Gut, and More...

The most noteworthy of the five identified problematic fragments are the two gluten fragments that cause a rise of the protein zonulin, creating more permeability in the walls of the digestive tract (more commonly known as “leaky gut”). The other three problematic fragments that have recently been identified are peptides that cause programmed cell death, inflammation, and an exaggerated immune response. If you want to learn more about this research, you can watch a short video about these findings on YouTube entitled: “MD Alessio Fasano - Gluten undigested.”

Where's the Good News?

You may be wondering where the good news resides in all of this is. Well, remember when I mentioned earlier the relief and gratitude I and many others have felt when discovering a concrete change that we can make to improve our health?



Cutting-edge research is now beginning to uncover an empowering key that helps improve the health and quality of your life and the lives of countless others, even if you don't have celiac disease. The best part is that we not only don't require gluten to survive, but also are now discovering many easy ways to still enjoy many of our delicious favourite foods that we have previously grown to love, especially those associated with times of celebration and joy.

The truth is that with the emerging research about gluten that has come about because of the relatively recent understanding of celiac disease, we have an opportunity to choose to either pay attention to the information or not. If we are willing to step out of our familiar habit-dominated comfort zone and open our eyes and minds to the recent (albeit inconvenient) scientific discoveries about gluten and continue to be curious, we open ourselves to the possibility of reaping other untold health benefits that we might never before have imagined.



**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*.



IS DAIRY *Healthy?*

by Sharisse Dalby, RNC

IS DAIRY GOOD FOR YOU?

Now, this is a hot topic

It's not surprising that it's become so controversial. Between the American Food Pyramid and the Canadian Food Guide touting its benefits (paid for by the dairy association, no doubt), and science saying there's no proof of its benefits, the conversation can get super confusing.

But here's the thing: Human adults are the only adults that consume milk.

So that begs the question: "Are the dairy recommendations supported by science and in our best interest? Or are they better for the wallets of the top dogs of the dairy association?"

Let's break it down a little...

IS DAIRY NUTRITIOUS?

Dairy contains a good dose of proteins, fats, and micronutrients—like calcium, vitamin D, riboflavin (B₂), vitamin B₁₂, potassium, and phosphorus.

This sounds good, but we must remember that the nutrient composition in dairy is dependent on many variables—the type of product (milk v. butter v. cheese), how the cow was raised and fed (antibiotics, hormones, pesticides), and how the product was processed and treated (raw v. pasteurized).

Also, contrary to popular belief, it is not great for bone health or sports nutrition, and it increases your risk of cancer—plus many people can't even digest it!

So, is it nutritious? Possibly in its raw and unpasteurized form, in small amounts, and if you can digest it. However, it's not something I recommend to my patients.

Keep reading to get a better understanding...

BUT ISN'T IT HIGH IN CALCIUM?

At some point, I'm praying this argument gets laid to rest. Yet, still, it's the biggest question I get asked.

Yes, dairy does contain a good amount of calcium. The problem is that dairy creates an acidic environment in the body. When this happens, our body is forced to pull minerals from our organs, tissues, and bones (calcium and magnesium) to balance out our pH levels again.

In other words, dairy is more likely to lead to low bone density, fractures, and osteoporosis, not the other way around.

Do I recommend it to my patients to increase their calcium intake? Nope! There are plenty of foods and good supplements that can give them exactly what they need that keeps their pH levels in check.

WHAT ABOUT LACTOSE INTOLERANCE?

About three quarters of the world's population is lactose-intolerant, meaning they can't properly digest dairy products.

As infants, we have the digestive enzyme lactase, which helps to break down lactose (the milk sugar) from mom's milk. By the age of two through five, we stop producing much of the lactase enzyme, making it harder to break it down.

When we continue to consume it, we're more likely to develop a food sensitivity, intolerance, or allergy.

Some symptoms related to an intolerance are:

- Bloating
- Gas
- Constipation
- Diarrhea
- Nausea
- Vomiting
- Moodiness
- Anxiety
- Brain fog
- Troubles sleeping
- Cravings
- Inflammation
- Low functioning immune system
- And more...

Some people who are lactose intolerant can still handle fermented dairy (like yogurt), so just because you eat yogurt doesn't mean you're in the clear!

BUT IS IT HEALTHY?

Though on paper its composition makes it look really good (kind of like a filtered photo on Instagram!), the fact remains that it is hard for us to digest and many dairy products contain hormones, pesticides, antibiotics, saturated fats, and sugars.

When it comes to infants who are graduating from breast milk or formula, opt to skip out on giving them homogenized milk (you're more likely to develop an allergy) and instead go for a nutritious and balanced diet, with a healthy nut-milk when needed.

Instead of dairy, it's better for you and the kids to get your nutrients (like calcium) through whole foods—beans, nuts, seeds, vegetables, fruits, and whole grains.

Our bodies weren't made to digest dairy, so why force a square peg into a round hole?



Sharisse Dalby, RNC

Registered nutritional counselor; she helps families and children beat their health struggles, focusing on digestive and emotional issues.

sharissedalby.com

TIPS

Having a hard time switching your glass of cow milk to a nondairy product? Start slowly by mixing them together, and increase the ratio every day until your taste buds adapt to this new and healthy milk beverage!

Did not find a milk replacement that you liked yet? Don't give up! There are a thousand and one different options to choose from, such as almond, rice, quinoa, soy, oat, hazelnut, flax, cashew, veggie-based, hemp, and coconut, on top of the different flavours available, like chocolate and vanilla. Try to pick one from the refrigerated section; they usually have fewer preservatives.

Culinary Corner

Cajun Seared Portobello and Walnut Bolognese

Flourish Original Recipe



This vegetarian bolognese has a flavour profile that meets at the crossroads of Bologna and New Orleans. It highlights Cajun-seasoned and seared Portobello mushrooms in a savoury and naturally sweet walnut bolognese. It pairs well with Bentilia non-GMO red lentil pasta.

Ingredients:

- 2 tbsp. red palm fruit oil
- 1 large Spanish onion, diced
- 4 large garlic cloves, slivered
- 3 large Portobello caps sliced in fine strips
- 1½ cup chopped walnuts
- 1 cup cherry tomatoes
- 2 tins (796 ml) of peeled, chopped tomatoes
- 3 tbsp. almond flour
- 3 tbsp. apple cider vinegar
- 3 tbsp. honey
- 1 tbsp. Cajun spice
- 1 tbsp. basil (fresh if available)
- 1 tbsp. oregano (fresh if available)
- 1 tbsp. paprika
- ½ tsp. chili flakes
- Freshly ground black pepper and sea salt to taste

Instructions:

Dust Portobello slices with Cajun spice.

Sauté onions and garlic with red palm fruit oil in large saucepan for several minutes, add mushrooms and cherry tomatoes, then continue to sauté at medium heat until mushrooms are no longer firm.

Add remaining ingredients except for walnuts. Simmer and stir occasionally for about an hour.

Toss in walnuts five minutes before serving.

Combine with red lentil penne and serve.



Baked Carrot Fries and Creamy Cashew Ranch Dip

Ingredients for Carrot Fries:

- As many carrots as you would like, cut into matchsticks
- Olive oil
- Pinch of salt

Ingredients for Creamy Cashew Ranch Dip:

- ½–¾ cup of water (depending on how thick you want it)
- ¼ cup of raw cashew pieces
- 1½ tbsp. of lemon juice
- ½ tsp. onion powder
- ½ tsp. Himalayan salt
- 1 tbsp. apple cider vinegar
- 1 tbsp. olive oil
- ¼ tsp. dried parsley
- ¼ tsp. dried basil
- 1 tbsp. chopped green onion
- 1 tbsp. of fresh dill, or ¼ tsp. dried

Instructions:

Preheat your oven to 400 °F (205 °C).

Place the carrots on a baking sheet. Drizzle with olive oil and add a generous pinch of salt. Toss around to coat evenly. Bake for 20–25 minutes or until soft. Flip and continue to bake for another 20 minutes.

Meanwhile, add the water, cashew, lemon juice, onion powder, salt, apple cider vinegar, and olive oil to a blender, and mix until completely smooth. Then, add the rest of the ingredients and blend on low/medium until mixed. Don't over blend! We want to keep little green specks. Refrigerate until ready to serve. It will thicken the sauce.

* You can do a big batch of the fries and keep them in the fridge for several days. Simply reheat when desired.



Heather Pace

A classically trained chef turned raw-dessert chef, she is a travel bug, a chocoholic, and a certified yoga instructor.

sweetlyraw.com

Almond Butter- and-Honey Quinoa Cookies



A deliciously sweet-and-salty cookie that is dairy-free, gluten-free, and egg-free.

Prep Time: 5 min.
Cook Time: 30 min.
Total Time: 35 min.

Ingredients

- 1 cup cooked quinoa
- ¼ cup unsalted almond butter
- ¼ cup unsweetened applesauce
- ¼ cup raw honey

Instructions

Preheat your oven to 350 °F (175 °C).

In a medium bowl, combine quinoa, applesauce, almond butter, and honey.

Spoon onto a lightly greased pan and flatten gently.

Bake 25 minutes, flip gently, and bake for another 5 minutes or until they are crispy on the outside.

No applesauce? Use half a banana, mashed.

No almond butter? Substitute for any other nut butter.

Makes 12 cookies



Sharisse Dalby, RNC

Registered nutritional counselor; she helps families and children beat their health struggles, focusing on digestive and emotional issues.

sharissedalby.com

Spiralized Thai Veggie Salad



Ingredients:

- 2 cucumbers
- 1 red bell pepper
- 2 carrots, peeled
- 3–4 green onions,
- chopped
- 1 tbsp. sesame seeds (optional)
- 1 tbsp. nutritional yeast (optional)

Dressing:

- 1½ tbsp. sesame oil
- ¼ cup rice vinegar
- 1 tbsp. low-sodium soy sauce
- 1 tsp. ginger
- 1 tsp. onion powder
- Black pepper to taste
- 2 tsp. honey
- 1 tsp. chili flakes (optional)

Instructions:

Mix together sesame oil, rice vinegar, soy sauce, ginger, onion powder, honey, black pepper, and chili flakes. Set aside and let sit.

Using a spiralizer, spiralize cucumber, carrots, and red pepper (warning: pepper is messy, and you will need to pick out some of the heavily seeded pieces). You can also dice the pepper instead.

Soak up any excess veggie water using a cloth or paper towel. Add veggies to bowl, add green onion, and cover with dressing. Toss together well.

Option to top with sesame seeds and nutritional yeast for additional flavour and texture.

Enjoy!



Angela Wallace

A registered dietitian 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.

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Blog Preview

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Parasitosis: Brief Physical State and Natural Solutions

The uninvited guest that takes without permission, the unsuspecting host that gives without consent. Parasite and host, a dangerous liaison indeed... The omnipresence of parasitosis and how to mitigate their various unsuspected effects.



“Pump it up” with Lupine and Pumpkin Seeds

Healthy aging is nice; however, more people are “ageing strong!” Strength training is gaining popularity for the over sixty set; we’ll explore the benefits of quenching your muscles with certified organic plant sourced proteins.



The Development of Food Sensitivities

A hundred years ago, the idea of being “sensitive” to a food would have been absurd. Even just a decade ago, the terms “gluten-free” or “dairy allergy” were uncommon, and most people judged without knowing what it meant or why it was important. Today, most schools are nut-free facilities, and laws have been [...]

To Come in the Next Issue



Our summer issue will cover many season-related topics!

We’ll feature a discussion on the therapeutic applications for new and exciting essential oils.

July and August are Canada’s peak months for holiday vacation travel. We’ll help you hit the road with some great tips for safe and rewarding summer fun.

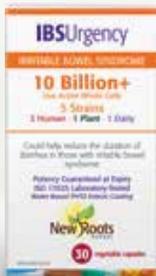
Parent’s will also enjoy reading our natural take on children’s health.

Stay tuned!

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