Inside Tract®

Canada's Gastrointestinal Disease & Disorder Newsletter

ISSUE 207 | 2018

Medical Cannabis

+ Plus information on patient support programs, anxiety, biosimilars, and more.

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ISSN 1206-6028

badgut.org
Gastrointestinal Society
Canadian Society of Intestinal Research

About Us

The GI (Gastrointestinal) Society and the Canadian Society of Intestinal Research (CSIR) are registered Canadian charities committed to improving the lives of people with GI and liver conditions, supporting research, advocating for appropriate patient access to health care, and promoting gastrointestinal and liver health.

The *Inside Tract*® newsletter is our primary tool for delivering up-to-date medical information, in lay terms, to the Canadian public in English and French. Subscribe now for a low annual fee of $20 on our website www.badgut.org or complete the mail-in form on page 23.

We've been providing information to the public since 1976 and have a very wide range of free resources, articles, and tools online and in print on these and many other topics:

- » Aging Digestive Tract
- » Biologics & Biosimilars
- » Celiac Disease
- » *Clostridium difficile* Infection
- » Colorectal Cancer
- » Constipation
- » Crohn's Disease
- » Diverticular Disease
- » Eosinophilic GI Disease
- » Functional Dyspepsia
- » Gastroparesis
- » GERD (reflux & heartburn)
- » Hemorrhoids
- » Hepatitis B & C
- » Hiatus Hernia
- » Inflammatory Bowel Disease
- » Intestinal Gas
- » Irritable Bowel Syndrome
- » Lactose Intolerance
- » Non-Alcoholic Fatty Liver Disease
- » Pancreatic Exocrine Insufficiency
- » Pancreatitis
- » Short Bowel Syndrome
- » Ulcer Disease
- » Ulcerative Colitis
- » Ulcerative Proctitis

Contact us today to request some specific free information, or check us out online and on our social media platforms for the latest digestive health news. Health care professionals can order these pamphlets in bulk online.

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ISSUE 207

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President & CEO Report

Gail Attara

We've had another busy and productive summer, with a variety of events and advocacy meetings.

On July 12, 2018, I attended a roundtable discussion in Washington, DC, during which 23 individuals involved in biologic and biosimilar policy gathered to discuss the importance of national regulatory authorities working together on pharmacovigilance policy on an international level. Attendees included representatives from Health Canada, the World Health Organization, the United States Food and Drug Administration, the United States Pharmacopeia, and the American Pharmacists Association, along with a few physician and patient groups. The primary focus was discussing policy on nomenclature for biologics and their biosimilars. Right now, biosimilars use the same international non-proprietary name as the innovator biologic that they are similar to, even though regulators assert that they are not the same. For example, our regulator states, "Health Canada's authorization of a biosimilar is not a declaration of equivalence to the reference biologic drug." We would like to see drug naming that makes it clear that the two medications are not identical. To learn more about biologics and biosimilars, go to www.badgut.org/biosimilars.

In the 2018 Federal Budget, the Government established an Advisory Council on the Implementation of National Pharmacare, led by Dr. Eric Hoskins, (formerly the Ontario Minister of Health and Long Term Care) to provide independent advice on how to best implement national pharmacare in a manner that is affordable for Canadians and their families, employers, and governments. I was invited to two sessions hosted by the Council in July, one in Toronto for patient group leaders, and one in Vancouver with multi-stakeholder representation. I also attended the Vancouver national pharmacare community dialogue session (town hall) in August. The GI Society, and the coalitions of which we are members, want to ensure a comprehensive national pharmacare program that fairly represents patients who need medications. Among other goals, we want to achieve equitable, comprehensive pharmacare, and ensure that no one is denied coverage of necessary medication. We believe that patients and patient organizations must be fully integrated in the review, development, and implementation of all reform options.

We are holding a BadGut® Lecture on Crohn's disease and ulcerative colitis in Victoria, BC this September, with more lectures to follow in other cities later in the fall. Check www.badgut.org/events for updates on upcoming lectures.

Inside Tract®

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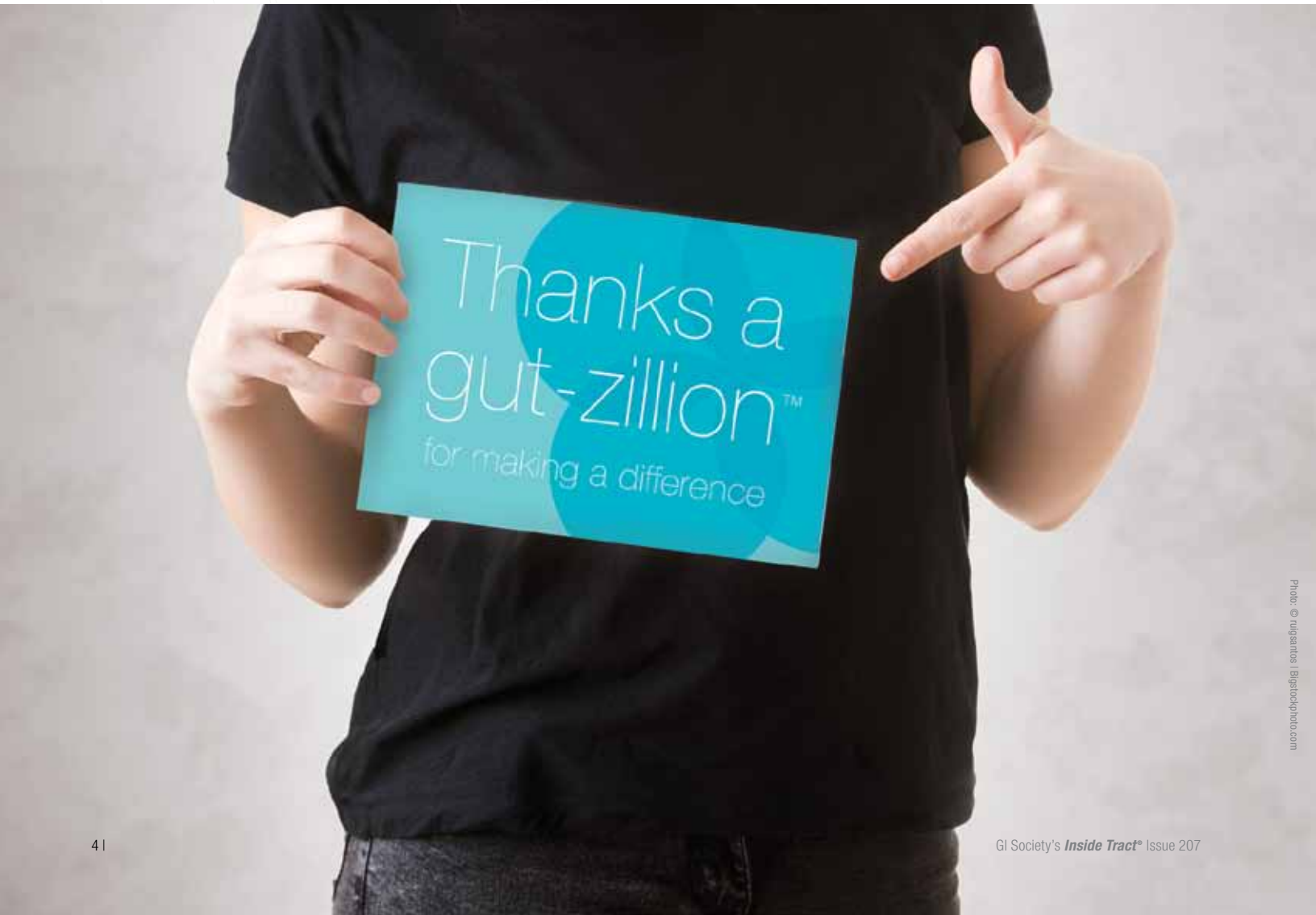
Thanks a Gut-Zillion

Send thanks to those who've helped you the most!

Over the past 40+ years we have received letters, phone calls, and emails from Canadians telling us how much they appreciate members of their health care team, including family doctors, gastroenterologists, GI nurses, pharmacists, lab technicians, dietitians, those who run infusion clinics, and some very amazing caregivers.

Thanks-A-Gut-Zillion gives you an opportunity to say thank you in a tangible way while also supporting the GI Society's mission. You will receive a tax receipt for your donation, and we will send the person who you want to thank a special Thanks-A-Gut-Zillion card letting them know you have donated to the Society in their name (we don't tell them the donation amount) as your way of thanking them for helping to guide you through the trials of your gastrointestinal illness.

Make a Thanks-A-Gut-Zillion donation today, online at www.badgut.org or call the GI Society office at 1-866-600-4875.



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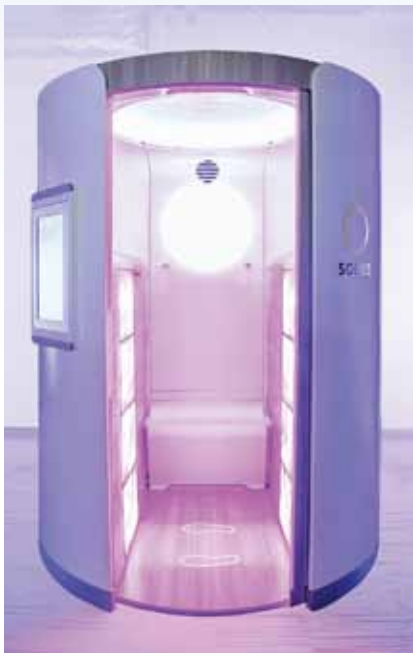
New Technology to Help Vitamin D Deficient Canadians

Vitamin D is extremely important for human health. For decades, we've been supplementing foods with vitamin D to make sure we get enough of this vital nutrient. It is a hormone that the body needs to absorb calcium from the foods we eat, which is paramount for bone health and slowing down or preventing osteoporosis and rickets/osteomalacia. Current research is pointing toward the possibility that vitamin D is also important in many other aspects of health. Research shows that low vitamin D intake could be a contributor to Canada's high rates of inflammatory bowel disease (IBD).[1] Topical vitamin D might benefit those with psoriasis, a chronic inflammatory skin condition that causes patches of red or scaly skin that are itchy and painful.[2] Vitamin D deficiency could also contribute to seasonal affective disorder and depression.[3],[4] Recent studies have even linked low vitamin D levels in the body to reduced lung function, increased airway inflammation and overall poor results in patients with asthma.[5]

Historically, the most readily available source of vitamin D has been the sun, but today many people work and live in parts of the world that get very little sunlight. In addition, we now know the risks of extended sun exposure, including sunburns, wrinkles, sun spots, and life-threatening melanoma, which means that many of us are reducing our time in the sun and making sure that we slather on sunscreen before summer days at the beach. While it is important to protect our skin from the sun's damaging rays, we are also losing our primary source of vitamin D, natural production in our skin stimulated by specific light rays from the sun. Since vitamin D is extremely rare in non-fortified food (naturally occurring in fatty fish, but supplemented in milk and various processed foods), many Canadians are at risk for vitamin D deficiency if they don't take supplements. This is especially true for individuals with IBD, because gut inflammation can decrease nutrient absorption from foods and supplements. Also, due to reduced hours of sunlight during the day, especially in the winter and as we go farther north, the sun's rays are less effective in stimulating vitamin D production in our skin.

A company called SOLIUS has been working for years to develop technology that isolates and emits only the wavelengths of light that contribute to vitamin D synthesis, without the harmful UVA rays present in the sun's energy. After a few minutes of exposure to these light waves, the body can synthesise the vitamin D that it needs, but without the damage that occurs from spending that time in sunlight and being exposed to all its wavelengths of light. According to SOLIUS, in one treatment session, averaging fewer than five minutes, the SOLIUS stand-alone self-care booth can trigger the body to produce more than ten times the vitamin D than can be made in an hour of midday summer sunlight. The SOLIUS device is being placed in convenient locations, and you can book treatments and manage your account through an app.



The SOLIUS booth solves the most common problem with supplements: inadequate absorption. Treatment in the booth is an effective method for individuals who are unable to absorb adequate amounts of vitamin D in the digestive tract, such as those with a digestive disease. With the booth, they can get all the vitamin D they need through skin synthesis.

When it comes to getting vitamin D from sunlight, it can be difficult to know how much time to spend outside. Factors such as geographic location, skin colour, skin type, and the amount of skin exposed can drastically affect the speed at which the skin synthesizes vitamin D. SOLIUS uses an algorithm to make sure that each user gets the right amount of time in the booth for their skin type.

Health Canada has recently approved the SOLIUS device, which opened its first location at BioPro Biologics Pharmacy in Vancouver, BC in September. They will be expanding to more locations in Canada in the coming months. Customers will be able to buy monthly memberships to access the machines as needed. To learn more about SOLIUS, go to solius.com.

SOLIUS offers monthly passes that include unlimited uses of their booth for $50 per month. The Gastrointestinal Society is offering a code that gives you 50% off your first month, saving you $25. Use the code GISOC when you sign up for your SOLIUS account. Download the SOLIUS mobile app on your phone and visit BioPro Biologics Pharmacy, 845 W Broadway, Vancouver, BC V5Z 1J9, to be one of the first to experience this new technology.

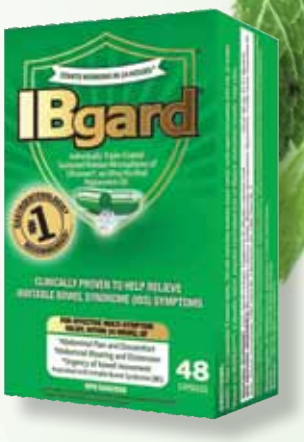
References Available Upon Request

IBgard®

Irritable bowel syndrome (IBS) is a very common, functional gastrointestinal disorder. It affects approximately 13-20% of Canadians and has symptoms that include abdominal pain, bloating, and altered bowel habits such as constipation and/or diarrhea. Treatment for IBS is often multifaceted and can include a combination of dietary and lifestyle changes, medications, and other options. In addition, what works for one person with IBS might not work for another individual. One treatment with a history of success in reducing IBS symptoms is peppermint, especially peppermint oil. Research shows that peppermint oil might have an antispasmodic effect on the smooth muscles in the digestive tract, which can help ease intestinal cramping and pain.[1] To learn more about peppermint and IBS, go to www.badgut.org or see the *Inside Tract®* newsletter issues 165 and 181.

One product, an over-the-counter herbal supplement called IBgard®, uses technology to ensure that IBS patients can experience a more effective treatment with peppermint oil. IBgard® uses site-specific targeting to ensure that the product makes it to the small intestine without being broken down in the stomach. It does this by using individually triple-coated, sustained-release microspheres of Ultramen®, an ultra-purified peppermint oil along with fibre and amino acids from gelatin protein. While the primary aim of this delivery method is to ensure ideal medication site delivery, it has the added benefit of reducing the likelihood of developing heartburn from using oral peppermint, which is normally a common side effect of this treatment.

Researchers conducted a 4-week, randomized, double-blind, clinical trial comparing IBgard®'s sustained-release peppermint oil with placebo in patients with IBS.[2] They gave IBgard® or placebo to 70 individuals who had either diarrhea-predominant IBS or IBS with both diarrhea and constipation. At the end of the study, those assigned to IBgard® experienced a 40% reduction in their symptom severity compared to a 24% reduction in the placebo group. In addition, subjects experienced very few side effects. IBgard® is a safe and effective product that can reduce IBS symptoms in some individuals. To learn more about IBgard®, go to ibgard.ca.



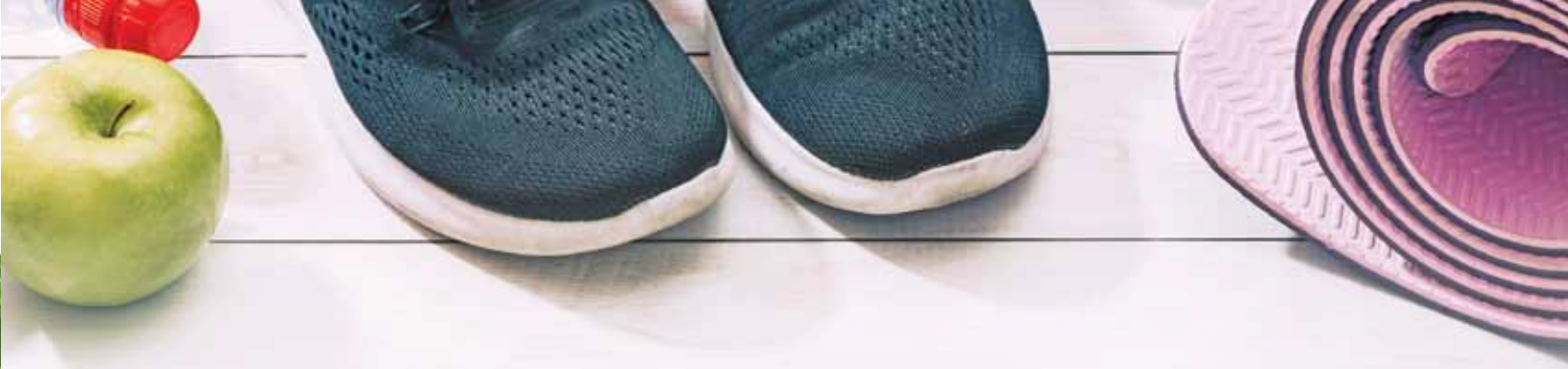
1 Rupert L *et al*. Bulking agents, antispasmodics and antidepressants for the treatment of irritable bowel syndrome. *Cochrane Database of Systematic Reviews*. 2011;10(8):CD003460.
2 Cash BD *et al*. A Novel Delivery System of Peppermint Oil Is an Effective Therapy for Irritable Bowel Syndrome Symptoms. *Digestive Diseases and Sciences*. 2016;61(2):560-71.

Support Groups

Please call the GI Society office to check if the support group you are interested in attending is running for the month.

Inflammatory Bowel Disease (IBD)
7:00 pm, third Wednesday of each month
231-3665 Kingsway, Vancouver, BC

Irritable Bowel Syndrome (IBS)
7:00 pm, last Wednesday of each month
231-3665 Kingsway, Vancouver, BC



Which is better for Treating IBS: Yoga or a Low-FODMAP Diet?

Irritable bowel syndrome (IBS) is a very common functional gastrointestinal disorder. It affects 13-20% of Canadians, causing symptoms that include abdominal pain, bloating, and constipation and/or diarrhea. Treatment for IBS is complex, because we aren't quite sure what causes IBS, so most patients require a combination of various lifestyle and diet changes, along with supplement or medication therapy. See page 6 for more information on how peppermint oil can be an effective IBS treatment.

One prospective 2017 study from Germany set out to analyze the effectiveness of two common IBS treatments: yoga and a low-FODMAP diet.[1] The low-FODMAP diet involves removing certain types of carbohydrates from the diet. These include fermentable oligosaccharides, disaccharides, monosaccharides, and polyols, which might contribute to symptoms in IBS. The study consisted of 59 patients with IBS, who the researchers randomly assigned to either yoga classes or nutrition counselling for managing a low-FODMAP diet.

A hatha yoga instructor gave the individuals in the yoga group lessons twice per week for 12 weeks. These sessions were approximately 75 minutes long, and designed specifically to be helpful for those with digestive symptoms. In addition to these classes, the subjects received a written manual and three half-hour instructional videos so that they could practice at home between classes. The researchers encouraged them to practice daily.

Those in the low-FODMAP group received four 60-90-minute nutritional counselling sessions, including two group lessons and two private sessions with a nutritionist for each individual. The researchers also provided the participants with plenty of resources to take home, including a pamphlet with detailed instructions on how to eat a low-FODMAP diet, some easy low-FODMAP recipes, and a list of foods that are not low-FODMAP, and suggestions for replacing these foods. After the first 12 weeks, the researchers instructed the participants to test their tolerance of various FODMAPs, by testing one type of food per week for 2-3 days to see if symptoms worsened. The subjects completed a 6-day food diary before the study, along with another 6-day food diary on the last week of the 12-week elimination phase. Nutritionists used these diaries to analyze and score how well they adhered to the low-FODMAP diet.

The researchers used a scale known as the Irritable Bowel Syndrome Severity Scoring System (IBS-SSS) to measure the participants baseline IBS severity and measure again after the study period, to see if there were any improvements. The IBS-SSS measures five symptoms of IBS:

1. abdominal pain intensity
2. abdominal pain frequency
3. abdominal distension/bloating
4. dissatisfaction of bowel habits
5. interference on life in general from symptoms

Patients rate each of these items out of 100 – with higher numbers representing more severe disease – and add them together for a total maximum score of 500. Individuals who score less than 75 are considered in remission if they previously had a higher score, because this is considered a normal score for people who do not have IBS. A decrease in an individual's score of 50+ points indicates a clinically relevant improvement.

In this study, the patients in the yoga group started with an average score of 263.02, and after the study period their average score had dropped down to 196.86. In the low-FODMAP group, the average starting score was 259.73, but by the end of the study it was at 163.55. While the low-FODMAP diet saw a greater score drop, the difference between the two groups isn't statistically significant. According to the study authors, this shows that both interventions result in a similar reduction in IBS severity.

While these treatments can be effective, it is important to ensure you are doing them correctly to avoid harm, such as an injury from incorrect form in a yoga pose or a nutritional deficiency from a poorly-conducted low-FODMAP diet. If you are interested in trying either of these treatments, please contact your health care team.

1 Schumann D *et al*. Randomised clinical trial: yoga vs a low-FODMAP diet in patients with irritable bowel syndrome. *Alimentary Pharmacology & Therapeutics*. 2018;47(2):203-211.

26 Surprising Physical Symptoms of Anxiety

Claire Maisonneuve
Registered Clinical Counsellor
Alpine Anxiety & Stress Relief Clinic

Most people with anxiety can relate to racing thoughts, feelings of panic or dread, constant worrying, fears of going crazy, and feeling completely overwhelmed. But there are many physical symptoms that people experience, including gastrointestinal symptoms, that they might not necessarily think of as being rooted in anxiety. In addition, many individuals with gastrointestinal diseases or disorders experience anxiety. In some, having a digestive disease can be a contributing factor to the development of anxiety, because of the worries and stress that an illness can cause.

If you have had a thorough medical examination and your health care team found nothing abnormal, consider the possibility that your anxiety is manifesting physiologically.

Here is a list of the most common physical symptoms associated with anxiety that our clients report:

1. Exhaustion

Living with anxiety is exhausting! A racing mind keeps the 'fight or flight' response activated and can cause fatigue.

2. Sleep disturbance

Trouble falling asleep or staying asleep, as well as interrupted sleep throughout the night.

3. Morning dread

Waking up with a sense of emptiness, tightness, or void in the core. This is often accompanied by a feeling of dread.

4. Brain fog

Even making simple decisions like what to eat for dinner can be overwhelming when brain fog sets in. It can feel like 'cotton wool' in the brain, which clouds the ability to think clearly.

5. Lack of focus

Difficulty staying focused or following and tracking conversations because the anxious mind is often engaged in scanning the environment for potential danger or anything that you might be missing.

6. Dizziness/vertigo/disorientation

There are many possible reasons for feeling dizzy, and a thorough medical exam is of utmost importance here. However, the anxious mind, trapped in a sense of chaos and drama, can be so powerful as to make the world spin inside your head.

7. Blurry vision

Accompanying the dizziness is often a sense of blurry vision and sensitivity to light.

8. Heart palpitations or pounding

A fast heartbeat, or feeling the heart pounding as if it was going to 'come out of the chest' can make it hard to catch your breath. Often this is more acute at night before going to sleep.

9. Chest pains
Irregular heartbeats can result in chest pain. This includes quite severe chest pain in some cases, described as a crushing feeling in the chest.

10. Gastrointestinal symptoms
Anxiety can worsen or cause many intestinal symptoms, including diarrhea, cramps, and abdominal pain.

11. Frequent urination
Frequent trips to the bathroom to empty a bladder that is often only partly full.

12. Disordered breathing: Breath holding
Anxious fears of making mistakes, conflict, or being rejected can all contribute to breath holding. This manifests as holding the breath until there is a need to have a big sigh.

13. Disordered breathing: Tight diaphragm
The diaphragm can feel tight or 'hard like iron', which interferes with the ability to breathe and therefore creates more shallow breathing.

14. Disordered breathing: Tingling and numbing sensation
Disordered breathing can create sensations of tingling and numbness in the fingertips and/or in the lips.

15. Disordered breathing: Tension in the neck/shoulder/upper back
Body tension, more specifically in the 'secondary' respiratory muscles of the neck, shoulder and upper back.

16. Migraine headaches
Intense muscle tension combined with disordered breathing patterns can lead to migraine headaches.

17. Lack of hunger
A complete lack of appetite or urge to eat.

18. Nausea
Especially first thing in the morning, you might experience nausea.

19. Vomiting
At times, nausea can lead to vomiting.

20. Weight fluctuation
Loss of weight when there is no appetite, or an increase in weight when using food to self-soothe.

21. Teeth clenching/grinding
Bruxism is a condition where you unconsciously clench your teeth when you are awake or clench and grind them when you are asleep, which can lead to jaw pain.

22. Burning mouth
Ongoing or recurrent burning in the mouth that affects the tongue, gums, lips, inside the cheeks, and roof of the mouth.

23. Itchiness
Red, itchy, and painful rash all over the body or in just certain parts.

24. Extreme sweating
Sweaty hands or severe temperature fluctuations.

25. Shaky hands
Slight hand tremors.

26. Altered speech pattern
Inability to find the right words that may lead to mumbling, or stammering.

If you experience these symptoms, please speak with your health care team.

Claire Maisonneuve is a Registered Clinical Counsellor and long-time director of the Alpine Anxiety & Stress Relief Clinic. Call 604-732-3930 or visit www.AnxietyAndStressRelief.com for free tools to begin your healing and for more details about her unique mind/body approach to counselling.

Painting Toilet Seats

Painted Toilet™ Project

(in support of)

IBD AWARENESS

On Saturday, August 18, we gathered at the Foster Eastman Gallery in Vancouver, BC to participate in the Painting Toilet Seats art event to raise awareness about inflammatory bowel disease (IBD), a condition known for its most common forms: Crohn's disease and ulcerative colitis. Canada has the highest prevalence and incidence of IBD in the world and this condition can be a source of daily challenges for children and teens who live with it. This joint venture between the Gastrointestinal Society and renowned Vancouver artist Foster Eastman was a unique and inspiring occasion for all.

Participants unleashed their inner artist, using markers to colourfully decorate toilet seats. This event served as a creative and visually engaging way for individuals and families affected by IBD to connect with others, raise awareness, and nurture discussion.

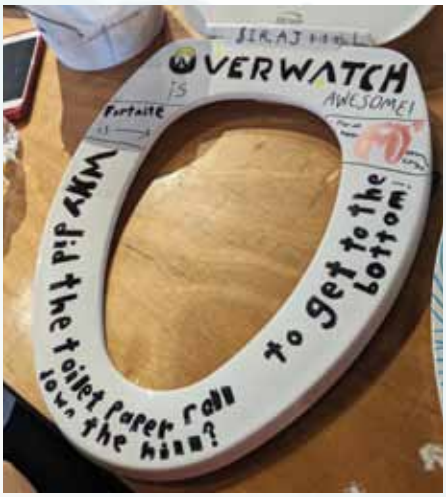
A 13-year-old, who has IBD, painted his toilet seat with his favourite video game and this joke, "Why did the toilet paper roll down the hill? To get to the bottom." Several others expressed thoughts on their toilet seats, but most drew colourful patterns.

Our CEO, Gail Attara, along with Board of Directors Chair, Ron Goetz, expressed their gratitude to all who participated. Justin Rubinstein, the inspiration for this project and a Crohn's patient since the age of nine, said that it is his hope that events like Painting Toilet Seats would encourage more children and young adults to open up about their experience living with IBD. For more information, go to www.badgut.org/painted-toilet.

The toilet seats decorated at this event will have a Google Maps image featured on the lids identifying public washrooms in Vancouver and will be pieced together into a spiralling colon-like shape for the final installation.

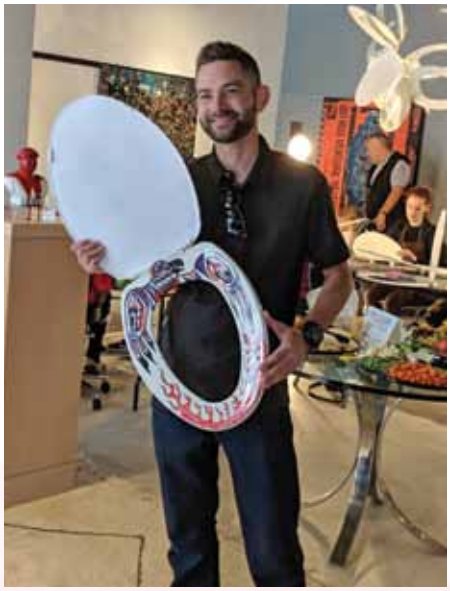
The Gastrointestinal Society thanks Foster Eastman, Janssen Inc. for its event sponsorship, and everyone who came out to support this fun and memorable event.




OVERWATCH
IS
AWESOME!
Why did the toilet paper roll down the hill?
to get to the bottom!



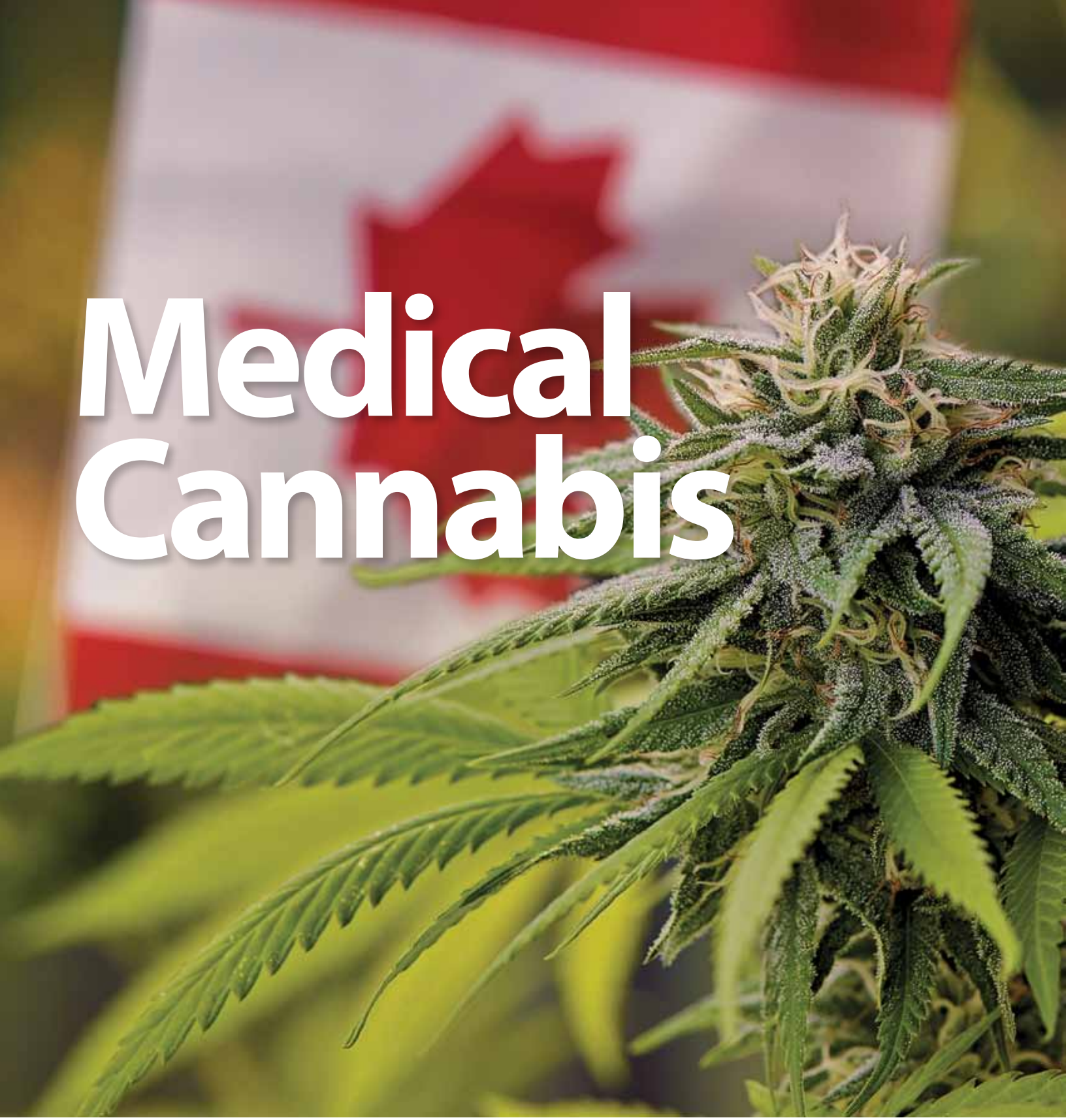








Medical Cannabis



Cannabis is a genus of plant that contains three varieties: *Cannabis indica*, *Cannabis sativa*, and *Cannabis ruderalis*. It is a flowering herb with a long, rich history of medicinal, recreational, nutritional, and industrial use throughout the world. Recently, there has been a surge of attention on cannabis, and people are interested in seeing the plant legalized for medicinal and recreational purposes. Many people are excited about the possibility of increased research on the medicinal uses and safety of cannabis, which legalization would make more accessible.

History of Cannabis

The cannabis plant originated in central Asia, where people first discovered it at least 12,000 years ago, during the early days of agriculture. Initially, they would use cannabis by eating the nutritious seeds and creating rope and textiles from the hemp stalks. However, the first written record of medical cannabis use in China was nearly 5,000 years ago.

Over the years, cannabis use spread across the continent and then the world, and many peoples continued to use it to treat a variety of ailments. Ancient Egyptians used cannabis to treat hemorrhoids and ease childbirth. Evidence from India shows documents dating back thousands of years praising its ability to easy anxiety and increase happiness. There is evidence in many parts of the world of medicinal use of cannabis, but even more evidence of industrial use, with importance placed on hemp textiles.

A book published in Medieval England known as the *Old English Herbarium* included several uses for cannabis, such as a poultice made of pounded hemp to dress wounds, a liquid hemp concoction used to ease 'pain of the innards', and a cannabis and fat mixture applied to the breast to ease soreness in women who had just given birth.

Throughout the 19th century, it was a popular remedy in the United States. Consumers could purchase cannabis tinctures and other preparations from pharmacies, and use these products to treat a range of ailments. These included gastrointestinal diseases, mental illnesses, nausea, headaches, insomnia, asthma, epilepsy, menstrual cramps, and many other symptoms, diseases, and disorders.[1]

However, by the 20th century, cannabis began to fall out of favour in North America. In 1923, Canada was one of the first countries to add cannabis to its list of prohibited drugs, leading to a 95-year prohibition on cannabis, ending upon legalization in October 2018.

Throughout the mid 20th century, researchers found and isolated a variety of cannabinoids, allowing them to understand more about the function of cannabis. However, it wasn't until 1988, when they discovered a unique receptor in the human body that responded to cannabis, which is part of what we now call the endocannabinoid system, that they truly began to understand the unique nature of cannabis. Subsequent research on this receptor led to the 1992 discovery of anandamide, a neurotransmitter that activated some of the same receptors as cannabis. In 1993, researchers discovered another receptor in the endocannabinoid system, as well as more of these unique neurotransmitters.

In 2001, Canada introduced the Medical Marijuana Access Regulations, allowing individuals with certain diseases to access government-issued cannabis if their physician recommended it and they met established criteria. In 2003 and 2004, two separate bills were introduced by the federal government with the goal of decriminalizing small amounts of cannabis, but neither of these succeeded.

While public opinion of cannabis has gone through many shifts, in recent years, public interest in Canada has continued to grow. With legalization of cannabis in Canada as of 2018, it is hopeful that we will see more research, dialogue, and deeper understanding of how cannabis works to help people.

Cannabinoids and the Endocannabinoid System[2]

Cannabis is composed of many different substances, and more than 100 of these are what we call cannabinoids; these, possibly along with other compounds known as terpenes, are responsible for the effects of cannabis. Cannabinoids most likely work by interacting with a complex system in the body called the endocannabinoid system (ECS). Our bodies naturally produce a family of neurotransmitters called endocannabinoids, which interact with receptors located in the brain, muscles, fat, and digestive tract. These receptors are called cannabinoid receptor type 1 (CB1) and cannabinoid receptor type 2 (CB2).

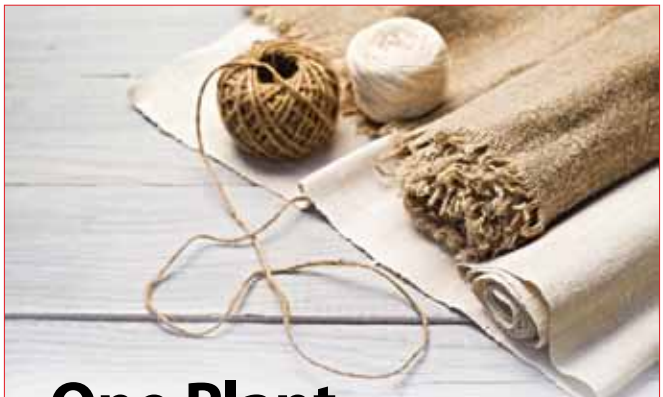
Scientists only recently found evidence of the ECS when they discovered CB1 in 1988, so research is still ongoing into exactly how it functions. However, most data find that it helps our bodies regulate pain, mood, appetite, gastrointestinal motility, memory, emotions, stress response, immune function, and more. When a person ingests the plant-based cannabinoids in cannabis, which are similar molecular shapes to endocannabinoids, they fit into the CB1 and CB2 receptors and trigger reactions that result in either very high or very low levels of specific neurotransmitters, which the cells of the nervous system, as well as other systems in the body, use to communicate with each other.

The ECS is very important when it comes to medicinal cannabis, because changes in how the ECS functions might have an important relationship to the pathology of chronic conditions and could be tied to the efficacy of cannabinoids.

The two most important cannabinoids, and the two that typically compose the majority of cannabinoids in cannabis, are delta-9-tetrahydrocannabinol (THC) and cannabidiol (CBD).

THC, the most recognized cannabinoid, is associated with reduced nausea and pain, increased appetite (the munchies), and psychological effects such as relaxation, euphoria, and altered sensory perception, which are responsible for making users feel 'high' or intoxicated. THC is also the primary source of the negative psychological effects associated with cannabis use, such as irritability, anxiousness, and paranoia.

CBD does not seem to produce intoxicating effects (non-psychotropic) but it is responsible for some of the plant's sedative effects. CBD can help reduce convulsions, nausea, and inflammation. It might also lessen some of the negative



One Plant, Many Uses

When we develop cannabis to grow tall and strong with thick fibrous stalks that are low in THC we typically refer to it as hemp; people mostly use hemp seeds for food and its fibres for industrial purposes, such as for creating textiles and building materials, or for extracting CBD for medicine. When we breed it to have lush leaves and flowers that are high in cannabinoids, we use the flower buds for medicinal or recreational purposes. Some people refer to cannabis used this way as marijuana.

Typically, *Cannabis ruderalis* is very low in cannabinoids, and only used for hemp. *Cannabis indica* and *Cannabis sativa* can be grown for either industrial or medicinal/recreational uses, depending on how the plant is cultivated. Plant breeders have created innumerable different strains of cannabis, each of which has a different combination of cannabinoids, with variable potency results. Successful medical use of cannabis involves finding an ideal strain, representing different ratios of THC and CBD, for each patient's needs.

symptoms associated with THC, especially anxiety and paranoia.

Medicinal Uses of Cannabis

The list of conditions that cannabis is purported to treat or cure is very long, and continues to grow, but the research is still lacking in many areas. This is largely due to cannabis being both stigmatized and illegal in most parts of the world for the past century, so research might increase as legalization becomes more commonplace. It is also difficult for researchers to conduct double-blind studies for most cannabis products because subjects might be able to determine whether they are on the active therapy or placebo.

However, current research indicates that some conditions may be clinically improved by cannabis use. These include inflammatory bowel disease,[3] multiple sclerosis,[4] neuropathic pain,[5] nausea and vomiting caused by cancer or chemotherapy,[6] pediatric seizure disorders,[7] and a wide variety of other illnesses. Here, we will focus on gastrointestinal symptoms and conditions that might be ameliorated by cannabis.

Cannabis and IBD

Some research suggests that the ECS might play a role in gut health. Particularly, inflammatory bowel disease (IBD), including Crohn's disease and ulcerative colitis, might be influenced in part by alterations in the ECS, as this system might modulate inflammatory responses.[3] In addition, research shows that levels of anandamide, an endocannabinoid, are much lower in the inflamed gut mucosa of those with IBD than in healthy gut tissue.[3] Early research on the effects of cannabis on IBD is quite promising, but we still have far to go before we can definitively say that cannabis is an effective treatment for IBD.

One retrospective study in Israel asked 30 patients with Crohn's disease about their disease severity before and after using cannabis and found great improvements.[8] They found that 70% of the patients experienced a decrease in Crohn's disease symptom severity when using cannabis, and that many were able to reduce or eliminate the medications that they were using. For example, before using cannabis, each individual took some sort of prescription medication to treat their disease. When using cannabis, nine individuals were able to cease all prescription medication use. They also reported a drop in daily bowel movements from eight to five per person, as well as a slight decrease in the number of surgeries required.

Since this was a retrospective study, meaning it relied primarily on patient memory and subjective symptoms, the study isn't as strong as a double-blind study would be. However, the changes in more objective measurements (such as surgery and prescription medication records) point to

the possibility that cannabis was quite beneficial for these individuals. It should be noted that individual responses can vary. You should discuss your specific situation with your physician and pharmacist prior to stopping any medication you take for a chronic condition.

One prospective study provided 13 IBD patients (11 with Crohn's disease, 2 with ulcerative colitis) who were not using cannabis with 50 g of cannabis to smoke as needed to relieve symptoms over the course of three months.[9] After this time, all the patients had smoked the full 50 g, and they saw improvements in their health. The Crohn's disease group's Harvey-Bradshaw index scores (an index that rates Crohn's disease symptoms) dropped from an average of 11.36 to 2.68 (great result), with the largest improvements in general wellbeing and abdominal pain. The subjects experienced significant improvement in pain, health perception, depression, social functioning, and ability to work. They also had an average weight gain of 4.3 kg over the three months (a health improvement), and a reduction in average number of daily liquid stools from 5.54 to 3.18.

These researchers support the idea that the benefits were the result of cannabinoids having anti-inflammatory, anti-motility, and analgesic effects. With only 13 participants, this study is too small to come to generalizations about most people, but it does show that cannabis might be effective for some individuals with IBD. The fact that the subjects knew they were taking the therapy may also have had an impact on their perception of improvement.

At this point, much research shows a possible benefit for individuals with IBD taking cannabis, but we still don't know quite how it works. It might be limited only to pain relief and increased appetite, but it might also help by reducing inflammation. We need more research on the topic before we can know for sure how cannabis affects IBD.

According to some research, men and women use and experience cannabis quite differently. Men are generally more likely to use and be dependent on cannabis,[15] and they are more likely to report positive effects such as improved memory and increased musicality. Men are more likely to use joints, bongs, and vaporizers, while women are more likely to use pipes and edibles/tinctures/capsules. In addition, women are more likely to use cannabis medicinally in order to treat irritable bowel syndrome, migraines, anxiety, loss of appetite, and nausea.[16]

While rare, some individuals are allergic to cannabis. Symptoms are similar to other allergies, and can include itchy and watery eyes, sneezing, runny nose, rashes, hives, wheezing, shortness of breath, and even anaphylaxis.

Cannabis was the first product to be traded online. In 1971, students at Stanford University negotiated the sale of 'weed' to students at Massachusetts Institute of Technology using ARPANET, an early network that became part of the basis of the modern internet.

In what is now China, archeologists uncovered the gravesite of a man who died 2,700 years previously, and was buried along with 28 ounces of cannabis.[17] Also in what is now part of China, archeologists uncovered the burial site of a man from the same time period who had a shroud of 13 cannabis plants placed over his torso.[18]

The word *canvas* comes from the term *cannabis*, which originated as the Latin word for hemp (based off the Greek *κάνναβη*). Historically, canvas was made from sturdy hemp fibres.

Bhang is a drink that people in India have consumed in some variation for thousands of years, often during a Hindu spring festival called Holi. Making bhang involves taking leaves and buds from the cannabis plant, grinding them up, and combining them with milk, sugar, nuts, spices, and rose water, cooking until combined, straining, and then chilling it to serve as a cold beverage.

Cannabis and Other GI Symptoms

While most research on cannabis and the gastrointestinal tract focuses on IBD, it might be helpful for individuals with other digestive illnesses. For instance, it seems to universally be effective at reducing abdominal pain.[10] It can be especially useful for individuals taking opioid medications for abdominal pain, as research shows that cannabis helps patients cut down on or eliminate their need for opioids and provides a treatment with fewer side effects.[11] Cannabis also helps individuals who have a difficult time eating enough by increasing appetite and it can help reduce diarrhea and nausea.[12] There is quite a bit of evidence for many of these symptoms, so if you think cannabis might be useful for you, please consult your health care team to discuss the benefits and risks associated with its use.

Questions to Ask Your Health Care Team

- Is cannabis an effective and safe choice for me?
- What dosage and type of cannabis should I take?
- What would be the best method of administration for my needs?
- Will cannabis interact with any of the medications I am currently taking?
- Do I have any insurance coverage options for medical cannabis?
- What side effects are likely, and what can I do to reduce this?
- Can I use it safely during pregnancy or breast feeding?
- Are there potential interactions between cannabis and my other illnesses?
- Will I still be able to access medical cannabis after recreational cannabis is legal?
- If I choose to use medical cannabis, what steps do I need to take to begin and continue therapy?

One other gastrointestinal finding is that cannabis users are less likely to have non-alcoholic fatty liver disease than those who don't consume cannabis, possibly due to metabolic benefits from cannabinoids.[13]

Negative Effects of Cannabis

While cannabis seems to provide many benefits, it does have its drawbacks and side effects.[14] Short-term side effects (those that only affect you while the cannabinoids are in your body at higher levels) can include short-term memory impairment, diminished motor skills, decreased reaction times, fatigue, anxiety, panic, increased heart rate, increased or decreased blood pressure, and dry mouth. These effects can make activities such as driving and operating large machinery dangerous, so avoid cannabis before any activity that requires quick thinking and sharp reflexes.

Long-term side effects (those that affect you after consistent cannabis use) can include depression, anxiety, and dependence on or addiction to cannabis products. If you typically consume cannabis by smoking it, other long-term effects, including chronic cough, bronchitis, and lung infections, can also occur. Patients can avoid these effects by choosing other methods of administration, such as vaporization, ingestible oils, oral sprays, and capsules.

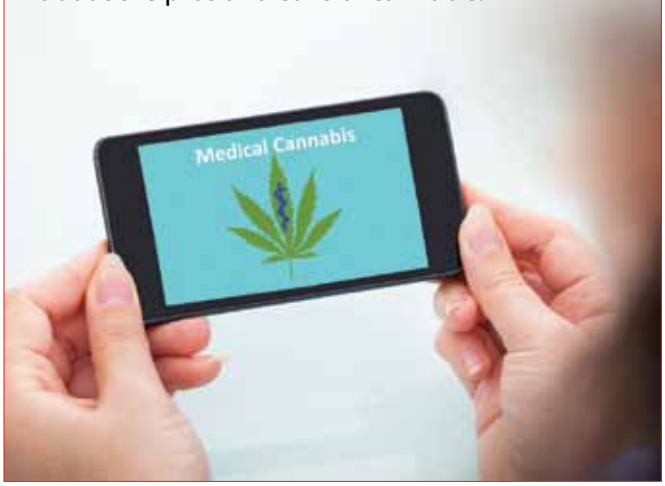
In some cases, long-term cannabis use can cause a disorder called cannabinoid hyperemesis syndrome. Its symptoms including nausea, vomiting, and colicky abdominal pain that the patient can relieve temporarily by taking hot showers, or permanently by ceasing all cannabis use. Abrupt discontinuation of cannabis may cause withdrawal effects and the best method of stopping cannabis should be discussed with your health care team.

In addition, there are certain individuals who should avoid cannabis products, whether recreational or medicinal. This includes pregnant women, because we don't have enough evidence to know how cannabis affects a developing fetus. Individuals with a personal or familial history of mental illness should also try to avoid cannabis, as it might exacerbate certain mental health syndromes. In general, it is very important that children and adults younger than 25 years-of-age don't consume cannabis, as there is some evidence that cannabis intake can affect brain development. However, in children with severe seizure disorders (epilepsy), a neurologist or other neuro-specialist might recommend cannabis products that are high in CBD to reduce seizure frequency and severity. This is usually only done in cases where the epilepsy is so severe that getting the seizures under control is more important than any potential risks from cannabis and other pharmacological treatment options have been tried or considered.

NEW

Medical Cannabis Video

Go to www.badgut.org to view our short video on medicinal cannabis in Canada and share it with someone who you think should know more about the pros and cons of cannabis!



Cannabis can also interfere with your ability to make sound decisions and judgements, so it is important to avoid risky behaviour to prevent accidents. One other thing to be aware of is the interaction potential between cannabis and other medications, which can lead to increased or decreased blood-levels of various medications. Make sure to speak with your physician, pharmacist, or nurse practitioner if you are taking other medications along with cannabis.

Overall, medical cannabis is generally safe. It has virtually no overdose potential, so it does not lead to overdose death, but it is important to be aware of the potential side effects and complications, which might lead to fatal accidents in individuals who behave recklessly while using cannabis.

Accessing Medical Cannabis

Going forward, with legal recreational cannabis in play, it is important to ensure that patients still have ready access to medicinal cannabis through their health care team. This should include consultations on dosing and strain type with a physician, pharmacist, or nurse practitioner trained in medical cannabis. Patients who require cannabis as a treatment for their disease or disorder should have access to cannabis from their health care providers and should not have to guess at what to buy from a recreational dispensary.

If you wish to try using medical cannabis, speak with your health care practitioner. You can get a medical authorization document from health care professionals, which you can use to purchase cannabis through licenced medical sellers rather than recreational sellers. While some physicians are wary about prescribing cannabis, many are comfortable doing so. If your physician doesn't want to prescribe cannabis, then you can request a referral to a health care provider who will take your symptoms and disease into account and provide an appropriate dosage recommendation. When using medical cannabis, always follow the advice and recommendations of your health care team and make sure cannabis use aligns with the other prescription treatments you are taking.

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Patient Support Programs

Gwen Ellert, RN, BScN, MEd

Perhaps you've been struggling for several years to treat your Crohn's disease or ulcerative colitis, trying numerous medications without much success. Then your physician decides it's time for you to start a biologic medication designed to treat one of these inflammatory bowel diseases (IBD).

Biologics are very specific, highly effective medicines made in living cells. They improve health and quality of life in many complex conditions, including Crohn's disease, ulcerative colitis, diabetes, rheumatoid arthritis, cancer, osteoporosis, psoriasis, HIV, multiple sclerosis, growth deficiencies, and many more. They are structurally complex proteins several hundred times larger than traditional chemically-made small molecule drugs, requiring expensive biotechnology methods to produce.

Once you are prescribed a biologic, you might be concerned about how you will pay for it. Under the *Canada Health Act*, medications administered to an in-patient while at the hospital are covered under government-funded hospital services (medicare). However, when your physician prescribes a medication for you to take when you are not staying at the hospital, it falls under the varied rules of our numerous publically funded pharmacare plans (provincial/territorial/federal), private insurance coverage (if available), or paying out-of-pocket. Some programs only cover biologics when you meet certain criteria, such as having a moderate to severe case of IBD and having tried and failed less costly medications first.

The process of managing drug insurance coverage and scheduling medication, especially when you are not well, may seem overwhelming. Some patients are reluctant to use biologics due to their potential side effects, cost, and the fact they are delivered into the body by intravenous infusion under medical supervision in a clinic or hospital, or by injection at home, where you will also have to adhere to a strict product storage and administration schedule. Some pharmacies are set up to help you with an injection.

Canada is the only country in the world to have comprehensive patient support programs that are paid for by the pharmaceutical companies. This means that you are eligible to participate in the patient support program offered by the manufacturer of the medication prescribed by your

doctor. If you change your biologic medication to one made by a different company, then you will need to change to a different patient support program.

These programs do differ from each other, although all offer services that have a positive impact on adherence (taking medication as directed) and persistence (continuing to take medication for a prescribed length of time). However, there is a wide range in coordination and support for financial assistance and reimbursement, including under company compassionate programs. They also provide services such as patient education and counselling, home delivery of the medication for injection, and nursing support.

How it Works

The process generally begins when your doctor prescribes a biologic medication and refers you to the corresponding program, for which you need to sign an 'informed consent' document. This document explains what participation in the patient support program looks like, including the services you may choose to accept. A nurse will call you within a few days to further explain the program and its services and to collect relevant information pertaining to your financial, insurance, and health matters. Providing this information to the program will ensure that their staff have all of the material necessary to customize the services you need and help you navigate through what can often be an extremely challenging and time-consuming process. All of this is designed to get you started on the medication as soon as possible. Participation in a patient support program, including which services you might choose to accept, is at your discretion and not a requirement of being on a biologic medication.

The program staff will help you to identify your insurance coverage availability and eligibility (public, private, a combination of the two, or paying for it yourself) and handle the paperwork for you. An important benefit of some patient support programs is that they will help you follow the treatment goals you set with your physician and identify any personal goals, reviewing them with you regularly.

As with all medications, some individuals experience side effects, even though the product is working to keep the underlying disease under control. This might cause you to want to stop taking the drug. It is important that you discuss this with your program coordinator and your physician before stopping your medication, as they might be able to help you manage side effects.

Do I need a Patient Support Program?

One study of 10,857 Canadians participating in a patient support program found that those receiving ongoing interventions through nurse-initiated phone calls have a large and statistically significant association to greater patient persistence and adherence.[1] It found that patients were 72% less likely to cease therapy when compared to those who did not receive the nurse-initiated interventions and were more likely to adhere to the treatment regime. Failure to initiate treatment was more than 80% more frequent among patients who did not receive a phone-call intervention from a nurse.

While the support program is a very important part of your care, the specific services they offer will not be the pivotal factors regarding which medication you and your physician decide is right for you. Understanding your disease and how to effectively manage it is an important goal for a long-term, positive outcome. The best medication for you is the one that will manage your disease – the one that you will take as directed and for the appropriate length of time as prescribed. Be sure to have a candid discussion with your doctor about your own concerns, preferences, and expectations.

Program Benefits

- **patients have efficient and effective support to gain access to drug coverage and medication as soon as possible**
- **identifies options for health insurance coverage, whether private, public, or both**
- **efficiently interfaces with insurer(s), as patients/office staff are not necessarily familiar with the constant changes to policies or procedures and provincial drug approvals**
- **frees physicians and/or their office nurse(s) from time taken to complete some of the government and insurance request forms, and medication specific-education**
- **provides education about specific drug and disease symptoms**
- **is available more regularly than a physician/nurse practitioner's office staff**
- **reports side effects and adverse events (pharmacovigilance)**
- **provides you with helpful information to allow you to access your treatments while travelling**
- **provides treatment updates to your physician and/or nurse**

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Switching to a Biosimilar May Decrease Adherence

Gail Attara, Chief Executive Officer
Gastrointestinal Society

Ganive Bhinder, PhD, Executive Director
Better Pharmacare Coalition

Biologics are very specific, highly effective, large molecule drugs made in living cells. They have revolutionized treatment in complex diseases, including inflammatory bowel disease (IBD) – Crohn's disease and ulcerative colitis – and many other conditions, such as diabetes, rheumatoid arthritis, cancer, osteoporosis, psoriasis, HIV infection, and multiple sclerosis.

For context, it is important to know that most medications are small molecule drugs. This means that they have simple chemically-based molecular structures that are easy to reproduce and copy. You will often encounter both name brand and generic versions of these medicines sold side-by-side and dispensed interchangeably by pharmacists. All products made with the same active medical ingredient (molecule) will work the same. Generic substitution involves automatically replacing the name brand version with a generic medication made from the same molecule. Occasionally, this causes issues, such as if a patient has an allergy or sensitivity to an additive in the generic pill that wasn't in the original formula. However, the patient is receiving the exact same medical ingredient, so generic substitution usually saves money in the health care system without compromising patient health.

The GI Society has worked on various advocacy projects over the years, and one area that we have focused on is therapeutic substitution. This is when a patient must switch treatment from a molecule that is working for them to a different molecule in the same therapeutic class, for reasons such as cost, rather than efficacy. These products are sufficiently different to warrant a new brand name, but work in a similar way. Although therapeutic substitution is intended to save money, switching among different chemical, small molecule products in a therapeutic class has had negative outcomes in Canada in the past. In the case of patients with gastroesophageal reflux disease prescribed proton pump inhibitors, switching medications was unsuccessful for 23% of the population, and this amounted to increased cost to the British Columbia health care system in excess of $43 million over three years.[1]

On the other hand, with large molecule biologics, it is impossible to produce an exact copy even when using the exact same ingredients, the same living cell lines, and identical manufacturing conditions. When other brands make copies of an originator biologic, it is a similar product, but it is not the same. This is why federal regulators have designated these medications as biosimilars with their own brand names, rather than generic versions.

We need to take greater care when switching from an originator biologic to its biosimilar and must consider such things as the capacity to monitor and capture a patient's response after switching, development of exclusion criteria by professional associations, and the number of therapeutic options available if treatment failure occurs.

Patient support programs, which are unique to Canada, are an especially important factor to consider when analyzing data from other countries, as they add a major and complex variable when switching from a biologic medicine to a biosimilar.

Several recent studies of patients agreeing to and being aware of a switch from the originator biologic to a biosimilar (open-label) have reported higher discontinuation rates than anticipated.[2,3,4] Previous clinical trial data where patients were not aware if they were being continued on the originator biologic therapy or switched to the biosimilar (blinded) indicated similar continuation rates in patients who were switched to the biosimilar and those who were not switched (approximately 90%).[5] In the more recent open-label studies, only 72-76% of patients continued on therapy at approximately 30 weeks after switching.

One of the major reasons suggested for the higher discontinuation rates of patients in the open-label studies is the nocebo effect, or the concept that a patient's negative thoughts or experience may, in part, drive a less than optimal response and/or outcome. Recent surveys have captured patient concerns regarding the safety and efficacy of biosimilar drugs and also highlighted patient unease at prescription of biosimilar drugs by regulatory agencies (i.e., as policy) rather than their treating physician.[6,7] In 2015,

the Gastrointestinal Society conducted a survey with 423 Canadian respondents and the majority did not want these medications simply because they might be less expensive than the originator medications. These individuals were concerned about switching therapy between the originator biologic and a biosimilar, particularly if the government or private insurance plans mandate use of these drugs without their consent. Not surprisingly, 95% said that it was important for their physician to have the sole authority to decide, together with them, the most suitable biologic medicine to use to treat the disease. This patient directive is very strong and could account for the ultimate success or failure of a treatment.[8]

The limited number of therapeutic options for patients with IBD, compounded with the somewhat conflicting body of data around discontinuation rates of biosimilars post-switching, highlights the need for further studies in this area to determine the impact of switching on long-term adherence of medication.

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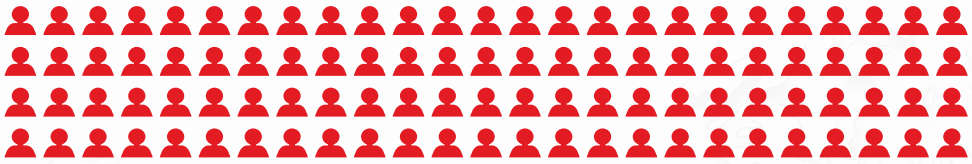
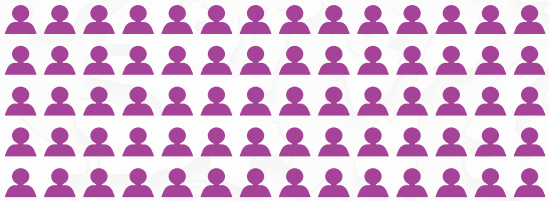
Retention Rates Post-Switch



Original patient population switched from infliximab originator to biosimilar **(100)**

Fail to achieve/ loss of therapeutic response post-switch **(30)**

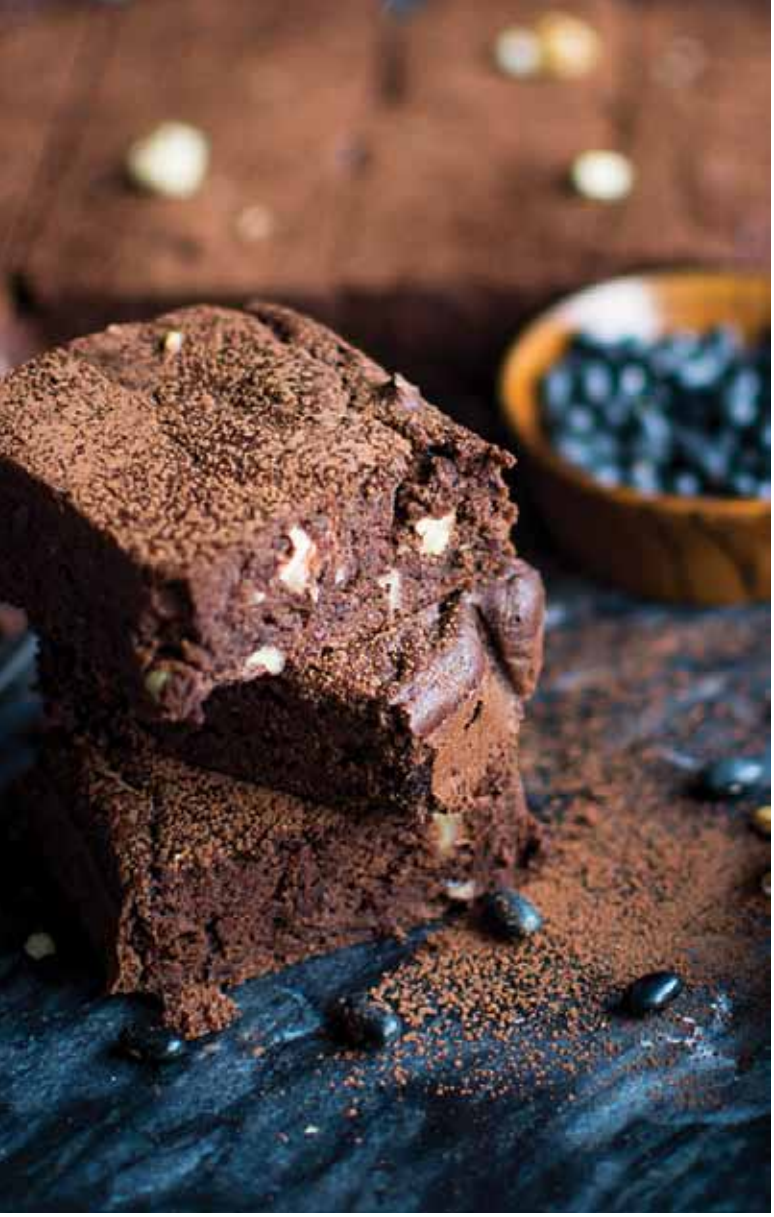


Achieve response post-switch **(70)**

Develop symptoms post-switch **(15)** *must be switched back to originator infliximab or to new originator molecule

Fail to respond to infliximab **(15)**, expected even without switch

Note: Data utilized for projections was gathered in countries without patient support programs (i.e., infusion site and health care personnel administering medication remained constant). This must be considered when extrapolating data for Canada. Estimates based off of three recent real-world evidence publications: Avouac J *et al. Semin Arthritis Rheum.* 2018 Apr;47(5):741-748, Scherlinger M *et al. Joint, Bone, Spine.* 2017 Nov 14. doi: 10.1016/j.jbspin.2017.10.003, and Tweehuysen L *et al. Arthritis Rheumatol.* 2018 Jan;70(1):60-68. *These studies reported higher discontinuation rates than have previously been captured. The conflicting body of data around discontinuation rates of biosimilars post-switching highlights the need for further investigation.



Black Bean Brownies

PREPARATION: 10 MIN | COOKING: 25 MIN
MAKES: 12 SERVINGS | 160 CAL/SERVING

Ingredients

2 cups black beans (canned), rinsed and drained
3 large eggs
½ cup sugar
1 tsp vanilla extract
¼ tsp salt
1 pinch cayenne pepper
3 tbsp canola oil
⅓ cup cocoa powder
¾ cup walnuts, coarsely chopped

Method

- Preheat the oven to 175°C/350°F. Grease and line with parchment paper a 9" square ovenproof dish.
- Put the black beans in a food processor and run until a purée consistency is obtained. Add all the other ingredients, except walnuts, and run until smooth.
- Add the walnuts to the mixture, then scoop it into the prepared dish. Bake in the middle of the oven for about 25-30 minutes. Check with a toothpick or knife to see if it is cooked through. Allow brownies to cool down before removing from the dish.
- Cut into 12 pieces, then serve.

GI Society Nutrition Partner

Whether you suffer from health problems or not, you are no doubt aware that diet plays a vital part in your wellbeing and overall health. As the official nutrition partner of the Gastrointestinal Society, SOSCuisine.com is able to provide personalized menus for digestive health. Their team of dietitians has designed suitable menus for individuals suffering from constipation, diverticulosis, gluten or lactose intolerance, celiac disease, GERD, irritable bowel syndrome, and many other conditions.

The SOSCuisine.com team updates these balanced menus every week to reflect the arrival of fresh local produce. They come with a grocery list that takes into account weekly specials at your favourite supermarket to guarantee a healthy diet at low prices.

Go to www.soscuisine.com to find the right GI meal plan for you and part of your subscription fee will go toward supporting the GI Society.

Please GIVE

We need your ongoing support to continue to help the millions of Canadians who live with gastrointestinal and liver diseases and disorders, and for those who want to maintain a healthy digestive tract.

The GI Society guards donor dollars rigorously, ensuring maximum yield. We are frugal and efficient, spending far less than the national charitable average on governance and administration. Your donations help to support:

- High-quality, up-to-date printed information and educational materials for patients and their families, and for health care professionals
- BadGut® Lectures throughout Canada
- Advocacy to encourage governments to put digestive health on the agenda and implement policies that will improve quality of life

DONATING NOW

Visit our secure website www.badgut.org and complete your payment online or send a gift by filling in the form on this page and sending it to our office.

GIVING MONTHLY

Contact us to set up an automatic monthly donation.

GIVING IN HONOUR OR IN MEMORY

For gifts in honour of a special occasion or in memory of a person, provide us with your name and address, as well as that of the honouree or bereaved and decedent, so we can send a card advising of your gift on his or her behalf. We don't share the amount of a gift unless requested to do so.

BEQUESTS

Naming the GI (Gastrointestinal) Society or CSIR as a beneficiary in your will ensures your funds continue to support this important work.

SPONSORSHIP

Your business can collaborate with the GI Society on special projects or ongoing activities and receive recognition through a variety of avenues. Contact our CEO at the head office for details.

WORKPLACE GIVING

Does your place of work pool donations for charitable giving? Why not select the GI Society as the beneficiary? Sometimes all it takes is someone to suggest us. We'd be happy to send you some promotional literature to assist you in this task and, in many cases, can offer speakers.

GI Society Registered Charity 817065352RR0001

CSIR Registered Charity 108090374RR0001

Subscription/Donation Form

Subscribe now! Your annual subscription fee of only $20 supports the GI Society's activities and includes quarterly issues of the *Inside Tract®* newsletter that we mail to you.

Please sign up online at www.badgut.org or fill in and submit this form by mail to: GI Society | 231-3665 Kingsway | Vancouver BC V5R 5W2

PURCHASE INFORMATION

☐ I enclose a donation of $ _____(eligible for a tax receipt).

☐ I enclose a $20 annual subscription fee ($30 outside Canada)

Total $_____

PERSONAL INFORMATION

_____

Name (Mr./Mrs./Ms./Dr.)

_____

Company Name (Optional)

_____

Street Address

_____

City, Province, Postal Code

_____

Phone Number(s)

_____

Email(s)

☐ Patient ☐ Friend/Family Member ☐ Professional

Diagnosis/Area of Interest: (This optional information helps us to determine which topics might be of interest to you and is kept confidential.)

_____

Would you like more information? Please list your topics:

_____

☐ Check this box if you would like to volunteer

PAYMENT METHOD

- Cheque (payable to GI Society)
- Credit Card and bank debit purchase is available on our secure website www.badgut.org.

The GI (Gastrointestinal) Society respects your privacy. We never sell, trade, or loan your information to any other organization. We will use your information only for follow-up contact, statistical purposes, evaluation of our services, and to process and recognize your contributions. We disclose your information only to our own employees and agents and only to accomplish these purposes. If at any time you no longer wish to be contacted by the GI Society, please call 604-873-4876 (Toll Free 1-866-600-4875) or email info@badgut.org and we will promptly remove you from our list.

Photo: © Saskia Henman

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Gastrointestinal Society
Canadian Society of Intestinal Research

FSC