

THE
Inside Tract[®]

Canada's Gastrointestinal Disease & Disorder Newsletter

2010 • Issue 175 • 2nd Quarter

Hepatitis

Plus information on celiac disease, IBS, IBD, GERD, babies and more.

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The Inside Tract® Newsletter

Editor Gail Attara
Design Kwynn Vodnak
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Lori Lee Walston

Staff

President & CEO Gail Attara
Associate Director Kwynn Vodnak
Outreach Coordinator Kimberly Skulsky
Office Assistant Morgan Amber

Contact Us

Gastrointestinal Society
855 West 12th Avenue
Vancouver, BC V5Z 1M9

Phone 604-875-4875
Toll-Free 866-600-4875
Fax 604-875-4429
Email info@badgut.org
Website www.badgut.org

About the GI Society

The GI (Gastrointestinal) Society, built in 2008 on the foundation of its partner organization, the Canadian Society of Intestinal Research, is the foremost organization in Canada covering a full range of gastrointestinal diseases and disorders.

With quality and integrity, we continue to be the leading provider of evidence-based patient information in the GI health field and we work to dispel myths about GI conditions. Although gastrointestinal diseases and disorders are rarely a subject of public discussion, they are highly prevalent in the Canadian population and are the most frequent reason for employee absenteeism after the common cold. GI Society Registered Charity Number 817065352RR0001.

About CSIR

In 1976, the Canadian Society of Intestinal Research arose as the first registered charity in Canada to enhance public awareness by providing patient and professional information and funding medical research on a wide array of gastrointestinal (GI) diseases and disorders. CSIR Registered Charity Number 108090374RR0001.

The Inside Tract® Newsletter

This quarterly newsletter is our primary tool to deliver up-to-date medical information, in lay terms, to the Canadian public. Readership includes a mix of patients and their family, friends, and caregivers; healthcare professionals; and business professionals, who are interested in the wellness of their employees. To subscribe to our popular newsletter, for a low annual fee of \$20 (\$30 outside Canada), please visit our website or submit the form on page 23.

The GI Society does not endorse the products or services contained in this newsletter. Opinions expressed by the authors are their own and not necessarily those of the GI Society. Members of our medical advisory council or other professionals write or review all articles contained herein. In the interest of space, we usually do not publish references but will provide them upon request. We do not intend that this newsletter replace the knowledge or diagnosis of your physician or healthcare team and we advise seeking advice from a medical professional whenever a health problem arises.

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IBD & IBS Support Groups

Inflammatory Bowel Disease (IBD) Group (*Crohn's Disease & Ulcerative Colitis*)

Vancouver, BC

7:30 pm first Wednesdays
Sep 1, Oct 6, Nov 3

Vancouver General Hospital
Jim Pattison Pavilion
Lauener Room (LP 2809) - at the *Sassafras Café*
899 West 12th Avenue
For more info call: **Doug 604-266-4833**

Irritable Bowel Syndrome (IBS) Group

Port Moody, BC

7:30 pm first Tuesdays
Sep 7, Oct 5, Nov 2

Eagle Ridge Hospital, 475 Guildford Way
(Lower Level across from cafeteria)

For more info call: **Marilyn 604-942-6059**



Society update

Gail Attara, President & CEO

I am pleased to report that both the CSIR and GI Society continued to increase activities during the past year, due to the contributions and tireless efforts of our staff, volunteers, and generous donors.

Dr. James Gray chaired both CSIR's and the GI Society's Annual General Meetings on May 18th and answered many gastrointestinal questions from members, which is always the highlight of the AGM. CSIR/GIS Treasurer, Joan Hill, presented the financial statements, as prepared by the accounting firm, Wolrige Mahon, reporting on CSIR's best year ever.

As we move forward into new and interesting directions, our leadership continues to develop and change. After three terms on the Board, Anar Popatia, has stepped down as Chair. We thank Anar for her drive and purpose over the years, especially as we forged through difficult times while birthing the GI Society. Joan Hill has completed her three-year term on the Board and is not renewing. We thank Joan for her help, as financial matters were particularly challenging in managing two distinct organizations. Susan Knott, who was with us for a year, has also stepped down. We particularly thank Susan for her helpfulness during our BadGut® Lecture in Victoria and for meetings with government officials. We wish these retiring Board members well in their new endeavours. One further Board change involves Jo Hoeflok, our long-time newsletter contributor and Board Advisor, who briefly stepped onto the Board as our Ontario representative. Jo has decided to go back to the Advisory Board and leave governance to the others. We thank Jo for her years of energetic, faithful volunteer service.

We especially thank the remaining Board Members, Dr. James Gray, Dr. Frank Anderson, Dr. Bill Salh, and Louella Sequeira, who are working with our three new talented Board members (see page 4). Current Board projects include enhancing governance documents for the GI Society, revising our medical grant application process, implementing new accounting procedures that are more efficient and will free up some staff time, and re-vamping our marketing strategy. The inside cover of this newsletter reflects the updated Board complement.

I hope you have a wonderful summer and trust your health is always improving.

Gail

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Welcome New Board Members



Farzin Khosrow-Khavar, BSc

Farzin Khosrow-Khavar graduated from the University of Victoria with a Bachelor of Science degree and is currently completing a Master of Science Program at the University of British Columbia.

Farzin is keenly interested in supporting and advancing the GI (Gastrointestinal) Society's objectives. This includes educating the Canadian public about GI diseases and providing support for medical researchers and healthcare professionals involved in the investigation and treatment of these conditions.

As a Board member, Farzin seeks to use and develop the skills necessary to direct the GI Society toward achieving its objectives and making the decisions necessary to further the Society's mandate. Farzin is eager to support the GI Society by participating in governance and providing assistance at events sponsored by the organization.



Catherine Rocheleau, MBA, RD

Catherine Rocheleau is an experienced professional, non-profit executive and business owner. She has held senior management and executive positions, leading in organizational change, growth, and development. She operates a thriving professional practice and consulting business (Ignite Solutions Consulting) and regularly mentors business owners.

Catherine is a Registered Dietitian. She earned an MBA in Managerial Leadership and Project Management from City University (Bellevue, WA). She is a Certified Executive & Business Coach, a Master Coach Trainer and an Organizational Change Professional.

Catherine's pleasures in life include golf, Pilates, walks, reading, good food, and memorable times with family and friends.



Cathy Wong, BSc

Cathy Wong completed her Bachelor of Science, majoring in Molecular Biology and Biochemistry, at Simon Fraser University in British Columbia. Soon after concluding these studies, a newfound interest led her into the accounting field, where she is now working as a corporate accountant while studying toward acquiring a CGA designation.

In addition to her interest in accounting, Cathy has always had a passion for health science and is on her way to completing Certificates in Health and Fitness Studies and Applied Human Nutrition, also through Simon Fraser University. She is eager to contribute her time and knowledge to both the Gastrointestinal Society and the Canadian Society of Intestinal Research. Cathy's passion is to further the Societies' mandates by raising awareness about various gastrointestinal diseases within communities all across Canada.

I urge any of you, anywhere in Canada, who have an interest in contributing to the work of the Societies to come forward, as a few spots remain open on the Board. If working with this diverse, energetic team is something that interests you, please contact me.

Gail Attara - gail@badgut.org

Help for the Swollen Colon

Researchers have isolated a peptide that can ease chronic gut disease

Chronic gut inflammation – which is more prevalent in Canada than anywhere else in the world – can develop into ulcerative colitis or Crohn’s disease, which are both forms of inflammatory bowel disease (IBD). Currently, 1 in 180 Canadians have a diagnosis of IBD and approximately 10,000 new cases arise every year. IBD may also put its sufferers at increased risk for cancer, diabetes, cardiovascular problems, high blood pressure, and allergies.

Researchers at the University of Guelph say that help is on the way. They have detected specific amino acids and peptides in chicken eggs that seem to reduce colon inflammation and are now developing products that could deliver these substances to consumers. Prof. Yoshinori Mine, who leads a team in the Department of Food Science, says that this breakthrough has sparked collaboration with several other Canadian universities to develop a company called Sante Bioactives Ltd. under the Advanced Foods and Materials Network (AFMNet), which could offer relief for persons with IBD.

“We are bringing all the brains to one company,” says Mine, “we’re going beyond the lab to bring people together.”

Mine’s team first tested the amino acids (cysteine and tryptophan) and peptides from eggs on an intestinal cell that was grown in a laboratory. Once inflammatory reducing properties were discovered, the researchers began testing them on a pig model because porcine gastrointestinal tracts are almost identical to those of humans. They found that pigs with a mild, temporary, colon inflammation that ingested the cysteine, tryptophan, or peptides were back to their pre-inflammation state in five days.

Although these peptides could be a safe and holistic way of reducing colon inflammation, one shortcoming is that they are not available through normal dietary intake and need to be isolated from the egg proteins so they may be supplied in sufficient quantities to be effective.

That is where Sante Bioactives comes in. Plans are already underway to market the peptides in the form of a capsule, beverage, or power bar, which may be available to the public by 2012 if human trials (scheduled to take place next year) are successful. This research is funded by AFMNet.

AFMNet

The Advanced Foods and Materials Network (AFMNet) is Canada’s national food and bio-materials research network. This not-for-profit corporation, funded by the Networks of Centres of Excellence, Canada’s flagship science and technology program, is headquartered at the University of Guelph.

AFMNet (www.afmnet.ca) brings together natural scientists, engineers, health researchers, and social scientists to come up with new ideas and to develop new technologies and products that benefit Canadians. AFMNet comprises hundreds of scientific researchers, professionals, industry partners, and government agencies, working on 18 multi-disciplinary research projects, within four focused areas of research: nanotechnology related to food and bio-material; food and health; policy and regulations; and traceability and authenticity of foods and food ingredients. Some innovative AFMNet projects include:

- Leading edge diet research
- Improving the quality of Canada’s apples
- Understanding and controlling foodborne microbes
- Developing a heart-healthy alternative to artery-clogging trans fats
- Making a natural product that enhances kidney function and lowers high blood pressure
- Creating a salty taste without using much salt
- Ensuring Canadians achieve recommended levels of folate in their diet without possible negative effects of folic acid
- Monitoring a large group of Canadian consumers to accurately track changes in Canadian eating habits and measure consumer response to issues like food scares



Toilet Training

When to begin?



Toilet training can be challenging for parents and caregivers as they struggle to decipher the appropriate time and method for teaching a child this universally essential skill. Interestingly, a review of toilet training literature published in the journal, *Ambulatory Pediatrics*, shows that the average age to complete toilet training has been increasing steadily in the US over the decades, from younger than 18 months of age in the 1940s to 27 months in 1980 to 37 months in 2003.¹ The introduction of disposable diapers, increasingly efficient laundry facilities, and the number of families with both parents working outside of the home are three plausible influences contributing to these changes.

Cultural Differences

Other research shows that parental preferences and expectations toward toilet training vary by ethnicity and culture. In a study lead by Dr. Timothy Schum and published in the journal, *Pediatrics*, 50% of African-American parents, compared to only 4% of Caucasian parents, agreed that it was important for a child to be toilet trained by the age of two.² This finding is supportive of the research showing that children of minority cultures in the US successfully achieve toilet training at an earlier age than do children of majority cultures.

Readiness

Despite generations of discussion among parents, physicians, and researchers, questions remain as to what is the optimal age to begin training and which approach is the most successful. Schum *et al.* evaluated the age (by gender) at which normally developing children acquire the individual toilet training skills necessary for successful

toilet training. Evaluated skills included:

- understanding potty words,
- showing an interest in using the potty,
- staying dry for more than two hours, and
- being able to wash their hands by themselves.

Although contemporary literature has maintained that toileting readiness skills typically develop from 18-24 months of age, Schum *et al.* found that most children have not mastered these skills by this early age range. These researchers suggested a revision of the starting age to the range of 22-30 months. Results showed that girls attained toilet training skills at younger ages than the boys did in all readiness categories except two areas; 'flushes toilet by self' and 'washes hands by self.' They also found that night-time bowel control is an early toilet training skill, whereas night-time urine control is one of the last skills to develop for both genders.

A child must be physiologically and behaviourally ready to begin training. This readiness includes the ability to follow directions, be aware of his or her urges, and have the necessary motor skills to sit still on the toilet, and pull clothes and underwear up and down. Toilet training methods have very different approaches, from child-oriented with the freedom to master each step at the child's own pace, to a more structured and intensive tactic such as the 'train-in-a-day' approach.

Child Readiness Toilet Training

In 1962, Brazelton³ developed the 'child readiness' approach with an emphasis on gradual training. In this approach, parents are responsible for recognizing the signals their child communicates indicating readiness to

begin toilet training. First, the child becomes familiar with his or her own toilet chair by sitting on it while clothed and then without clothes or a diaper. The next step is to empty the diaper contents into the chair while verbally explaining to the child that this is the proper place for eliminations. The parents then encourage the child to use the chair for urination and defecation and provide positive reinforcement to the child when successful.

Parent-Oriented Toilet Training

Nearly a decade later, Azrin and Foxx developed a parent-oriented method toward toilet training. They created a list of component skills, both physiological and psychological, to help parents determine if their child is ready to begin training. This involves an intense period of instruction designed to achieve continence in 24-48 hours. Once a child seems ready, parents begin a four-step stimulus control model by:

- increasing the child's fluid intake,
- scheduling toilet training time,
- positively reinforcing correct behaviour, and
- over-correcting accidents.

Assisted Infant Toilet Training

Parents and caregivers in China, India, Africa, South America, Central America, and parts of Europe commonly use assisted infant toilet training. For this method, parents must learn their infant's facial signals for elimination and respond by placing the infant on the toilet in a voiding position. When the infant is on the toilet, the parents make a specific noise as the infant eliminates. This is a form of conditioning so that, in the future, when the infant hears the noise again, s/he will know to void. Parents reward infant's successes with affection or food. This method begins at a very early age, when the baby is only 2-3 weeks old.⁴ A very similar method known as elimination communication has been growing in popularity within North America. The main associated benefits include reduced diaper expenses, fewer disposable diapers polluting the environment, less laundry impact on the environment from re-usable cloth diapers, strengthened infant-parent bonds, and increased infant comfort.

Child-Oriented Toilet Training

The Canadian Paediatric Society (CPS) stresses that each child is different. Therefore, there is no concrete approach to toilet training, nor a specific age by when toilet training should begin, nor when a child should have acquired toilet use skills. CPS promotes the child-oriented approach and encourages family physicians to open up the topic for discussion at the child's first-year check-up.⁵ Parents and/or caregivers should prepare for the process by deciding on what vocabulary they will use in their home, ensuring that the potty chair is easily accessible and secure for the child,

Invitation to Participate in a Study about Children with Inflammatory Bowel Disease

Location: Québec

Do you have a child with IBD? Do they also have a brother or a sister? If so, then I would like to talk to all of you to hear about your family's experiences of living with IBD and life at school for your child.

Currently, a study is underway to investigate what life is like for families that have a child with IBD and the ways they navigate the Québec educational system. Participation in this study involves each family member (parents/guardians, child with IBD, and at least one sibling) doing audio taped interviews.

Participation is completely voluntary and you may choose to discontinue your participation at any time. All interviews will take place on a day and time that is convenient for you and your family. There are no risks and no benefits associated with participating in this study.

Parents/guardians and the child with IBD will do a total of three interviews. Siblings will only do one, and all information is strictly confidential.

This study hopes to bring awareness to the topic of IBD and the information learned might be helpful in the future for school personnel and others involved in children's learning, so they may be in a better position to assist children who have IBD with their education, and provide much needed services to their families.

**Maria Gordon, PhD candidate,
Faculty of Education, University of Ottawa
Phone: 514-817-9675 Email: mgord035@uottawa.ca**

and determining what form of positive reinforcement they will offer their child. The average time from the start of toilet training to its attainment is 3-6 months.

Summary

Toilet training is a life skill that every child must master. When to begin training and the technique used is the personal preference of parents, with culture and environment often having an influence. It is important for parents to stay positive and flexible throughout the process, keeping in mind that every child learns differently even within the same family.

References available upon request.

GERD in Children

Different from the adult experience.



Whether your child is a toddler or a teenager, they will occasionally suffer from diarrhea, upset tummy, excessive burping, abdominal pain, or heartburn. Sometimes stress from a big event in a child's life – such as the first day of school, exams, or a sporting event – triggers a digestive upset. However, when digestive disturbances in children become more frequent, it's a good time to seek an opinion from a medical professional.

Your child could be suffering from various digestive conditions, one of which is gastroesophageal reflux disease (GERD), in which the contents of the stomach backup into the esophagus, causing troublesome, uncomfortable symptoms. This is because the stomach is especially equipped to handle the strong acid needed for digestion, while the esophagus does not have the same protection.

The main symptoms of GERD in adults include heartburn, regurgitation, and a bitter or sour taste in the mouth. Some less common symptoms are a persistent sore throat, hoarseness, chronic coughing, difficult or painful swallowing, asthma, unexplained chest pain, bad breath, a feeling of a lump in the throat, and an uncomfortable feeling of fullness after meals.

Children with GERD are more likely to report a general tummy upset rather than the most common symptoms experienced by adults. Children are also more likely to vomit or regurgitate, and might experience ear-nose-and-throat disorders. Sometimes younger children can't express what's bothering them, so they may become irritable.

Five things parents should know about GERD

1. The main GERD symptoms in children are vomiting or regurgitation. Children might complain of a tummy ache, pressure in the chest, a feeling of something coming up into the throat, a burning pain in the chest, or might just seem irritable or agitated.
2. While GERD does affect the pediatric age group, it is important to distinguish physiological or normal digestive occurrences from disease. Effortless spitting up or regurgitation is normal for most happy, growing infants during the first year of life. In 95% of cases, infants will outgrow this by the time they are 12-15

months old. This condition is actually reflux, a normal physiological occurrence, not GERD. Parents can relax knowing that spitting up or regurgitation rarely persists into the child's second year of life, or perhaps a bit longer for babies who were born many weeks before their due date.

3. A small percentage of infants who have very frequent or forceful spitting up, crying, coughing, distress, or weight loss, may actually have GERD or another condition. GERD is more common in children who are 2-3 years of age or older. If your child has these continual symptoms, seek medical advice.
4. Between 5-10% of children who are 3-17 years of age experience upper abdominal pain, heartburn, regurgitation, and vomiting, all symptoms that might suggest a GERD diagnosis. Only a physician should determine whether it is truly GERD or possibly another digestive condition.
5. The prevalence of GERD symptoms increases with age in children. GERD in children may also be associated with wheezing, chronic cough, bad breath, sinusitis, hoarseness, and pneumonia. As children mature, symptoms of GERD become more like those found in adults.

What to Do

Encourage your child to describe to you exactly what he or she is experiencing during any bout of uncomfortable feelings in the chest or stomach areas, or when he or she seems agitated. If you think your child may be showing symptoms of GERD, then speak to a medical professional for proper diagnosis and treatment. If a pediatric gastroenterologist practices in your community, it could be beneficial to have this level of specialized care for your child.

There are a number of treatment options available for childhood GERD, including diet modifications that a registered dietitian could recommend. Children seem to benefit from having more frequent but smaller meals. Your child's physician might prescribe a medication, which is dissolvable and/or easy to swallow, to relieve symptoms.

Photo: © Larisa Lofitskaya/Dreamstime.com

Babies and Bacteria

From the way we're birthed to the way we're raised, the bacteria within our digestive system play a large role in our health. There are a number of protective measures humans have naturally developed over time to ensure that our offspring grow strong and healthy. Read on to learn how different bacteria cultures can affect our young ones.

Delivery Method

When babies are born, they have the same bacterial community throughout their entire body, whereas adults have several different bacterial communities in different locations throughout their bodies (e.g., mouth, skin, colon, and vagina). Authors of a study published in the journal, *Proceedings of the National Academy of Sciences*,¹ analyzed bacterial cultures taken from the skin, vagina, and mouth of expectant mothers just before delivery and then analyzed and compared the bacterial cultures of the respective newborns' skin. Babies born vaginally developed bacterial cultures similar to those in their mothers' vagina, which were predominantly *Lactobacillus* whereas those who were born by C-section developed bacterial cultures similar to those on their mothers' skin, which were predominantly *Staphylococcus*. The *Lactobacillus* strains help to protect the baby from many pathogens, including the *Staphylococcus aureus* strains that are resistant to all penicillins, commonly known as MRSA. The skin cultures do not offer these same benefits.

Other studies have shown that children born by C-section are more likely to develop asthma and allergies than those born vaginally and that giving C-section-born infants probiotics containing *Lactobacillus* from birth to 6 months of age reduces the risk of allergy at 5 years of age; however, probiotics made no difference in the vaginally-born children's allergy risk.

Breast Milk

We know that human breast milk is beneficial for babies because it contains an ideal nutrient balance. New research shows it may also help newborns by nourishing specific beneficial intestinal bacteria unique to infants.

Human breast milk contains complex sugars known as human milk oligosaccharides (HMO). Although these comprise 21% of human milk, babies cannot digest them, and this has been baffling researchers for years, particularly since this milk composition is unique to humans.

A study published in *Molecular Nutrition and Food Research*,² found that HMO is the perfect food (prebiotic) for

a subspecies of *Bifidobacterium longum* bacteria to thrive, allowing it to grow strong and coat the baby's intestinal wall, protecting it from harmful pathogens and helping the baby develop an efficient digestive system. This bacterium has an excessive number of genes associated with HMO metabolism, comprising >8% of its genome, making it the perfect bacteria to live in a breastfed human infant.³

Dietary Habits

A recent study published in the journal, *Proceedings of the National Academy of Sciences*,⁴ shows that dietary habits play a significant role in a child's development of gut bacteria. Researchers analyzed and compared bacteria found in the stools of children 1-6 years of age from a developed European city and children from a rural African village. The diet of the African children was predominantly vegetarian, very high in fibre, and consisted mostly of cereals, legumes, and vegetables. The European children ate a typical Western diet containing little fibre and lots of animal protein, sugar, starch, and fat.

The results showed that the African children had beneficial gut bacteria that helped them break down fibres better, allowing them to extract more nutrition from fibre than could the European children. Beneficial bacteria in these children also seemed to help prevent the establishment of pathogens that can cause diarrhea, such as *Shigella* and *Escheria*. Bacteria present in the European children was less beneficial, setting them up for a higher likelihood of obesity later in life, and doing little to protect them from harmful pathogens.

The researchers suggest that this poor gut bacteria population results from insufficient fibre intake combined with little exposure to environmental bacteria, due to the excessive use of sanitation in the industrial world. Lack of beneficial gut bacteria could lead to a much higher risk of developing allergies, autoimmune disorders, and inflammatory bowel disease.

Summary

Making the best effort to exclusively breastfeed babies and then later raising them on a diet that is high in fibre and not too high in calories can be very beneficial for their gut flora, providing a good foundation for a healthy digestive system.

References available upon request.



So You Think You Know Hepatitis

Lori Lee Walston, RN

Many people assume hepatitis is a disease that only affects alcoholics, drug users, and those who are unvaccinated. Actually, the word hepatitis is broken down this way: *hepat* originates from the Greek word for liver and the suffix *-itis* is Greek for inflammation. Therefore, hepatitis refers to any process causing inflammation of liver cells. Hepatitis can be short-lived in which there is total recovery within six months (acute) or can last longer than six months (chronic). Although viruses most frequently cause acute hepatitis, there are several other causes, which include side-effects from medications and herbs, autoimmune and/or cholestatic diseases, genetic disorders, excessive fat intake, and alcohol abuse.

Viruses

Five known viruses infect the liver, Hepatitis A, B, C, D, and E. In North America, the first three are most common.

Hepatitis A (HAV) spreads when a person ingests food or beverages, including water, contaminated with stool containing the virus. Symptoms of infection are usually mild and can be mistaken for the flu – fatigue, fever, abdominal pain, nausea, and loss of appetite. HAV does not become chronic and therefore does not cause permanent liver damage. Once you have contracted HAV, your immune system makes antibodies so that you will never get it again. Anti-HAV antibodies can be detected in 30%-40% of the population in developed countries and 90% of

Protect Your Liver

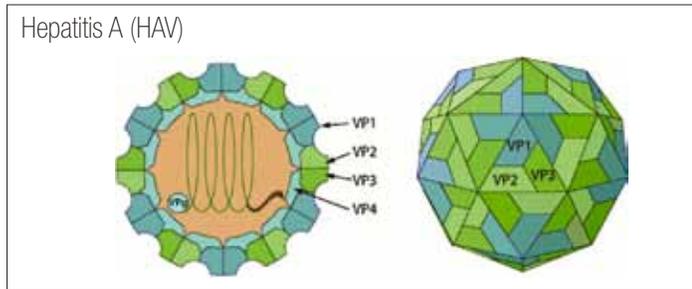
The liver is a large, complex, triangular-shaped solid organ located in the upper right abdomen, just below the diaphragm and behind the ribs, extending across the midline to the left side. It is the largest and heaviest internal organ, weighing about 1.5 kilograms.

A strong, working liver is vital for human health. The liver is responsible for a host of essential bodily functions, comprising critical roles in digestion and nutrient absorption, complex metabolic functions, protein production, and hormonal production and regulation. It is the primary organ involved in breaking down every

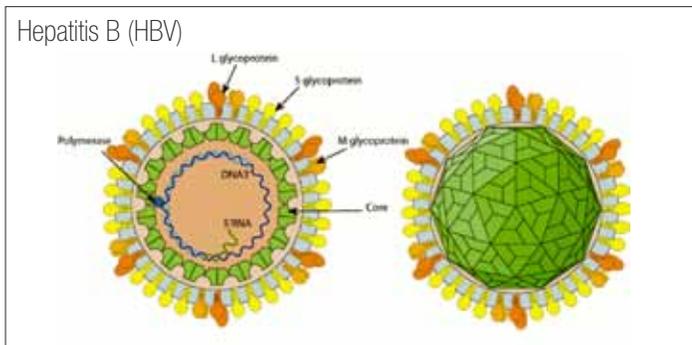
toxic substance your body encounters, whether you ingest, inject, touch, breathe, or otherwise encounter, preventing accumulation of waste products within the body.

Cirrhosis is a condition resulting from liver damage. In cirrhosis, abnormal structures replace normal liver tissue, impairing its ability to perform. These structures include excess fibrous connective tissue (fibrosis), scar tissue, and lumps that occur when damaged tissue regenerates (regenerative nodules). With mild cirrhosis, your liver can make repairs and continue its role in the body, but with more advanced cirrhosis the liver can no longer function.

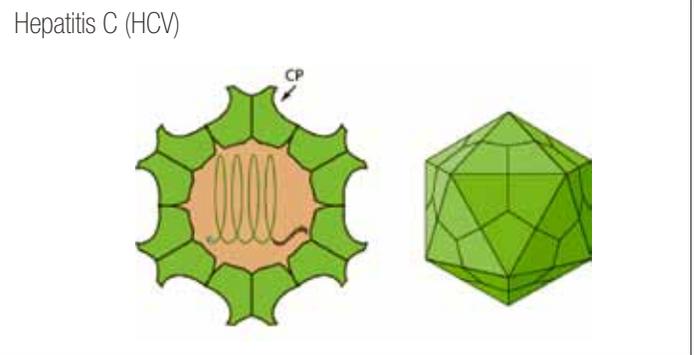
the population in developing countries. There is a vaccine available to prevent HAV infection.



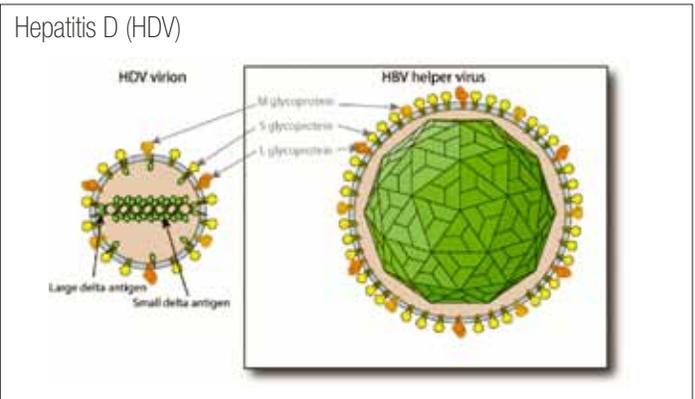
Hepatitis B (HBV) spreads by exposure to infected blood or other body fluids (saliva, semen, vaginal excretions) through sexual contact, blood transfusions, sharing of needles and syringes, and from mother-to-child during childbirth. HBV can be acute or chronic. An acute infection lasts only a few weeks and symptoms include fatigue, loss of appetite, vomiting, body aches, and mild fever. Chronic infection usually has no symptoms but does lead to severe liver damage (cirrhosis) in 20-30% of all patients. Patients who develop cirrhosis are at highest risk for developing liver cancer. There is no cure for HBV but there are several medications that physicians prescribe to slow the disease progression. There is a vaccine available to prevent HBV infection.



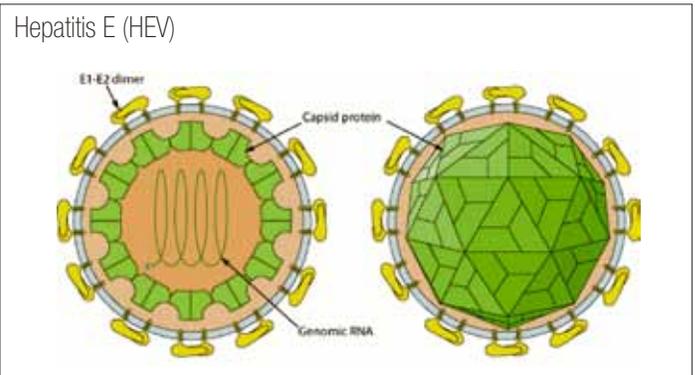
Hepatitis C (HCV) is transmitted by blood-to-blood contact, such as sharing of needles and other drug equipment (straws, spoons, water, cotton, cookers), blood transfusions, tattoos, body piercings, sexual contact and, rarely, mother-to-child during childbirth. Most people have no symptoms during the acute phase but, if they do, the symptoms are generally mild and include fatigue, decreased appetite, and weakness. HCV becomes chronic in approximately 75% of infected people. Most chronic carriers have few or no symptoms but some report fatigue, general weakness, and vague discomfort in the area around the liver. In about 25% of those infected, chronic HCV can lead to cirrhosis, which may lead to liver cancer. There are treatments available for HCV that offer a 50-90% chance of a cure. There is no vaccine available for prevention of HCV infection at this time.



Hepatitis D (HDV) is a virus that can live only in people who also have a Hepatitis B infection. It spreads along the same routes as HBV, by blood, sexual contact, and from mother-to-child. People with both chronic HBV and chronic HDV are also likely to have advanced liver disease in the form of cirrhosis. There is currently no cure for HDV. It is preventable by avoiding HBV infection; therefore, a HBV vaccination is a good first step to avoid contracting HDV.



Hepatitis E (HEV), like HAV, spreads from the stool of one person to the mouth of another, usually by a contaminated food or water supply. Outbreaks have occurred only in Mexico, Peru, and parts of Asia and Africa. Symptoms include yellow skin (jaundice), loss of appetite, abdominal pain, nausea, and vomiting. Chronic infection does not develop and those infected do not become carriers.



Continued on page 14

Medications

Many drugs may cause hepatitis and, of these, acetaminophen (Tylenol®) is the most recognized. Other drugs that can lead to liver inflammation include non-steroidal anti-inflammatory drugs (NSAIDs) such as ibuprofen and naproxen, anabolic steroids, birth control pills, anti-fungals, statins (for decreasing cholesterol levels), methotrexate (for rheumatoid arthritis and IBD), some antibiotics, and some medications used to treat tuberculosis. Please note that this list is not inclusive and many patients can safely use the listed medications while under a physician's care. During close clinical observation, if early signs of hepatitis do occur, then the patient can stop the medication, usually resulting in symptom reversal.

Herbs

The fact that herbs are natural does not mean that they are harmless. There is a long list of herbs linked to hepatitis, liver damage, and liver failure. Here are a few examples of herbs that may cause hepatitis: black cohosh, chaparral, comfrey, kava, lobelia, mistletoe, germander, ragwort, saffras, skullcap, sweet clover, and valerian.

Alcohol and Your Liver

- The alcohol content of a drink, rather than the type of beverage consumed, is a significant factor in the development of cirrhosis.
- Males whose daily consumption of alcohol exceeds 80g (6 bottles of beer or 4 glasses of wine) are at a high risk of developing cirrhosis; for females this limit is 40g (3 bottles of beer or 2 glasses of wine) per day.^{1,2}
- Binge drinking is less injurious to the liver than continued daily drinking.¹
- Women are more susceptible than men are to liver damage and they develop cirrhosis at an earlier age. The influence of female sex hormones might be a possible explanation for this difference between genders.³

1. Thomson ABR, Shaffer EA, eds. *First Principles of Gastroenterology*. 4th ed. Mississauga, ON: AstraZeneca Canada Inc.; 2000.
2. <http://www.icap.org/PolicyTools/Toolkits/ResponsibleHospitalityGuides/AServersGuide/Alcohol/tabid/142/Default.aspx> Accessed June 24, 2010
3. Eagon PK. Alcoholic liver injury: Influence of gender and hormones. *World J Gastroenterol*. 2010;16:11:1377-1384.

Autoimmune

Autoimmune hepatitis is a disease in which liver inflammation results from an attack on the liver by the person's own immune system. The exact cause is unknown but there is likely a genetic factor, which may make some people more susceptible. Seventy percent of those with autoimmune hepatitis are female. Fatigue is the most commonly reported symptom. There is no cure for autoimmune hepatitis but medications such as prednisone and azathioprine (Imuran®) help reduce symptoms.

Cholestatic

Cholestatic refers to the flow of bile within the liver. Bile, produced in the liver, travels through the bile ducts to the gallbladder where it is stored and eventually pumped into the small intestine to help digest fats.

Primary Biliary Cirrhosis (PBC) is an autoimmune disease that attacks the cells lining the bile ducts. Once damaged, bile leaks out from the ducts and causes local damage such as inflammation and scarring of liver tissue. Like autoimmune hepatitis, PBC primarily affects women. Symptoms include fatigue and itchy skin. PBC is a lifelong condition that is treated with ursodiol, a medication that assists the liver in moving bile through the ducts.

Primary Sclerosing Cholangitis (PSC) is a disease that damages and blocks bile ducts inside as well as outside of the liver. There is a link between PSC and inflammatory bowel disease (Crohn's disease and ulcerative colitis), although this association is unclear. There is no treatment for PSC except for management of the symptoms, which include fatigue, itchy skin, and yellowing of the skin (jaundice).

Genetic (Inherited)

Hemochromatosis is a term that describes when the body absorbs and stores too much iron in the liver, heart, pancreas, joints, or other organs. For this disease to be present, a person must inherit a defective gene from each parent; however, when only one defective gene passes, then the person is a carrier but will not exhibit any disease signs. Many people have no symptoms but, of those who do, joint pain is the most common. Treatment is ridding the body of excess iron by removing blood (phlebotomy) the same way it is drawn from donors at a blood bank. Iron levels in the blood determine the frequency of the phlebotomies. This disease is not curable but is easily managed.

Wilson's Disease is a genetic disorder that causes a build-up of copper in the liver, central nervous system, and other organs. Like hemochromatosis, you need to inherit one abnormal gene from each parent and carriers who only have one copy of the defective gene do not have any symptoms. Depending on where the copper build-up occurs, symptoms may vary. If it is in the liver, the symptoms include fatigue,

jaundice, enlarged liver, and easy bruising. If the build-up is in the central nervous system, problems with speech, tremors, and muscle stiffness, as well as behavioural changes may result. As copper also accumulates in the eye, a gold or greenish gold ring may appear around the outer edge of the cornea (Kayser-Fleischer rings). Lifelong treatment involves a diet low in copper and a medication called penicillamine, which binds to copper and helps to remove it from the body.

Fatty Liver

Non-Alcoholic Fatty Liver Disease (NAFLD) is the most common cause of chronic liver disease, affecting approximately 30% of Western populations. A fatty liver is a harmless condition in which a specific type of fat deposits in the liver cells. This condition is reversible and does not lead to cirrhosis, liver failure, or liver cancer. However, when the fat accumulation causes inflammation of the liver cells, in 2-5% of North Americans, the condition becomes non-alcoholic steatohepatitis (NASH), and this can lead to cirrhosis. Obesity, sedentary lifestyle, diabetes, high cholesterol, and high blood pressure all increase a person's chance of developing NAFLD and NASH. There are few or no symptoms. Treatment includes a plan for weight loss, by following a healthy diet and exercising, as well as management of the other medical conditions.

Alcohol Abuse

Excessive and prolonged use of alcohol can lead to fatty liver disease. Alcoholic hepatitis is when the toxic effects of alcohol cause inflammation of the liver cells, which can lead to severe scarring (cirrhosis), occurring in 10-20% of alcoholics. Alcoholic fatty liver and hepatitis are potentially reversible if the alcohol use ceases prior to the development of cirrhosis.

Conclusion

A high percentage of alcoholics and drug users do develop hepatitis, and many others acquire hepatitis due to a variety of other causes, particularly viruses. Some types of hepatitis resolve quickly but others last for years, often for a lifetime. Even if you have hepatitis, there are medications and lifestyle changes, such as restricting alcohol intake and maintaining a healthy body weight, which may help to keep the disease from worsening.

Collectively applying knowledge about viral hepatitis to modify social behaviours will help decrease the spread of infectious forms of the disease.

It is important that every person with any type of hepatitis be under the care of a physician who specializes in liver disease. This way, the physician can offer current disease information and, if necessary, prescribe the medication(s) needed for the person to live life to its fullest.

ANNOUNCING

SafeMedicationUse.ca

A Component of the Canadian Medication Incident Reporting and Prevention System (CMIRPS)

To err is human. However, errors in medication dispensing or use could have grave consequences. The fact is, mistakes with medicines do happen but with a focused effort they are preventable. Some contributing factors to these errors are sound-alike names, confusing product labels, or problems with medication handling protocols.

Mistakes with medicines (and problems that could cause blunders with medicines) are called “medication incidents.” When experts review reported incidents, especially those that seem to occur repeatedly or in clusters, they might be able to identify the source of a particular problem and offer suggestions to ensure this same mistake does not recur.

How can we as consumers do our part to ensure we're getting the medication our physician prescribed and that we're taking it in a way that's best for us?

The Institute for Safe Medication Practices Canada (ISMP Canada), is now taking on the role of studying the causes of medication incidents and recommending ways to prevent them. Consumers can also play an active role in preventing mistakes. www.SafeMedicationUse.ca provides a way for consumers to report medication incidents to ISMP Canada. The website also provides useful suggestions on how to reduce the chances of a medication mistake happening to you or to someone in your family.

You can help prevent harmful medication incidents and by working together, we can make healthcare safer!

www.SafeMedicationUse.ca is inviting you to participate in its pilot test. *Please take a minute to:*

- Visit the site to get information on the safe use of medication.
- Use the on-line reporting system to report a medication incident.
- Complete the online survey to provide your feedback.
- Spread the news about www.SafeMedicationUse.ca to your family and friends.

hiccups

The hiccup, hiccough, hicka, geehouk, hoquet, hipo, hikke, whatever you call it, nearly everyone has had this annoying experience. You may be wondering what causes them and, more importantly, how to stop them.

What are hiccups?

A hiccup is an often-repeated, breathing-related movement that does not serve any respiratory function. It involves a sudden, involuntary contraction of the diaphragm resulting in an abrupt intake of breath. The glottis (where the vocal chords are located) immediately closes in response, to prevent hyperventilation. This sudden closure halts the breath, causing it to strike the closed glottis, creating the familiar hic sound. People have been using the onomatopoeic word hiccup for approximately 500 years.

What activates hiccups?

There is no universal cause of hiccups, as they vary from person-to-person and incident-to-incident. It seems that in most cases, there is some type of irritation to nerves along the air pathway. Overeating, temperature change, excitement, consumption of alcohol, and excessive bloating seem to be the most common irritating triggers. Some other causes, particularly in chronic hiccups, include trauma, infection, certain drugs, and problems with the central nervous system. Irritating stimuli such as spicy food, as well as digestive disorders such as gastritis, heartburn, peptic ulcers, and pancreatitis may occasionally start onset of hiccups.

There is evidence that hiccups could be a non-typical symptom of gastroesophageal reflux disease (GERD). In a 2009 article published in *The European Journal of General Medicine*,¹ physicians explained that two male patients who were suffering from chronic hiccups made complete recoveries when using proton pump inhibitor (PPI) therapy.² One of the men had been suffering from intermittent hiccups for 15 years before beginning PPI treatment.

Why do we hiccup?

We know how hiccups occur and a number of potential triggers, but does this pesky condition occur for a good reason? Hiccupping is a common occurrence in fetuses, which leads to the theory that hiccups may be the way a fetus practices using its respiratory system before entering the world, where breathing becomes incredibly important. Once we're born; however, hiccups don't seem to serve any useful purpose. Another theory suggests that hiccups may be a remnant of a primitive reflex that we no longer need or use today. Speculations aside, it seems that the definitive purpose of hiccups remains a mystery.

How do we stop them?

When going through a bout of hiccups, the cure, the relief, the end of them is something quite sought after! As soon as a few hiccups burst out, people within earshot begin offering suggestions to get rid of them. Most of us have a favourite remedy we rely on, which eventually seems to work, whether or not our actions actually are what make them cease. Endless lists of cures flood the internet and libraries... from holding your breath, to sucking a lemon wedge soaked in bitters, the options are endless. However, medically speaking, what really works?

We can generalize the majority of effective cures into a few categories. There are those that increase the carbon dioxide level in the blood; which include holding your breath, breathing into a paper bag, chugging water (or any other beverage), and gargling. Methods that counter-stimulate the contractions of the diaphragm are also quite common; including lifting the knees into the chest, leaning forward, and applying ice to the



Photo: © Valua Vitay/Dreamstime.com

area just under the rib cage. Swallowing a spoonful of sugar may also be helpful because it seems to modify nerve impulses, causing the diaphragm to stop the spasms.

If all else fails, maybe a folktale passed down in your family will be your cure! We hope something works for you, so you don't end up like poor Charles Osborne, (1893-1991) who is the Guinness World Record holder of the title "The Man with the Longest Attack of Hiccups." His hiccups began on a routine day in 1922, while he was working on his farm. They continued for 68 years, until mysteriously stopping on June 5, 1990. Osborne hiccupped an estimated 430 million times in those 68 years, yet still managed to live a full life, marrying twice and having eight children! He died a year later due to complications from ulcers.

Reference

1. Koçkar C *et al.* Hiccup Due to Gastroesophageal Reflux Disease. *Eur J Gen Med.* 2009;6:4:262-264.
2. PPIs approved in Canada include omeprazole (Losec®), lansoprazole (Prevacid®), pantoprazole sodium (Pantoloc®), esomeprazole (Nexium®), rabeprazole (Pariet™), and pantoprazole magnesium (Tecta™).

Folklore Hiccup Cures

Cures for the hiccups go back many years. Physicians and philosophers, Hippocrates, Celsus, and Galen, were firm believers that a good sneeze could end a bout of hiccups. However, scientist and philosopher, Plato, stood by his theory that a sudden thump on the back worked to scare away the hiccups. Some other classic cures include:

- smelling garlic
- sneezing
- yanking your tongue
- lifting your uvula with a spoon
- tickling the roof of your mouth, where the soft and hard palates meet, with a cotton swab
- chewing gum
- taking a shot of whiskey
- drinking warm milk through a straw
- chewing licorice root
- chewing and swallowing dry bread
- taking a swig of vinegar
- sucking on ice
- having someone give you a good scare

Chronic Health Conditions - Are You Supported?

Some Canadians with chronic health conditions need more help to help themselves.

Many Canadians with chronic health conditions don't regularly receive some of the expected types of support that could help them better manage their own health, according to a recent Canadian Health Care Matters bulletin from the Health Council of Canada.

Helping Patients Help Themselves: Are Canadians with chronic conditions getting the support they need to manage their health? is a bulletin based on the 2008 Canadian Survey of Experiences with Primary Health Care, which measured the quality of health care as reported by Canadian patients, including those with seven common chronic conditions.

"Self-management is recognized as a crucial aspect of primary health care," said Lyn McLeod, Councillor at the Health Council of Canada. "Patients, particularly those with chronic conditions, need support to develop the knowledge and skills to manage their health care and become partners in their own health."

Overall, self-management support is too often non-existent. According to the bulletin:

- At best, about one-half to two-thirds of Canadians with a chronic condition were asked to talk about their goals in caring for their chronic disease with their health care provider.
- About one-quarter were referred to a specific support group to help them cope or encouraged to attend a community program such as an exercise class.
- Only about one-quarter to one-third received a written list of things they could do to improve their health.

Along with the bulletin, the Health Council of Canada is asking Canadians to share their experiences with chronic conditions and the role self-management plays in their treatment and care.

To download the bulletin or to participate in the discussion, visit www.healthcouncilcanada.ca.

What the Future Holds for IBD Medications

The inflammatory bowel disease (IBD) drug market is perched to become increasingly competitive with the anticipated launch of seven new products, spanning five drug classes, from 2010 to 2019. These therapies are forecast to inject over \$1 billion into a market projected to reach up to \$5.7 billion by 2019 and will offer more therapy choice for IBD patients.

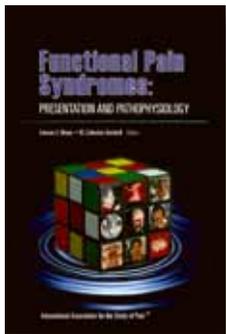
An estimated 108 products are in the pipeline worldwide, across all stages of development, and these treatments vary immensely by target. The diversity of the pending medications will broaden future therapy choice for specific IBD patient subsets, such as those who have failed on biologic anti-TNF medications, such as infliximab (Remicade®) and adalimumab (Humira®), and those who have mild to moderate Crohn's disease or ulcerative colitis.

Opinion leaders cite the re-randomization of patients responding to initial treatment in Crohn's disease trials as an effective design to finely tune which patients are likely to respond to the newer medications. In ulcerative colitis,

medications are also on the way for induction of remission and maintenance treatment.

Two key late-stage drugs getting close to the Canadian market show

particular clinical and commercial potential. Golimumab (Simponi™) is viewed positively by opinion leaders as a potential medication for ulcerative colitis and it is already approved in Canada for rheumatoid arthritis, psoriatic arthritis, and ankylosing spondylitis. For Crohn's disease, chemokine antagonist GSK1605786 (Traficet-EN) is anticipated to reach the market by 2017. Patients could potentially use this product as a maintenance treatment once reaching disease remission with a biologic medication.



Book Review Healthcare Professional Alert

Functional Pain Syndromes: Presentation and Pathophysiology

Written by a panel of experienced medical professionals and edited by noted pain experts Emeran A. Mayer and M. Catherine Bushnell, *Functional Pain Syndromes: Presentation and Pathophysiology*, offers in-depth information about the causes of functional pain syndromes, their manifestation, and potential treatment options. The pain syndromes examined include irritable bowel syndrome (IBS), fibromyalgia, functional dyspepsia, interstitial cystitis, and chronic cardiac pain.

The authors focus on the growing body of evidence demonstrating that these pain-related disorders frequently co-exist in the same patient. This book is especially helpful because it explains how these syndromes compare to each other, detailing similarities and differences, and their correlation to anxiety, depression, post-traumatic stress disorder, and chronic fatigue syndrome. The

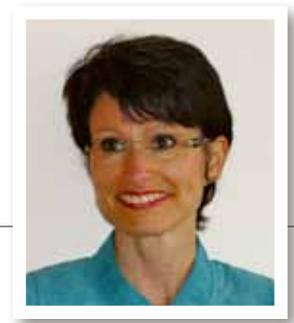
authors explain a wide range of treatment options from cognitive behavioural therapy to antidepressants and other pharmaceuticals.

This 580-page book contains a plethora of relevant information about pain syndromes, especially useful for medical professionals who treat individuals with IBS. A full chapter of information is dedicated to this disorder, including the co-morbidity between IBS and other functional pain syndromes. It includes the pathophysiology, diagnosis, diet, and definition of IBS, and contains many helpful statistics and graphs. Several other chapters within this book also relate directly to the cause of functional digestive disorders in addition to IBS, such as functional dyspepsia.

For more information, see www.iasp-pain.org/FunctionalPain.

Photo: (top) © Jorge Salcedo/Dreamstime.com

Relaxing Makes Me Nervous



Claire Maisonneuve, Registered Clinical Counsellor
Director of the Alpine Anxiety & Stress Relief Clinic

We all want relaxation and peace but the fact is, we can't stand it! Stillness and silence, which are the means of finding inner peace, are often far too scary. The thought of not talking, sitting still, and listening to the silence feels unnerving and seems purposeless to many.

Our craving for peace and relaxation is evident in the many spas and yoga centers springing up everywhere, but we can only find the peace and relaxation we seek within the stillness of our own minds. Without that stillness, our lives remain infected with a chronic busyness that keeps us going, doing, and running. This speed and activity deafens us to the call of our soul and, sadly, we have mistaken this restlessness as the need for materiality rather than the need for spirituality. This desperate pursuit is actually masking our fear of emptiness and loneliness.

The result? We keep on moving farther away from ourselves, until it seems as if we start living next door to who we really are.

It's true at first, when we tune into ourselves, we may encounter the grief and ache of our hearts that have been used, bruised, or broken. Yet if we develop a simple practice of turning within and being still, we can find 'the kingdom of heaven within us'. We can't find peace in fancy holidays, home security alarms, or credit cards, as the media promises. It's inside us. Ironically, it's the last place we tend to look.

So why do we keep running like this? Because it is terrifying to let go of our busyness. Our accomplishments and productivity have become synonymous with our worth in today's world. In our desperate race to be accepted for what we do rather than who we are, we believe the more we get done and the more we accomplish means the more we'll be loved. We even admire and respect workaholics. The true impetus for all this feverish striving is actually the impatient call of our soul. It is our yearning to find peace, relaxation, and quietness so that we may experience the true nature of our being. Mahatma Gandhi said, "Our life is a long arduous quest after Truth."

So if we yearn for it, then why don't we go for it?

The simple answer is habit. Many of us who grew up in unpredictable families, developed a kind of hyper-vigilance, a need to always be "on" and be on the lookout for the next crisis, drama, or disappointment to manage. We may have learned to associate silence and quietness at home with a crisis brewing, or the punishing silent treatment.

Because we felt overwhelmed and scared by the chaos and the unpredictability, we learned to hide, run, or move faster by getting involved in constant activities. The faster we moved, the less we would be noticed, and the safer we felt. Today, this habit persists.

In my therapy work, I like to direct people within, to help them experience themselves from the inside, and contact their own wisdom and intuition. For many this is

very difficult at first. Instead, they want to explain, dissect, or analyze. But just watching and being mindful in stillness is the first step toward finding the answers they need and connecting with the possibility of relaxation and inner peace. Mother Theresa said, "In the silence of the heart God speaks."

It doesn't matter how much you change your life on the outside, you still must slow down on the inside. You can live a full life, even a busy life and still be relaxed if inside you maintain calmness.

Stillness and silence should serve as the scaffolding of our lives. If we want to hear the voice of our soul and our guiding intuition so they can help us find our way, we must be still. The bottom line is; there's nothing to do, nowhere to go but to be closer to ourselves.

In the end, we need to have a balance between activity and stillness, the call of materialism and the call of spirituality.

Claire, a Registered Clinical Counsellor and long-time director of the Alpine Anxiety & Stress Relief Clinic, generously provides her time and skills to The Inside Tract®. 604-732-3930 www.AnxietyAndStressRelief.com

Celiac Disease Associated Risks

Celiac disease is an autoimmune gastrointestinal medical condition in which damage to the inner lining of the small intestine occurs. For those who have celiac disease, a substance called gliadin (a grain protein in gluten), which is found in wheat, barley, rye, and triticale, triggers an abnormal immune response that flattens and alters the millions of microscopic finger-like projections (villi) that line the inner wall of the small intestine, preventing them from working properly. Consequently, the body cannot obtain many essential proteins, fats, carbohydrates, vitamins, and minerals from food that are necessary for good health.

Individuals who have celiac disease should never eat any product containing even the smallest amount of gluten that contains gliadin, as it takes only one molecule to trigger the destructive response.

Symptoms of celiac disease may include iron deficiency anemia, diarrhea, weight loss, fatigue, breathlessness, cramps, bloating, irritability, and skin problems. While celiac disease in itself does not cause many problems, as long as the patient adheres to a strict gluten-free diet, there are many disorders and risks associated with celiac disease. In this article, we are reviewing a few of these risks, namely weight variation, thyroid disease, type 1 diabetes, and tuberculosis.

Weight Variation

A patient's unintended weight loss is often one of the first indicators to a physician to consider a celiac diagnosis. Weight loss can result from improper absorption of nutrients due to a malfunctioning small intestine. However, a study conducted in Northern Ireland in 2006,¹ which tracked the weight patterns of 188 celiac disease patients who switched to a strict gluten-free diet for two years, shows interesting results. At the end of the study, only 4% of participants had maintained their weight, 15% had lost weight, and an astounding 81% experienced sufficient weight gain to have become overweight, based on comparison to height-to-weight charts on standards of normality.

The reason for the weight gain is uncertain. It might be because, while previously eating gluten, subjects had adapted to ingesting a greater quantity of food but since the gluten damaged their small intestines, they were not receiving the full nutritional value from the foods they consumed. Once eliminating gluten from the diet allowed healing of the small intestine, digestion became more efficient, at which point the subjects could actually consume less food to receive adequate nutrition. If subjects kept consuming the previous quantity of food, then weight gain would be inevitable.

Another potential cause of weight gain is the type

of foods consumed. Gluten is useful in food processing because it binds, stabilizes, and prevents crumbling. When omitting gluten, food product manufacturers might increase the fat and/or sugar content to compensate for the gluten effect. Excessive use of these modified products could also contribute to weight gain.

Adapting to the gluten-free diet by increasing consumption of fruits and vegetables and reducing the quantity of safe grain products, as well as ensuring regular exercise, may help combat unwanted weight gain.

Thyroid Disease

A large study conducted in Sweden looking at data gathered from 1964-2003, published in October 2008,² shows that people with celiac disease are more likely than the average population to have a thyroid disease, such as hypothyroidism, hyperthyroidism, or thyroiditis.

The butterfly-shaped thyroid gland is located toward the front of the body at the base of the neck. One of its functions is to produce hormones that regulate the body's metabolism. Hypothyroidism occurs when the thyroid produces too little thyroid hormone, causing sensitivity to the cold, weight gain, dry skin, fatigue, tiredness, and a slower pulse, whereas hyperthyroidism occurs when the thyroid produces too much thyroid hormone, causing nervousness, a fast heartbeat, excessive sweating, and heat intolerance. Thyroiditis is inflammation of the thyroid gland.

The study followed 14,000 subjects diagnosed with celiac disease and 68,000 matched control subjects. Results showed that people with celiac disease were 4 times more likely than were the general population to develop hypothyroidism, 3 times more likely to develop hyperthyroidism, and 3.6 times more likely to develop thyroiditis. The highest risk identified was in children; however, males and females of all ages who had celiac disease were more likely than were the control subjects to develop a thyroid condition.

Thyroid disease and celiac disease are both autoimmune conditions and likely co-exist because of shared genetic traits.

Type 1 Diabetes

In diabetes mellitus type 1, which is most commonly diagnosed in otherwise healthy children or young adults, the individual's immune system destroys insulin-producing cells within the pancreas. Insulin is the hormone that signals to the body's cells to take up carbohydrates circulating in the blood. Without insulin, too much sugar remains in the blood

because it isn't being used for immediate energy nor stored for later use. Symptoms include blurred vision, extreme thirst and hunger, fatigue, frequent urination, slow wound-healing, decreased mental sharpness, and unintentional weight loss.³

A study from England, published in 2008,⁴ examined the relationship between Type 1 Diabetes and celiac disease, and found that the two autoimmune disorders shared four genetic mutations.

Tuberculosis

Tuberculosis is a disease caused by an infection with the bacterium, *Mycobacterium tuberculosis*, which usually affects the lungs but may attack any part of the body. Tuberculosis is contagious when the bacteria are airborne and pregnant women can pass it to their fetuses. Symptoms include a bad cough, fever, weight loss, and weakness.⁵ *Mycobacterium tuberculosis* infects approximately one third of the world's population; however, only 5-10% of those infected actually develop active tuberculosis, and these individuals often have a compromised immune system.

A large study conducted in Sweden,⁶ consisting of 14,335 individuals with celiac disease and 69,888 control subjects, examined whether tuberculosis is more likely to occur if the patient already has celiac disease. The study showed that individuals with celiac disease were three to four times more likely than were the control group to contract tuberculosis.

Summary

Once diagnosed with celiac disease, a person should immediately begin a nutritious diet that is 100% gluten-free, which quickly results in elimination of most disease symptoms. However, for individuals with celiac disease, some further risks do exist, especially on a genetic level. If you have one autoimmune disorder, then you may have others, such as thyroid disease or type 1 diabetes. If you have celiac disease and are concerned that you might have one of these other medical conditions, please talk to your healthcare provider.

References are available on request.

Testing for Celiac Disease at Home

An estimated one out of every hundred Canadians (1%) has celiac disease and yet, according to the Canadian Celiac Association, approximately 97% of people with this disease are undiagnosed.

The **BioCard™ Celiac Test** is an easy-to-use screening tool that requires a blood drop from a finger pinprick to detect certain substances (tTG antibodies) that are associated with celiac disease. Within just ten minutes, the results appear in a positive or negative format, in a manner similar to how results show for a home pregnancy test. The Celiac Test is 93.5% accurate, which is as precise as the blood tests done in a laboratory and it is licensed by Health Canada. Each home kit comes with a letter explaining the test that you can bring with you to your doctor, if you get a positive result. As with laboratory blood testing, it is not a definitive test, and your physician will probably request a small intestine biopsy to confirm the result.

Testing might be helpful for those who have a first-degree relative with celiac disease, as one in ten individuals in this group (10%) will also have the disease. Since the symptoms of irritable bowel syndrome (IBS) and celiac disease overlap, those with an IBS diagnosis may also wish to consider a screening test for celiac, as may those who have the following symptoms, if they are otherwise unexplained: weight loss, fatigue,

chronic diarrhea, breathlessness, anemia, cramps, bloating, irritability, and skin problems.

If you do perform this home test and have a positive result, please make sure you see your physician right away. Do not begin the gluten-free diet until a physician diagnoses you with celiac disease, as the accuracy of further testing requires that you be actively consuming gluten. Remember, as with any test – whether done at home or in a laboratory – false negative results could occur and thus should never be relied on as the only definitive test for a diagnosis.

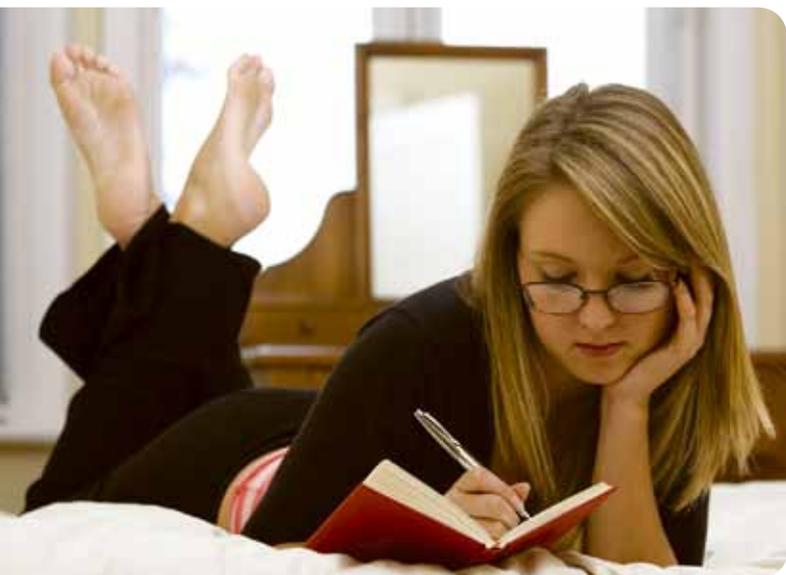
BioCard™

The **BioCard™ Celiac Test** is available at <http://celiachometest.com/order/basket.cfm>. Enter the promo code "badgut" to receive 10% off the retail price of the test. This special discount offer ends March 31, 2011. The company selling the kits in Canada, 2G Pharma Inc., is offering the GI Society a donation equal to 10% of each test kit purchased using the "badgut" promotional code. The product vendor's website, celiachometest.com, contains detailed information about celiac disease, including new studies, answers to visitor's questions, a patient-focused blog, and links to many other informative websites.



Writing Away Your Gut Pains

Does the pain and discomfort associated with irritable bowel syndrome make you want to scream? Let it out!



Irritable bowel syndrome (IBS) is a chronic gastrointestinal condition characterised by abdominal pain and discomfort, bloating, and constipation and/or diarrhea. Many IBS sufferers have a history of psychological trauma and distress, which has a huge impact on the disorder's symptoms and experience. This makes psychological therapies – such as cognitive behavioural therapy, hypnotherapy (both of which we covered in *The Inside Tract*® Newsletter 174), and writing in a journal – effective treatment courses.

Past studies show that writing about your feelings can greatly improve the experience of living with various diseases and disorders including depression, rheumatoid arthritis, HIV, chronic pain, and high blood pressure. One study even showed that cancer patients reported a reduction in pain levels, as well as superior physical health after participating in expressive writing programs.

So, is writing in a journal effective for IBS patients?

In a pilot study published in the *American Journal of Gastroenterology*,¹ researchers asked 82 out of the 103 study participants who had been suffering from IBS for a mean duration of about 7 years to write for 30 minutes daily, on four consecutive days. The individuals wrote on a computer while logged-in to the researchers' system via an online portal. They were encouraged to express their deepest emotions and thoughts regarding their IBS experience, their

feelings about its affect on them, as well as other forces active within their lives. The other 21 participants chose to be non-writers. Their role was to complete questionnaires before and after the study, to see how their disease progression compared to that of the writers.

The results showed a much greater improvement in IBS symptom severity in those who wrote compared to those who did not. Even better is the fact that in spite of the study being so short, the results were long lasting and symptoms continued to improve for months, long after the writing exercises ended. The researchers speculate that this continual improvement could occur for a number of reasons. Typically, individuals who participate in expressive writing studies think and dream of the topics long after they write about them. Writing down feelings may also help patients gain insight into their disorder(s) that they might not have been aware of previously. Individuals who express emotions start to think about and organize them in a different way, making reaction to the disease process more adaptive. It also seems likely that just getting everything out during the writing exercise can help dissipate pent up emotions.

This study is the first of its kind and brings some interesting theories to light. However, the researchers note that the results are not conclusive and they recommend a large-scale, controlled study for validation of the potential usefulness of expressive writing as a way to improve symptoms of IBS.

The benefits of writing

So, what can expressive writing do for you? A number of studies indicate that expressive writing can decrease our requirements for healthcare services. Those who write about their feelings often need shorter post-operative stays in the hospital, and have significant decreases in symptoms of their disease or disorder.

Expressive writing can help you organize your thoughts, and gain more knowledge of how your disorder affects you specifically. It is very inexpensive and you can do it without any doctor supervision. Just pull out a pen and a piece of paper (or your laptop), and let it all out!

Source: Halpert A *et al.* Expressive Writing is a Promising Therapeutic Modality for the Management of IBS: A Pilot Study. *American Journal of Gastroenterology*. Advance online publication 15 June 2010. doi:10.1038/ajg.2010.246



IBS & Endometriosis

A study published in *BJOG: An International Journal of Obstetrics and Gynaecology* investigated whether women with endometriosis in the United Kingdom have an increased chance of being diagnosed with irritable bowel syndrome (IBS) and pelvic inflammatory disease (PID).

Endometriosis – Endometrial cells normally line the inside of the uterus. Endometriosis is a condition wherein these cells, which are sensitive to female hormones, grow in places other than the uterine lining. This condition often develops on sites such as the ovaries, fallopian tubes, bladder, and intestines, which can lead to scar tissue formation. The typical symptoms of endometriosis are chronic pelvic pain, painful periods (dysmenorrhoea), pain during sexual intercourse (dyspareunia), and difficulty passing stool (dyschezia).

Irritable Bowel Syndrome – IBS is a functional gastrointestinal disorder, which means that there are abnormalities in the function or motility of the gut, with no visible or measurable damage to the digestive system. Symptoms include abdominal pain, bloating, constipation, and/or diarrhea. Approximately 13-20% of Canadians of all ages have irritable bowel syndrome, although it is more common in women than in men.

Pelvic Inflammatory Disease – PID is a general term that refers to an infection of the uterus, fallopian tubes, or other reproductive organs. Some of the signs and symptoms of this disease are lower abdominal pain, pain during sexual intercourse, and pain during urination (dysuria).

As the study authors note, the overlapping symptoms of these three disorders create potential diagnostic difficulties, especially because there are no simple, non-invasive diagnostic tests for these conditions. The study population was comprised of women 15-55 years of age who were registered with medical practices contributing to the General Practice Research Database. In total, researchers matched and coded 5,540 women diagnosed with endometriosis and 21,239 controls without a diagnosis of endometriosis, for the presence of IBS and/or PID. Researchers found that women with endometriosis were 6 times more likely to have received a diagnosis of PID and 3.5 times more likely to have received a diagnosis of IBS than women without endometriosis. However, investigators could not come to

an agreement about the extent to which the gastrointestinal tract may be involved in endometriosis; the majority of sites with endometrial cell deposits are within the pelvic compartment, which is in close proximity to the large intestines. Any resulting inflammation and release of local hormone-like substances may explain the noted changes to bowel function in women with endometriosis.

Researchers concluded that there is a considerable problem of misdiagnosis among women with this disorder, stating that 10% of women with endometriosis had been treated for IBS during the period before their diagnosis, but this proportion was significantly reduced after a diagnosis of endometriosis had been reached. The fact that endometriosis, IBS, and PID can coexist requires a multidisciplinary approach to diagnosis and treatment of these disorders and their prevailing symptoms.

Source: Seaman HE *et al.* Endometriosis and its coexistence with irritable bowel syndrome and pelvic inflammatory disease: findings from a national case-control study-Part 2. *BJOG An International Journal of Obstetrics and Gynaecology*. 2008;115:11:1392-6.

Follow-up From *The Inside Tract*® Issue #174

IBS & CBT Cognitive Behaviour Therapy

In further support of CBT, a recent study from the journal, *Clinical Gastroenterology and Hepatology*, reveals a report of 71 adult IBS patients who used CBT to help reduce their symptoms. Of the participating subjects, 30% showed significant symptom decline within four weeks of beginning treatment. The researchers called these people rapid responders. A follow up three months after the end of therapy found that 20 out of the 21 rapid responders continued to maintain the positive effects. Researchers suggest that cognitive behavioural therapy warrants further study to determine optimal long-term results.

Apple-Cranberry Blush

Makes 2 servings

Ingredients

- 250 mL (1 cup) cold cran-apple juice (or half cranberry and half apple juice)
- 180 mL (3/4 cup) raspberry sherbet
- 60 mL (1/4 cup) 2% plain yogurt
- 4 peeled and sectioned oranges
- 4 ice cubes

Method

Combine all ingredients in a blender; mix until smooth.
Garnish with finely grated orange peel.
Serve immediately.

Nutrient Analysis (per serving)*

Calories	291 kcal
Total Fat	2 g
Sodium	50.2 mg
Total Carbohydrate	67 g
Fibre	6.6 g
Protein	4.7 g
Calcium	195.9 mg
Potassium	684.8 mg
Vitamin C	192.7 mg



*We calculated this nutritional information on the Dietitians of Canada’s website, at www.dietitians.ca, which we profiled in the *Inside Tract®* newsletter issue 173.

Canada’s Food Guide - How does one serving measure up?

3 Servings Vegetable/Fruit Group <0.5 Serving Milk/Alternatives Group

Just For Me modifications (Note: these modifications will affect the Nutrient Analysis)

I need more calories

Replace sorbet with a berry flavoured ice cream.
Replace 2% yogurt with a higher fat product.

I need fewer calories

Use juice with no added sugar.
Replace sherbet with frozen raspberries

I need more protein

Add 15-30 mL (1-2 Tbsp) skim milk powder.
Add 15-30 mL (1-2 Tbsp) soy protein if lactose intolerant.

I need lower lactose

Replace sherbet with sorbet.
Choose a yogurt that does not have milk solids added.

Recipe from the Gastrointestinal Society Intestinal Tranquillity (IT) Nutrition Resource ‘Blend-It’ Series (JKGreenwood, RD 2010)

Photo: © alissa/fradette.com

Please Help

We need your ongoing support to continue to help the millions of Canadians who live with gastrointestinal 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:

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- BadGut® Lectures throughout Canada
- Medical research
- Advocacy - to encourage governments to put digestive health on the political agenda and implement policies that will improve lives

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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 honoree 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.

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

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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 in the 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.

Donations made to the GI Society are eligible for a tax receipt and will automatically be issued in amounts of \$20 and greater.

GI Society Registered Charity 81706 5352 RR0001

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Gastrointestinal Society
855 West 12th Avenue
Vancouver, BC V5Z 1M9
Fax 604-875-4429

badgut.org 

The Inside Tract® Newsletter
Gastrointestinal Society

Mailing Address

855 West 12th Avenue
Vancouver, BC V5Z 1M9

Courier/Office Location

700 West 10th Avenue, 212
Vancouver, BC V5Z 1L5

Phone 604-875-4875
Toll-Free 866-600-4875
Fax 604-875-4429
Email info@badgut.org

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