

Nutrition Guideline

Gastrointestinal Care

Irritable Bowel Syndrome

For Professional Reference Only

Applicable to: Nurses, Physicians and Other Health Professionals

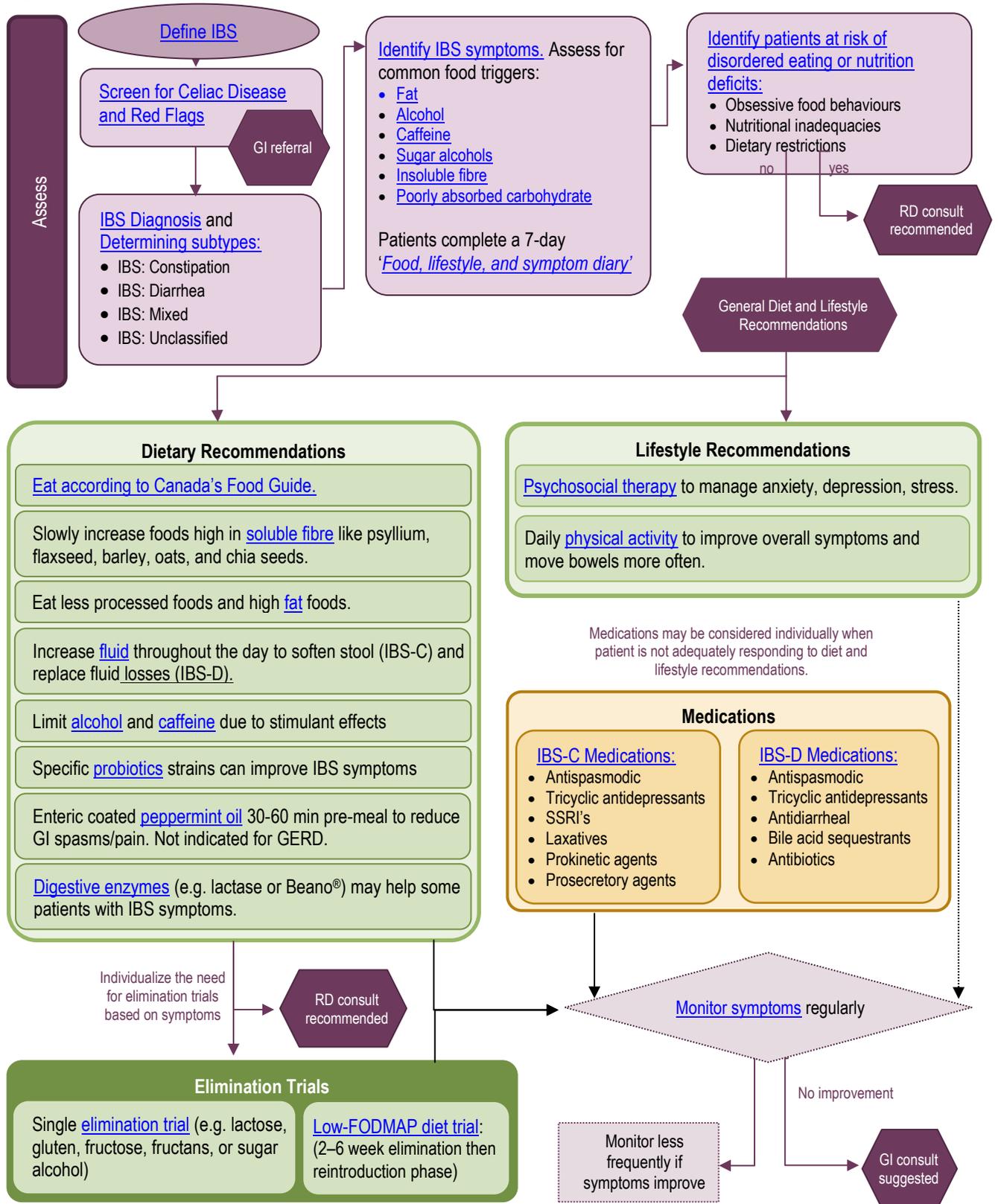
Recommendations:

- Refer to [Figure 1](#) for irritable bowel syndrome (IBS) flow chart of assessment, diet, lifestyle, and medications.
- IBS is characterized by several symptoms and varying stool consistencies:
 - [symptoms](#) vary in severity and may include abdominal pain, bloating, flatulence, early satiety, and discomfort, as well as changes in bowel routine and stool consistency.
 - IBS is classified into [subtypes](#) based on [stool consistency](#) using the Bristol Stool Form Scale; ranging from type 1 – hard and lumpy to type 7 – watery and liquid.
 - IBS-constipation (IBS-C) is predominantly type 1 and 2
 - IBS-diarrhea (IBS-D) is predominantly type 6 and 7
 - IBS-mixed (IBS-M) is a high predominance of both constipation and diarrhea
 - IBS-unclassified (IBS-U) is the infrequent appearance of either constipation or diarrhea
- As there is no known cure for IBS, [treatment](#) focuses on reducing symptoms through lifestyle management, relaxation therapies and stress reduction, dietary adjustments, and medication management.
- Several diet and lifestyle factors may [trigger](#) IBS symptoms including fat, alcohol, caffeine, poorly absorbed carbohydrates (e.g. sugar alcohols, lactose, wheat, and fructose), and psychosocial distress.
- A [healthy diet](#) can benefit most people with IBS, starting by following Canada's Food Guide, along with consuming more fibre, antioxidant and anti-inflammatory rich foods. Limiting foods that are processed, fried, and high in saturated fats can help reduce IBS symptoms. Eating small meals and snacks throughout the day.
- Increasing [fibre](#) may improve IBS symptoms, specifically [soluble fibre](#) (e.g. oats, barley, psyllium, pectin, and flaxseed). IBS symptoms can be triggered by insoluble fibre (e.g. wheat bran, cellulose, and some raw vegetables and fruits).
- Additional adjustments to the intake of [fat](#), [fluid](#), [alcohol](#), [caffeine](#), [probiotics](#), [peppermint](#), and [digestive enzymes](#) may help manage IBS symptoms.
- Management of anxiety, depression, and stress through [psychosocial therapies](#) (e.g. cognitive behavioural therapy, relaxation therapy, and hypnotherapy) can be beneficial for the management of IBS.
- [Physical activity](#) (20–30 minutes most days of the week) is beneficial for all patients with IBS.
- [Elimination trials](#) of a single nutrient/food (e.g. lactose, gluten) or multiple nutrients/foods (e.g. [Low-FODMAP Diet](#)) are short term and may be required in some patients with suspected food intolerances. The low-FODMAP diet trial may improve gastrointestinal symptoms, abdominal pain, and distension. The RD can support patients compliance with the complex dietary restrictions outlined in the low-FODMAP diet as well as ensure they are consuming adequate nutrients.
- [medication](#) may be considered for patients who do not adequately respond to diet and lifestyle adjustments.

Nutrition Guideline

Gastrointestinal Care: Irritable Bowel Syndrome

Figure 1. Flow chart for the Assessment and Diet, Lifestyle, and Medications for Irritable Bowel Syndrome



Nutrition Guideline

Gastrointestinal Care: Irritable Bowel Syndrome

Introduction

The purpose of the *Irritable Bowel Syndrome: Nutrition Guideline (NG)* is to provide health professionals with an overview of the evidence-based nutrition recommendations for people with irritable bowel syndrome and provide answers to commonly asked questions (See [Key Questions List](#)).

While comprehensive, it is important to note that this NG will not include detailed information specific to constipation, inflammatory bowel disease, and gluten-free diet. For other diseases or specialty areas, refer to [additional NGs available by Nutrition Services](#), including:

- Constipation
- Gluten-free diet

This information is intended as a general resource only and is not meant to replace the medical counsel of a physician or individual consultation with a Registered Dietitian (RD). It is the responsibility of the health professional to evaluate the situation of each patient in their care and apply the NGs appropriately. Individuals who are at high risk of malnutrition or who have a medical condition that is impacted by nutrition should receive RD intervention. See [NG: Referral to a Registered Dietitian](#) for more information.

Note: For purposes of this NG, the single term 'patient' will be used to refer to clients, patients, and residents.

Background

The *NG: Irritable Bowel Syndrome* was developed by the Digestive Health Integrated Nutrition Practice Working Group comprised of RDs throughout Alberta Health Services. The NG has been reviewed by stakeholders of healthcare professionals including Registered Nurses, gastroenterologists, physicians, and internists, from across the province. The NG is based on scientific evidence and best practice.

Nutrition Guideline

Gastrointestinal Care: Irritable Bowel Syndrome

Key Questions List

Key nutrition questions related to irritable bowel syndrome (IBS) that are addressed in this NG are listed below.

Definitions

- What is IBS?
- What are the differences between IBS, inflammatory bowel disease (IBD), and celiac disease?
- What is the cause of IBS?
- How is IBS diagnosed?
- What is a normal bowel movement?
- What is an abnormal bowel movement?
- What are the symptoms of IBS?

Treatment Considerations

- How is IBS treated?
- What food-related conditions need to be addressed as a priority?
- What dietary factors trigger IBS symptoms?

Dietary Recommendations

- What are the diet and lifestyle recommendations for IBS?
- Is fibre recommended?
- Does fat trigger IBS symptoms?
- Do people with IBS need more fluids?
- Do people with IBS need to avoid alcohol?
- Do people with IBS need to avoid caffeine?
- Are probiotics recommended?
- Is peppermint oil recommended?
- Are digestive enzymes recommended?

Lifestyle Recommendations

- How does stress and/or mental health impact IBS symptoms?
- Is physical activity recommended?

Dietary Elimination Trials

- What are elimination trials?
- Is the low-FODMAP diet helpful?
- Is a gluten-free diet required?

medication

- Are medications required?

Monitoring

- Do people with IBS need to be monitored?

Resources

- Patient resources
- Websites

Nutrition Guideline

Gastrointestinal Care: Irritable Bowel Syndrome

Answers to Key Questions

Definitions

Return to [Key Questions List](#)

What is irritable bowel syndrome (IBS)?

Irritable bowel syndrome (IBS) is characterized by chronic abdominal pain and abnormal bowel function without the presence of disease.^{1,2} The abdominal pain may vary in severity and may be intermittent. The abnormal bowel function may include frequent bowel movements, fecal urgency and incontinence, altered stool form (hard/lumpy or loose/watery), incomplete evacuation, straining to pass stool, and passage of large amounts of mucus.^{2,3}

What are the differences between IBS, inflammatory bowel disease (IBD), and celiac disease?

IBS, IBD, and celiac disease are gastrointestinal conditions that can be confusing for many people, including healthcare professionals. They have some similar symptoms; however, the treatment and management is quite different.⁴

Table 1. Similarities and Differences between IBS, IBD, and Celiac Disease⁴⁻⁷

Topic	IBS	IBD	Celiac Disease
Class	<ul style="list-style-type: none"> A syndrome or a group of symptoms. 	<ul style="list-style-type: none"> Autoimmune disease Ulcerative colitis and Crohn's Disease The body's immune system attacks part of the digestive tract 	<ul style="list-style-type: none"> Autoimmune disease. The body mistakenly reacts to gluten, a common protein found in food.
Symptoms	<ul style="list-style-type: none"> Abdominal pain and discomfort See IBS Symptoms May feel relief following a bowel movement 	<ul style="list-style-type: none"> Same as IBS Plus anemia, bleeding, weight loss, and fever 	<ul style="list-style-type: none"> Same as IBS Plus may have anemia, dermatitis herpetiformis, fatigue, indigestion, irritability, weight loss, and nutrient deficiencies
Diagnostic imaging	<ul style="list-style-type: none"> Lack of abnormalities seen with endoscopy or diagnostic imaging 	<ul style="list-style-type: none"> Abnormalities seen with endoscopy and diagnostic imaging 	<ul style="list-style-type: none"> Abnormalities seen with biopsy
Inflammation	<ul style="list-style-type: none"> Overt inflammation 	<ul style="list-style-type: none"> May have inflammation permanently damaging the intestines 	<ul style="list-style-type: none"> Intestinal inflammation with exposure to gluten Damage can be permanent
Treatment	<ul style="list-style-type: none"> Modify diet and lifestyle Medication may be considered 	<ul style="list-style-type: none"> Disease severity and phenotype dictate treatment plans 	<ul style="list-style-type: none"> A gluten-free diet (i.e. avoid wheat, rye, and barley)
Risks	<ul style="list-style-type: none"> Colon cancer risk low Associated with psychological conditions including depression and anxiety and a full range of eating disorders. 	<ul style="list-style-type: none"> Increased risk of colon cancer, blood clots, liver disease, bowel obstructions, ulcers, malnutrition, fistulas, anal fissures, and severe dehydration. 	<ul style="list-style-type: none"> Increased risk of bone weakening, infertility, malnutrition, lactose intolerance, cancer, and nerve problems.

Nutrition Guideline

Gastrointestinal Care: Irritable Bowel Syndrome

What is the cause of IBS?

The particular cause of IBS is unknown. Some experts believe there is a link between the brain and gut (i.e. *gut-brain axis*); affecting how the body works (e.g. increasing or delaying the transit time of food through the digestive tract and changes in bowel movement consistency or frequency) leading to symptoms of IBS. Certain problems are more common in people with IBS and may play a role in the development of IBS:⁸

- Stressful or difficult childhood events including physical or sexual abuse
- Certain mental disorders including mild/moderate/severe depression, anxiety, and somatic symptom disorder
- Changes to the microflora
 - Bacterial infection in the digestive tract
 - Small intestinal bacterial overgrowth (SIBO) causing an increase in the number or type of bacteria in the small intestine
- Food intolerances or sensitivities that cause digestive symptoms

How is IBS diagnosed?

The diagnostic criteria of IBS were developed through clinical trials follows a process of ruling out IBS more so than ruling it in. The steps below ensure other medical conditions are investigated along the diagnostic pathway.

Screen for Celiac Disease:

Before an IBS diagnosis, patients are screened for celiac disease.⁶ Ensure the patient is consuming gluten in their diet before the screening.

Red Flag Features

Before diagnosing patients with IBS, a completed medical history and physical examination are completed to identify red flag features or other organic conditions that may mimic IBS; therefore ruling out IBS. If present, these features rule out IBS diagnosis and further investigation is warranted.² Anemia or other red flag features increase the likelihood of organic disease and require a mandatory referral to a gastroenterologist (GI).⁹

- Bleeding/anemia
- Weight loss
- Nocturnal or progressive symptoms
- Onset after age 50 years
- Family history of IBD, colorectal cancer, or celiac disease

Diagnosis of IBS²

The diagnosis of IBS is based on Rome IV criteria:²

- IBS symptoms are reported at least 6 months before diagnosis.
- IBS symptoms are present during the last 3 months before diagnosis.
- Recurrent abdominal pain on average at least 1 day per week. This is associated with ≥ 2 of the following:
 - Pain related to defecation (bowel movements).
 - Pain associated with a change in the frequency of stool.
 - Pain associated with a change in the form (appearance) of stool (see **Figure 2**)

Nutrition Guideline

Gastrointestinal Care: Irritable Bowel Syndrome

What is a normal bowel movement?

The Bristol Stool Form Scale is a reliable and simple method to assess and classify the types of bowel movements.^{10,11} A normal bowel movement is considered type 3 or 4, and may include type 5 in some instances.¹⁰

Figure 2. Bristol Stool Form Scale^{10,11}

Type 1		Separate hard lumps, like nuts (hard to pass)	Severe constipation
Type 2		Sausage-shaped but lumpy	Mild constipation
Type 3		Like a sausage or snake, but with cracks on its surface	Normal
Type 4		Like a sausage or snake, smooth and soft	Normal
Type 5		Soft blobs with clear-cut edges (passed easily)	Lacking fibre
Type 6		Fluffy pieces with ragged edges, a mushy stool	Mild diarrhea
Type 7		Watery, no solid pieces; entirely liquid	Severe diarrhea

Figure 2 Acknowledgements: Bristol Stool Form Scale and Stool Form Chart used with permission from: Dr. Kenneth W. Heaton (written communication – letter via e-mail (kwh@theheatons.org.uk), November 5, 2012. Original inspired work by Davies 1986 et al. First publication of work by Heaton 1991 et al.^{12,13}

What is an abnormal bowel movement?

Classification of IBS is divided into subtypes based on Rome IV criteria. Subtypes consider the stool consistency (refer to **Figure 2** above) rather than stool frequency.² This helps focus the treatment of IBS on the most predominant symptoms.

To accurately categorize a patient into a specific IBS subtype, a 14-day (2-week) bowel movement diary is recommended. Following the collection of bowel movement information, the criteria outlined below can help classify the patient into an appropriate subtype of IBS.

Nutrition Guideline

Gastrointestinal Care: Irritable Bowel Syndrome

Table 2. IBS Subtype Classification (Rome IV)^{2,6}

IBS Subtype	Predominant Stool Pattern	Bristol Stool Scale (see to Figure 2)
IBS with constipation (IBS-C)	25% hard or lumpy stools <25% loose (mushy) or watery stools	>25% 1 and 2
IBS with diarrhea (IBS-D)	25% loose (mushy) or watery stools <25% hard or lumpy stools	>25% 6 and 7
IBS with mixed (IBS-M)	25% hard or lumpy stools >25% loose (mushy) or watery stools	>25% 1 and 2 >25% 6 and 7
IBS unclassified (IBS-U)	< 25% hard or lumpy stools <25% loose (mushy) or watery stools	<25% 1 and 2 <25% 6 and 7

What are the symptoms of IBS?

Symptoms associated with IBS include:

- Bloating
- Flatulence
- Nausea
- Burping
- Early satiety
- Dyspepsia
- Gastroesophageal reflux
- Dysuria
- Frequent, urgent urination
- Widespread musculoskeletal pain
- Dysmenorrhea
- Dyspareunia
- Fatigue
- Anxiety
- Depression

Patients may feel a relief of their abdominal pain and discomfort following a bowel movement.

Treatment Considerations

[Return to Key Questions List](#)

How is IBS treated?

There is no known cure for IBS, therefore, treatment focuses on reducing symptoms through lifestyle management, stress relief, dietary changes, and medications.¹⁴ It is important to know that food does not cause IBS; however, food can be a trigger of IBS related symptoms for some people and adjusting dietary intake can be used for the management of IBS. Managing expectations for patients while changing their dietary intake can be helpful as many patients may not see improvements to their IBS symptoms even with drastic dietary elimination trials.¹⁵

What food-related conditions need to be addressed as a priority?

IBS is often associated with psychological conditions such as anxiety, depression, and a full range of eating disorders including anorexia nervosa, bulimia nervosa and binge eating disorder.¹⁶⁻²² In some situations, IBS can become the trigger for the onset of an eating disorder when a person initiates food restrictions in the attempt to avoid symptoms associated with eating and drinking.²¹ This, in turn, may result in escalating restrictions, weight loss and nutritional deficiencies. The behaviours associated with an eating disorder (i.e. starvation, binge eating, and purging with use of vomiting or laxatives) can also be the cause of IBS symptoms. The eating disorder may be undiagnosed, and often the patient may want to keep the behaviours a secret.²² Some people develop food-related fears and obsessive eating behaviours stemming from the onset of IBS symptoms, which can develop into avoidant/restrictive food intake disorder (ARFID).²¹ ARFID can lead to malnutrition. It is important to consider the possibility of an underlying eating disorder when assessing and treating IBS and to monitor patients being placed on restrictive diets for the possible emergence of disordered eating symptoms.

Nutrition Guideline

Gastrointestinal Care: Irritable Bowel Syndrome

Nutrition and clinical attention is warranted for patients with or at risk for disordered eating behaviours including dietary restrictions, nutritional inadequacies, and maladaptive food behaviours before starting a nutrition intervention for the management of IBS symptoms. Referral to an RD is recommended.

Consider a situation when a patient with IBS has self-imposed food restrictions resulting in inadequate nutrient intake. Upon a visit to their healthcare team regarding 'increased IBS symptom management', they mention that food makes their symptoms worse. The healthcare team suggests an elimination trial (e.g. a low-FODMAP diet). This could further restrict their dietary intake, add to their avoidance behaviours, increase food-related gastrointestinal symptom anxiety, worsen psychological health, and increase their risk for malnutrition.

An RD can help to assess and detect underlying or potential nutrition-related problems using validated screening tools. The RD will also be monitoring the patients for newly emerging disordered eating symptoms or behaviours and nutritional deficiencies throughout their IBS treatment plan. A mental health assessment and counselling referral may also be warranted for some patients. The healthcare team, including the RD, can help support this referral process.

Consideration

Other comorbid conditions that require restrictive eating patterns including chronic kidney disease with a lot of potassium or phosphorus diet would also suggest the consultation of an RD before proceeding with any further dietary interventions.

What dietary factors trigger IBS symptoms?

A variety of dietary factors may trigger the symptoms of IBS including alcohol, caffeine, dietary fat, and poorly absorbed carbohydrates (e.g. lactose, fructose, fructans (like wheat or onions), and sugar alcohols).²³ Patients may complete the [Food, Lifestyle and Symptom Diary](#) to help identify possible food triggers. Notice foods that cause an increase in IBS symptoms within 1–3 days of consumption. Trigger foods are more likely to be consumed regularly. Recording these foods can create an individualized 'trigger' food list that can be created over time, and the patient can try modifying their diet as required.

Dietary Recommendations

Return to [Key Questions List](#)

What are the diet and lifestyle recommendations for IBS?

Most people with IBS can eat a variety of foods from a variety of foods listed in [Canada's Food Guide](#).²⁴ It is recommended to eat plenty of vegetables, fruits, and whole grains. Choose plant-based protein foods more often, and choose foods with healthy fats instead of foods that are high in saturated fat. For most people with IBS, following Canada's Food Guide will help ensure adequate intake of macronutrients, micronutrients, and fluids. Guiding patients to eat according to Canada's Food Guide may be adequate to help increase the dietary sources of fibre, antioxidants, anti-inflammatory nutrients, and reduce sources of processed foods, fried foods, and saturated fats that could be triggering their IBS symptoms. Along with these dietary changes.

It is beneficial for people with IBS to eat small meals and snacks throughout the day to help manage their symptoms.

Nutrition Guideline

Gastrointestinal Care: Irritable Bowel Syndrome

When the above dietary changes are not achieving relief of the patients IBS symptoms, additional diet and lifestyle interventions may be considered (refer to **Table 3**). Patients with IBS may benefit from a consultation with an RD to ensure adequate nutrient intake is achieved. For patients who do not respond to diet and lifestyle therapies, and initial lines of medical therapies, consider a referral to gastroenterology.

Table 3. Dietary and Lifestyle Modifications and Medication Therapy for IBS Management

Dietary Recommendations	Natural Health Products	Lifestyle Recommendations	Dietary Elimination Trials
<ul style="list-style-type: none"> • Fibre • Fat • fluid • Alcohol • Caffeine 	<ul style="list-style-type: none"> • Probiotics • Peppermint • Digestive enzymes 	<ul style="list-style-type: none"> • Stress management • Physical activity 	<ul style="list-style-type: none"> • Elimination trials • Low-FODMAP diet • Gluten-free diet

Is fibre recommended?

Statistics show that adults are generally consuming less than the recommended amount of total fibre that they require daily. The recommended total fibre for adults' age 19–50 years is 38 g/day for men and 25 g/day for women and adults over 50 years is 30 g/day for men and 21 g/day for women.²⁵

Patients with IBS may see improvements in their symptoms by increasing their total fibre intake.^{26–28} It is important for patients to try adding more fibre, particularly soluble fibre as a first step in managing their IBS symptoms. Slowly increase foods high in [soluble fibre](#) like psyllium, flaxseed, barley, oats, pectin, and chia seeds.

Sources of fibre:

Fruits, vegetables, legumes (beans, lentils, peas, and soybeans), nuts, seeds, and whole grains (e.g. barley, oats, brown rice and whole grain breads, pasta, crackers and cereals).²⁹

If patients are consuming a variety of fibre-rich foods, they are likely getting adequate fibre. If they are choosing refined grains and starches, few vegetables and fruits, or processed foods more often, they are likely not getting adequate fibre.

Increasing fibre slowly:

If the patient requires more fibre in their diet, it is important to increase the fibre-rich foods slowly. As fibre-rich foods are important for overall health, it is vital that the patient has a good experience (absence or reduced risk of IBS symptoms) when consuming a diet rich in fibre. If the patient experiences increased bloating, pain, or abdominal discomfort from a slow and steady increase in fibre, the specific fibre-rich food or supplement should be discontinued.^{30,31}

Fluid:

When increasing fibre-rich foods or supplements, ensure adequate fluid intake. Water is the best choice. Patients experiencing diarrhea have a greater risk of dehydration; therefore, increased fluid intake is recommended. This recommendation may not be applicable if the patient has a comorbid condition that requires a fluid restriction. For more information on fluid, refer to [fluid](#) below.

Nutrition Guideline

Gastrointestinal Care: Irritable Bowel Syndrome

Soluble Fibre

Soluble fibre helps improve IBS symptoms in people with all sub-types of IBS.^{32–35} Soluble fibre slows the digestion of food. Although foods rich in soluble fibre are less likely to cause gastrointestinal symptoms compared to insoluble fibre,^{36,37} it is still important to increase intake slowly to determine tolerance to prevent symptoms like excessive gas, abdominal distension, and bloating.^{33,38,39}

Table 4. Sources of Soluble Fibre^{36,37}

Source	Examples	Dose	Comments
Psyllium	Husk Powder Metamucil®	<ul style="list-style-type: none"> Start with 1 tsp (3–4 g) daily of psyllium husk, powder or Metamucil® for the first week. Gradually increase. 2.5 tsp (10 g) daily to improve IBS symptoms Up to 11 g/day is well tolerated. 	<ul style="list-style-type: none"> Psyllium is a rich source of soluble fibre shown to improve IBS.^{6,28,36,40,41} Effective at normalizing stool form; firms-up loose liquid stool. Shown to soften hard stool. Ensure adequate water or fluid intake.
	Kellogg's® All Bran Buds, Nature's Path SmartBran™	<ul style="list-style-type: none"> 1/3 cup is 3g soluble fibre 	<ul style="list-style-type: none"> These cereals are high in wheat bran, an insoluble fibre that may increase IBS symptoms.
Flaxseed	Ground or milled	<ul style="list-style-type: none"> 1–3 tsp (5–15 mL) Maximum 1/4 cup (60 mL) 	Fibre source that can improve IBS symptoms. ³⁷
Raw guar gum	Guar gum in supplements	<ul style="list-style-type: none"> Start with 5 g/day. 	<ul style="list-style-type: none"> May improve pain and bowel habits⁴² Hydrolyzed guar gum does not have the same gel forming capacity.³⁶
Whole foods	<ul style="list-style-type: none"> Fruits (e.g. avocado, orange, pear, and apple) Vegetables (e.g. carrot, squash, and turnip) Legumes (e.g. beans, lentils, and peas) Nuts and seeds (e.g. chia, almond, and pecan) 		Cooking vegetables and legumes can help to decrease insoluble fibre and increase soluble fibre. ⁴³

Considerations

Inulin and fructooligosaccharides (FOS) found in some fibre supplements (e.g. Benefibre®) have been shown to increase the healthy intestinal bacteria (i.e. Bifidobacterium); therefore, they are known as prebiotics.²⁷ Unfortunately, due to the malabsorption of these carbohydrate sources of fibre, they can cause gas and bloating in people with IBS and may not be indicated for use as a fibre source.⁴⁴

Insoluble Fibre

Insoluble fibres promote regularity in a healthy digestive system. In patients with IBS, it can increase bloating, distension, gas, and cramping.^{6,26,37,38} The lack of water holding capacity and irritation of the mucosa make insoluble fibre a poor choice for people with IBS.^{33,36}

Nutrition Guideline

Gastrointestinal Care: Irritable Bowel Syndrome

Table 5. Sources of Insoluble Fibre That Can Increase Symptoms of IBS^{36,37}

Fibre source	Examples	Comments
Wheat bran	Wheat bran and wheat-based cereals (e.g. Kellogg's® All Bran original and flakes).	<ul style="list-style-type: none"> Wheat bran does not improve IBS symptoms and is not recommended to use for the dietary management of IBS.^{26,37,40}
Cellulose	Whole grains, vegetables and fruits, legumes, nuts, and seeds.	<ul style="list-style-type: none"> Foods containing cellulose are best eaten well-cooked (e.g. steam, broil, boil, and braise), chopped, diced, or mashed, and removing the peels and stems.
Vegetables and fruits	Leafy greens, pea pods, green beans, corn, bell peppers, eggplant, celery, onion family, cabbage, Brussel sprouts, broccoli, cauliflower, bok choy and the skin of fruits like apples and grapes. Many of these vegetables and fruits are high in FODMAPs leading to excess gas and bloating in some patients.	

Does fat trigger IBS symptoms?

A low-fat diet is not required for symptom management in people with IBS, despite many patients associating fat intake with onset or worsening of IBS symptoms.⁴⁵ Patients who consume a higher fat diet or foods high in fat (e.g. fried foods, fatty meats, processed meats, some restaurant or fast food meals) may benefit from reduced fat intake.

If the patient complains about pain or discomfort following a meal high in fat, encourage lower-fat, nutrient-dense food options including lower-fat dairy, lean proteins (poultry and fish), plant-based proteins, and choosing healthier options when eating away from home. Assess if these changes improve their symptoms.

Do people with IBS need more fluids?

People with IBS need to be mindful of their fluid intake. Excessive diarrhea in people with IBS-D can lead to dehydration. It is important for these patients to increase their oral fluid intake to match fluid lost. Similarly, people with IBS-C can benefit from additional fluid intake to help soften stool, reduce impaction, and improve stool consistency.⁴⁶ Additionally, if patients are increasing their dietary fibre, they will require additional fluid to help prevent gastrointestinal side-effects.

Note that some comorbid conditions (e.g. heart failure, renal failure, and hyponatremia) may require a fluid restriction. The recommendations above may not apply to these patients.

Do people with IBS need to avoid alcohol?

There is limited evidence to show a relationship between alcohol and IBS symptoms.³¹ Patients often association alcohol intake with gastrointestinal discomfort symptoms (e.g. abdominal pain, dyspepsia, diarrhea, nausea, and indigestion).^{31,47,48} This may be due to increased intestinal motility (transit-time), permeability, absorption, and changes in the microbiota.^{31,48}

Patients who consume alcohol are encouraged to keep a diary and assess their IBS symptoms when drinking. If a relationship is observed, suggest reducing intake, especially binge drinking.^{31,48-50} Encourage patients to follow [Canada's Low-Risk Drinking Guidelines](#).

Nutrition Guideline

Gastrointestinal Care: Irritable Bowel Syndrome

Chronic alcohol abuse may reduce the absorption of carbohydrates, fats, and proteins. These effects on the gastrointestinal system may lead to worsening of IBS symptoms. For example, an increase in motility and an increase in undigested and unabsorbed carbohydrates entering the large intestine could result in symptoms caused by 'poorly absorbed carbohydrates' or 'high-FODMAP carbohydrates' irritating the colon and large intestine. Refer to [Low-FODMAP diet](#) section for more information.

Do people with IBS need to avoid caffeine?

There is limited evidence to show a relationship between caffeine and IBS symptoms.^{48,51,52} Foods, beverages, and supplements that contain caffeine may stimulate or aggravate the gastrointestinal system, resulting in IBS symptoms.⁵³ The effects of caffeine, coffee, and tea are not the same and can present differently in each individual. Components of tea and coffee (other than caffeine) can have physiological effects that may worsen IBS symptoms.⁵¹

Coffee is a commonly reported trigger of IBS symptoms.⁵¹ Patients report that consuming tea was related to hard stools, and consuming coffee was associated with heartburn, dyspepsia, abdominal pain and loose stools. Encourage patients to keep a diary to determine the effects of caffeine, coffee or tea on their symptoms. If a relationship is seen, patients can reduce their intake. Some patients may benefit from limiting caffeine intake to 400 mg/day⁵⁰ (the safe limit for most adults)⁵⁴ or limit to three cups of coffee or tea daily.⁴⁹

Are probiotics recommended?

Probiotics are recommended for patients with IBS and have been shown to improve symptoms.^{6,28,55} Creating and maintaining a healthy gut microflora can help improve normal gut functions (e.g. metabolizing foods and drugs, and absorbing nutrients).^{28,56}

Patients and healthcare providers need to be aware of the vast array of available probiotic strains, as effectiveness is limited to specific strains. The Bifidobacterium (B) and Lactobacillus (L) strains may be the most beneficial. Refer to the online [Probiotic Chart](#) for the most up-to-date information on probiotic strains.⁵⁷

Table 6. Probiotics available in Canada used for IBS symptom management⁵⁷

Name brand	Probiotic strain	IBS Subtype		Form	Bacteria (billions)	Daily servings
		IBS-D	IBS-C			
Activia® Yogurt	B. lactis CNCM I-2494		X	Yogurt	1	1-3
Align®	B. Infantis 35624	X	X	Capsule	1	1
Align® Chewable		X	X	Tablet	1	1
Bio-K+® capsules	L. acidophilus CL1285	X		Capsule	Mild 12.5	4-8
	L. casei LBC80R				Regular 25	2-4
	L. rhamnosus CLR2				Strong 50	1-2
Digestive Care®	L. plantarum 299v	X	X	Capsule	10	1-2
GoodBelly® Juice Drinks				Liquid (8oz)	20	1
TuZen®				Capsule	10	1-2
UltraFlora® Intensive Care				Capsule	10	2

Bifidobacterium (B) and Lactobacillus (L)

Nutrition Guideline

Gastrointestinal Care: Irritable Bowel Syndrome

Is peppermint recommended?

Peppermint oil has been shown to relax smooth muscles (antispasmodic) in the gastrointestinal tract.^{6,55} Patients may have reduced pain and relaxed muscle spasms when taking:^{43,58}

- Type: enteric-coated peppermint oil capsules
- Dose: maximum of 450 mg (twice daily)
- Timing: Take 30 to 60 minutes before meals

Patients may feel heartburn after taking peppermint oil as it can relax the lower esophageal sphincter muscles allowing acid reflux to occur more frequently.⁴³ The enteric-coated formula helps prevent the heartburn as the peppermint is not released in the stomach, rather in the intestine.

Contraindications to peppermint oil:

- Peppermint oil may interact with medications; therefore, it is important to discuss use with their physician and/or healthcare team.⁵⁶
- Discourage peppermint oil use if the patient complains of increased heartburn and patients with gastroesophageal reflux disease (GERD).⁴³
- Patients with diarrhea may experience unabsorbed menthol in the lower intestine and colon causing anal burning.⁵⁶
- Enteric-coated peppermint oil should not be used when the stomach is not producing hydrochloric acid (e.g. achlorhydria).⁵⁶

Are digestive enzymes recommended?

Digestive enzyme supplements that contain a combination of enzymes including amylase, lactase, protease, and lipase target symptoms of indigestion. Currently, there is a lack of evidence to recommend digestive enzymes for IBS symptom management. Single digestive enzyme supplements are described below:

- **Lactase enzyme** is a particular digestive enzyme that comes in a supplement form; either tablets or liquid drops. Lactase breaks down lactose in dairy; therefore, may be useful for the treatment of lactose intolerance.⁵⁹
- **Alpha-galactosidase enzyme** (i.e. Beano®) may aid gas and bloating symptom management when consuming legumes (e.g. beans, lentils, and peas) and cruciferous vegetables (e.g. Brussel sprouts, broccoli, and cauliflower).⁶⁰ Evidence for the improved GI symptoms were studied in healthy individuals and there is a lack of research in patients with IBS.
- **Lipase enzyme** and other pancreatic enzymes are commonly used to treat pancreatic insufficiency. Currently, there is insufficient evidence to rate the use of these enzymes for symptoms management in IBS.⁵⁶

Nutrition Guideline

Gastrointestinal Care: Irritable Bowel Syndrome

Lifestyle Recommendations

Return to [Key Questions List](#)

How does stress and/or mental health impact IBS symptoms?

IBS symptoms are associated with psychosocial distress including mild/moderate/severe anxiety, depression, and physical/emotional/environmental stressors.⁶¹ The 'gut-brain axis' is a link between GI symptom (enteric nervous system) and the brain (central nervous system).⁶² Psychosocial distress can stimulate the release of hormones that influence digestive motility, permeability, and visceral pain sensitivity.⁶²

Management of anxiety, depression, and stress through psychosocial therapies can be beneficial for the management of IBS.^{6,28} A mental health assessment and counselling referral may also be warranted for some patients. Psychosocial therapy recommended for patients with IBS include:^{6,9,28}

- Cognitive-behavioural therapy
- Relaxation therapy
- Hypnotherapy
- Multicomponent psychological therapy

Is physical activity recommended?

In general, physical activity is associated with less severe depressive symptoms, greater emotional well-being, and can improve quality of life, sleep, and energy levels.^{14,61,63} Regular physical activity is recommended to help manage stress and reduce tension.

Physically active people have more rapid colon transit compared to sedentary people.⁶³ In people with chronic constipation (IBS-C), physical activity can improve defecation patterns and colonic transit time. All patients with IBS benefit from 20–30 minutes of physical activity most days of the week (aiming for 150 minutes per week).^{9,63} Refer to the [Canadian Society for Exercise Physiology](#) for more details on age-related activity guidance.⁶⁴

Dietary Elimination Trials

Return to [Key Questions List](#)

What are elimination trials?

Some people with IBS who have suspected food intolerances may wish to remove these foods from their diet to see if symptoms improve.⁶⁵ This is referred to as an elimination diet trial. Elimination trials require the patient to remove one nutrient/food item (e.g. lactose or gluten) or multiple nutrients/food (e.g. Low FODMAP diet trial) for a short period to see if symptoms improve. Foods that trigger IBS symptoms are more likely to be consumed regularly. The patient and healthcare professional can notice the foods that cause an increase in IBS symptoms typically within 1–3 days of consumption.

Individualize the consideration of an elimination trial based on symptoms. It is recommended to take caution when recommending a restrictive eating plan like an elimination pattern, and the least amount of restriction is recommended. Consider Refer [other food-related conditions](#) before recommending any elimination trial. If a patient chooses to try an elimination trial, it is important to ensure nutritional adequacy through all stages of the trial. [Referral to an RD](#) may be required to reduce the risk of nutritional deficiencies, and a vitamin and mineral supplement may be required.

Nutrition Guideline

Gastrointestinal Care: Irritable Bowel Syndrome

A single food elimination trial removes a suspected trigger food for 2–4 weeks.^{37,52,65} Following the trial, the patient will note improvements (or lack thereof) using the [Food, Lifestyle and Symptom Diary](#) to determine if the food is a potential trigger. Examples of individual food elimination diet trials may include:

- Lactose and milk proteins
- Gluten and wheat
- Fructose
- Sugar alcohols
- Oligosaccharides (FOS, GOS, and fructans)

For more information on these common foods or nutrients that cause IBS symptoms, refer to [Table 7](#) as they are common FODMAP containing foods.

Is the low-FODMAP diet helpful?

FODMAP stands for Fermentable Oligosaccharides, Disaccharides, Monosaccharides and Polyols. It is a group of foods that contain poorly absorbed carbohydrates (refer to [Table 7](#)) that are difficult to breakdown, have limited absorption, and ferment rapidly, leading to gas, increased fluid in the intestine, and diarrhea.^{6,66} The low-FODMAP diet is a method to temporarily remove these poorly absorbed carbohydrates from the typical diet to help reduce IBS symptoms.^{32,67}

Before Starting a Low-FODMAP Trial

It is recommended that patients first try the dietary recommendations such as increasing soluble fibre, limiting caffeine, alcohol, and eating less processed foods and high-fat foods before moving into an elimination trial or the low-FODMAP diet.

Benefits of a Low-FODMAP Trial

Studies have shown that patients who follow a low-FODMAP diet can significantly improve symptoms of abdominal pain, bloating, frequency and urgency.⁶ Patients see the most benefit when choosing foods with a low FODMAP content. Symptoms increased the higher the FODMAP content increased; therefore, adherence to the diet is important. The Canadian Association of Gastroenterology recommends offering the low-FODMAP diet to help reduce IBS symptoms, particularly involved with the mechanisms of diarrhea.

Potential Negative Effects of a Low-FODMAP Trial

The low-FODMAP trial should only be followed for a short period (e.g. 2 – 8 weeks, and in most studies; less than 4 weeks).^{6,51} This diet can potentially affect the intestinal microbiome, reducing beneficial Bifidobacterium and negatively affect the health of the gastrointestinal system. Additionally, the diet can be difficult to adhere to, expensive, and restrict social gatherings.

Recommendations:

If the low-FODMAP diet is suggested for a particular patient, it should be implemented under the guidance of an RD to help improve adherence and provide guidance on nutritional adequacy. The low-FODMAP diet is strict and therefore, should be implemented for as short of a term as possible.^{6,51} Following the elimination of higher FODMAP foods, a systematic reintroduction of test foods is conducted to determine tolerance. This may last about 5 – 6 weeks.

Nutrition Guideline

Gastrointestinal Care: Irritable Bowel Syndrome

Consult a Registered Dietitian (RD)

The low-FODMAP dietary approach is not necessary for all patients who have IBS. It is a complex process that requires education, monitoring, and complete compliance by the patient. If complete compliance with the elimination trial is not followed, the success of symptom relief is unlikely to be achieved.

Other nutrition and lifestyle strategies to manage IBS symptoms should be investigated before initiating this diet. A trained RD can support educating the patient with the knowledge and skills required to follow a low-FODMAP diet. RDs have several supportive resources to facilitate this process systematically. This can improve compliance and ensure the patient has a well-planned diet; providing adequate nutrients to reduce the risk of nutritional deficiencies.^{44,68,69}

Table 7. Foods High in FODMAPs (Poorly Absorbed Carbohydrates)^{67,70–76}

FODMAP group	Poorly absorbed carbohydrate	Dietary sources
Oligosaccharides	Galactans Fructans	<ul style="list-style-type: none"> Wheat-based foods (e.g. bread and pasta) Legumes (e.g. beans and lentils) Nuts (e.g. pistachios and cashews) Some fruits and vegetables (e.g. artichoke, asparagus, cabbage, apricot, nectarines, and watermelon) Onion and garlic Fibre supplements: Inulin, FOS, and GOS
Disaccharides	Lactose	<ul style="list-style-type: none"> Dairy products
Monosaccharides	Fructose	<ul style="list-style-type: none"> Agave and honey Some fruits (e.g. apple, cherry, pear, mango, and grapes) Only a limited amount of fructose can be absorbed at one time due to intestinal absorption through facilitated diffusion. If excess fructose is consumed, the excess remains in the intestine leading to IBS symptoms.⁷⁷
Polyols (sugar alcohols)	Sorbitol Mannitol	<ul style="list-style-type: none"> Some fruits and vegetables (e.g. apple, apricot, peach, mushrooms, and cauliflower) 'Low-calorie' or 'low-sugar' products (e.g. low-calorie sweeteners), sugar-free gum, sugar-free mints

FOS – fructooligosaccharides; GOS – galactooligosaccharides

Other Mono and Disaccharides

Glucose, galactose (disaccharides), and sucrose (a monosaccharide) are unlikely to trigger IBS symptoms.^{77,78}

Sugar Alcohols

Other sugar alcohols that may trigger IBS symptoms include: maltitol, xylitol, erythritol, lactitol, isomalt, polydextrose, palatinit, polyol syrup, and hydrogenated starch hydrolysates

Consideration

Some patients may not have success with the low-FODMAP diet. This may be due to hidden sources of FODMAPs in their current diet, non-compliance to the low-FODMAP diet, or it may be due to non-food related triggers. Additional investigation may be required. An RD referral is recommended.

Nutrition Guideline

Gastrointestinal Care: Irritable Bowel Syndrome

Is the gluten-free diet helpful?

Patients with symptoms of IBS (especially diarrhea) should be screened for celiac disease (refer to [Table 1](#) for information about celiac disease). If the screening is negative, a gluten-free diet is not required.⁶ Gluten is a protein found in wheat, barley, and rye.

Patients who self-report a gluten sensitivity may actually be sensitive to foods containing FODMAPs.⁷⁹ It is worth considering the patient's fibre intake, as a gluten-free diet is often low in fibre. Patients may benefit from increasing sources of [soluble fibre](#). A low-FODMAP diet for patients who are negative to celiac disease screening may also be considered.

For people without celiac disease who have gluten or wheat sensitivity, a diet avoiding wheat, rye, and barley may help reduce gastrointestinal symptoms due to their FODMAP content.⁷ Unlike celiac disease, the ingestion of gluten does not cause damage to the intestinal villi.

Medications

[Return to Key Questions List](#)

Are medications required?

Most people with IBS can manage their symptoms through dietary modifications, stress management, probiotics, and certain medications. Medications for IBS that are available in Canada are listed below. They are generally reserved for patients who do not adequately respond to diet and lifestyle interventions or have moderate to severe symptoms that impair their quality of life.⁹ Consultation with a physician to discuss the use of medications is encouraged, including antispasmodics (may manage acute episodes of pain) and tricyclic antidepressants (may benefit mood or sleep issues). The IBS subtype (i.e. IBS-D or IBS-C) or the nature of the IBS symptoms (predominantly diarrhea or constipation) should be considered in the choice of pharmacological treatments.⁶

Table 8. Medication Therapy for IBS Management^{6,9,28,80–82}

Medication class	IBS Subtype		Comments
	IBS-D	IBS-C	
Antispasmodics	X	X	Improving overall symptom improvement. ²⁸ Relaxing the smooth muscle of the intestine. ^{9,83} Peppermint oil is an antispasmodic natural medicine.
Tricyclic Antidepressants	X	X	Overall symptoms improvement. ²⁸ A mood-elevating drug that inhibits the reuptake of norepinephrine and serotonin, thereby increasing their concentration in the brain. ⁸⁰ Reduce anxiety and pain sensations along with stabilizing a depressive mood. ^{9,83}
Selective serotonin reuptake inhibitors (SSRI)		X	Overall symptom improvement. ²⁸ Improve central pain, psychological distress, bowel function, and improving constipation by accelerating GI transit.
Antidiarrheal	X		Decrease the frequency and urgency of diarrhea, and improve abnormal stool consistency more so than abdominal pain. ^{6,9,80,83}
Bile acid sequestrants	X		Can be used to control bile acid-induced by diarrhea. Used to treat chronic diarrhea due to bile acid malabsorption. ⁹
Antibiotics	X		Reduction in IBS symptoms in IBS-D. ^{28,82}
Laxative		X	To treat occasional constipation.
Prosecretory and Prokinetic agents		X	Increases frequency of bowel movements, providing a feeling of complete evaluation by stimulating peristalsis. ^{9,80} Accelerates the transit time in the GI system and reduces intestinal pain. ^{6,28,80,83}

Nutrition Guideline

Gastrointestinal Care: Irritable Bowel Syndrome

Monitoring

Return to [Key Questions List](#)

Do people with IBS need to be monitored?

It is recommended that patients with IBS are followed long-term to monitor their symptoms. Monitoring includes the evaluation of the patient's compliance to diet and lifestyle interventions and measuring health outcomes to determine if changes are required to support the patients' health goals. It is helpful to provide appropriate resources to support dietary, exercise, stress reduction, and psychological therapies. If the patient's symptoms improve, the frequency of monitoring may reduce overtime. If the management of IBS symptoms was unsuccessful with the diet, lifestyle, and medications interventions listed, there may be other underlying conditions. Further investigation is warranted and a referral to a gastroenterologist or a specialist may be suggested.

Resources

Return to [Key Questions List](#)

Patient Resources

Patient resources are available to support patient care following the recommendations within these guidelines. Refer to Alberta Health Services [Nutrition Education Material](#) online for a list of available patient handouts including, but not limited to:

- Irritable Bowel Syndrome [Link](#)
- Food, Lifestyle, and Symptom Diary [Link](#)
- Fibre Facts [Link](#)
- Managing Constipation [Link](#)
- Gluten-Free Diet [Link](#)

For more information, contact Nutrition.Resources@albertahealthservices.ca

Websites

Probiotic Chart Canada: www.probioticchart.ca

MyHealth Alberta: <https://myhealth.alberta.ca/>

Dietitians of Canada: www.dietitians.ca/

Gastrointestinal Society – Canadian Society of Intestinal Research: www.badgut.org

- Specific to IBS: <https://badgut.org/information-centre/a-z-digestive-topics/ibs/>

International Foundation for Functional Gastrointestinal Disorders: <http://www.iffgd.org>

- Specific to IBS: <https://aboutibs.org/>

National Institute of Diabetes and Digestive and Kidney Diseases (NIDDK): www.niddk.nih.gov/

- Specific to IBS: www.niddk.nih.gov/health-information/digestive-diseases/irritable-bowel-syndrome

Canadian Digestive Health Foundation: <https://cdhf.ca/>

- Specific to IBS: <https://cdhf.ca/digestive-disorders/irritable-bowel-syndrome-ibs/>

Nutrition Guideline

Gastrointestinal Care: Irritable Bowel Syndrome

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Nutrition Guideline

Gastrointestinal Care: Irritable Bowel Syndrome

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Nutrition Guideline

Gastrointestinal Care: Irritable Bowel Syndrome

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Gastrointestinal Care: Irritable Bowel Syndrome

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