



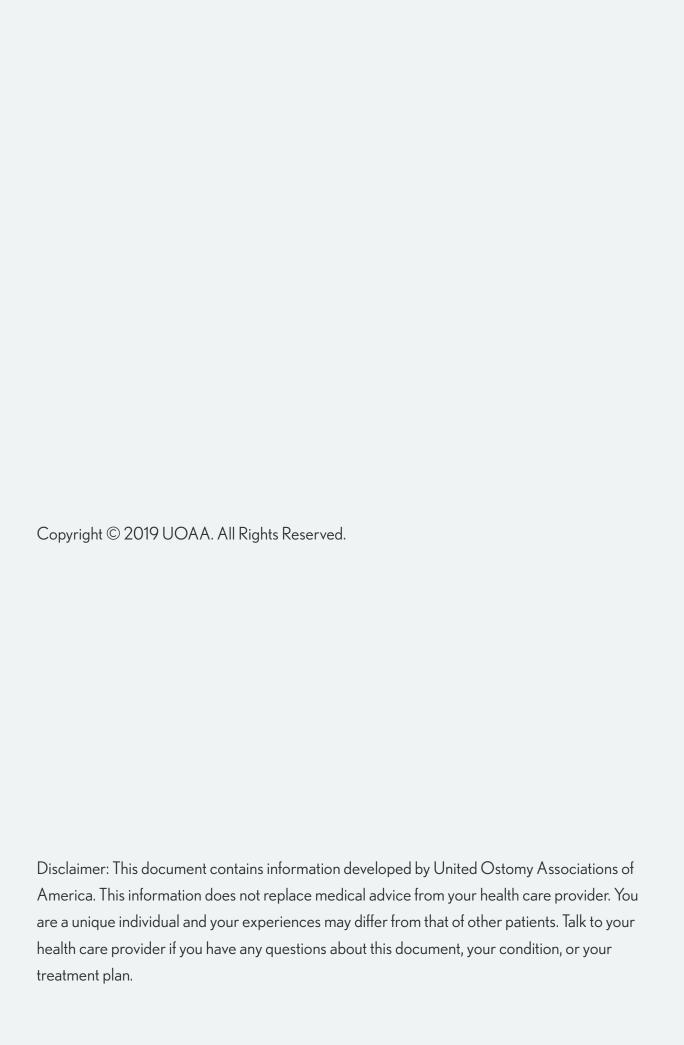
## **EATING WITH AN OSTOMY**

A Comprehensive Nutrition Guide for Those Living with an Ostomy





First Edition by Joanna Burgess-Stocks BSN, RN, CWOCN A publication of UOAA, United Ostomy Associations of America



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Food Journal

## **Acknowledgements**

Thank you to all who worked diligently in the creation of this nutrition guide for people living with or facing ostomy surgery. This document came to fruition with the help and expertise of registered dietitians, wound ostomy and continence nurses, medical educators, and patient reviewers. I have learned much about nutrition in this process, not only for myself, a nurse living with an ostomy, but also for my patients and loved ones. I am grateful for the community of knowledge that is a part of this nutrition guide and look forward to it serving as a steady guide for many navigating the world of eating with an ostomy.

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This guide is available free in electronic form from United Ostomy Associations of America (UOAA). www.ostomy.org . info@ostomy.org . 800-826-0826



Ostomy surgery is a life-saving procedure that allows bodily waste (urine or stool) to pass through a surgically created opening on the abdomen called a stoma. The waste passes into a **prosthetic** known as an ostomy "pouch" worn on the outside of the body over the stoma. A continent ostomy has waste stored in an internal, surgically created pouch that is connected to a stoma on the abdomen that is emptied/drained by inserting a catheter (tube).

Ostomy or continent diversion surgery restores health and enables a person to resume the activities they once enjoyed, such as traveling, playing sports, enjoying family life, working, and eating foods they may have had to avoid prior to surgery. Thousands of people of all ages undergo ostomy surgery each year as a result of complications from a variety of diseases, including bowel and bladder disease, and can return to a healthy, functioning lifestyle.

How Can UOAA Help? United Ostomy Associations of America (UOAA) is a not-for-profit 501(c)(3) organization dedicated to helping those who have had or will have ostomy or continent diversion surgery. Our mission is to provide educational information, resources, support, and advocacy to promote a positive mindset and active quality of life for those living with an ostomy or continent diversion. Our goal is to reassure all people that a full and productive life following ostomy surgery is completely possible.

## Why a Guide to Nutrition?



Life and health are built on eating good, nutritious food. Eating is also central to our social interactions and how we celebrate family traditions, holidays, culture, and ethnicity. It is natural for anyone who has had ostomy or diversion surgery to have questions and even concerns regarding their food choices and whether the creation of an ostomy will change or alter their body's ability to eat and digest the foods they enjoy.

Having an ostomy does not mean that you must give up the enjoyment of eating. On the contrary, you will probably find that after your surgery you are eating and enjoying food more than you have in a long time. Eating and good nutrition play an important part in recovery from any surgery, as well as in your overall general state of health. Often, by the time people experience surgery, they are **malnourished** from years of living with an active disease and, as a result, it is common to have developed fears or confusion surrounding healthy eating. In cases like these, registered dietitians can assist a person in their recovery and support them to thrive as their health restores.

The goal of this UOAA Ostomy and Nutrition Guide is to provide answers to many of your questions and help you feel more confident about the foods you eat as you recover from surgery. Remember, these are basic guidelines. You are a unique individual and might have specific needs following surgery that go beyond or are different from what is included in this guide. That is why a crucial part of your recovery is learning as much as you can about your specific nutritional needs in consultation with your physician or a registered dietitian.

# The Role of a Registered Dietitian

**A registered dietitian (RD)** is an important part of your clinical care team. An RD can help you to better understand your nutritional needs before and after surgery.

Often, by the time someone has ostomy surgery they have experienced nutritional deficits and adjusted their eating habits to cope with the complications of having a bowel disease such as **Crohn's disease** or **ulcerative colitis.** An RD can provide education and an individualized plan for a restorative diet. While nurses and wound/ostomy nurses can also assist in providing basic, post-surgical nutritional information, a consultation with an RD offers more detailed information and ongoing follow-up after you are discharged to home.

## What Can a Registered Dietitian Do?

- Evaluate your personal preferences and nutritional needs based on your medical history
- Develop a personalized eating plan for you and your lifestyle
- Establish dietary goals (gaining, maintaining, or losing weight)
- Help with meal planning
- Assist with recognizing food allergies or sensitivities
- Help interpret personal food journals; what is and what is not working
- Track your progress through your recovery

## Choose a Professional

Many insurance companies cover the cost of services of a registered dietitian. You will most likely need a referral from your doctor to see an RD so be sure to contact your insurance company to verify their requirements.

- Check that the initials "RD" appear after the name of the professional you will be working with.
- Make sure the RD knows you have an ostomy and specify the type-ileostomy, colostomy, urostomy, continent fecal, or continent urinary diversion—prior to your visit.

## Find a Registered Dietitian Near You

#### In Canada:

Search a national database on the Dietitians of Canada website at www.dietitians.ca/Find-a-Dietitian.aspx

In the United States:

Check the following searchable databases:
Academy of Nutrition and Dietetics "Eat Right":
www.eatright.org/programs/rdnfinder/

International Foundation for Gastrointestinal Disorders (IFFGD): www.iffgd.org/dietitian-listing.html

In the UK:



For general information about finding a dietitian in the UK through a referral from your doctor, visit <a href="www.bda.uk.com/improvinghealth/yourhealth/finddietitian">www.bda.uk.com/improvinghealth/yourhealth/finddietitian</a>.

Search for a private dietitian in the UK on <a href="www.freelancedietitians.org/">www.freelancedietitians.org/</a>.



The old saying "You are what you eat" is true. What you eat and drink become the building blocks for all the cells in your body. Over time, your food and drink choices will make a difference in your overall health.

Ostomy surgery should not change the way most people's bodies digest, absorb, and use nutrients from food. The basics of nutrition apply to you and to everyone. The choices you make every day will affect your health now and later in life.

Each person is different, so the best diet for you will depend upon your body and medical history.

Avoid random diets and learn to eat what is right for you. You can always get help from a **registered dietitian (RD)** to find the best diet for you.

## Eating Well

- Learn to choose healthy foods from all food groups in the correct amounts for your weight, body, and medical needs.
- Don't eat too many foods with added sugars, sodium (salt), and saturated and trans fats.
- When possible, get most of your nutrients from healthy foods rather than from vitamin supplements. Talk to your doctor to find out if a vitamin supplement would benefit you.

## Challenges to Eating Well

What you eat and drink is influenced by where you live, the types of foods available in your community, your budget, and your culture and background, as well as your personal food preferences. Often things that are not directly under your control—family responsibilities, work hours, etc.—can negatively affect your diet and food choices.

Focus on making small changes in your daily life that will help you eat healthier without leaving you feeling overwhelmed.

#### A Healthy Diet Helps

- Your body and brain get the energy you need to think and be physically active
- Your body get the essential vitamins and minerals you need to stay alive and healthy
- You reach and maintain a healthy weight
- Prevent, treat, and lower your risk of chronic diseases and their negative outcomes

#### **Nutrition Basics**

Nutrients can be divided into 2 categories: **macronutrients** and **micronutrients**. Macronutrients are those the body needs in large amounts. These provide the body with energy (calories). Micronutrients are those nutrients that the body needs in smaller amounts but are equally important.



#### **Macronutrients**

Macronutrients are essentially your calories. They are organized into three groups.

- Carbohydrates
- Proteins
- Fats

Balance the macronutrients on your plate and you'll have a healthy diet.

### **Carbohydrates**

We use carbohydrates for quick energy—they are your body's favorite source of fuel. Our bodies easily break down carbohydrates into glucose (sugar). Our brain and muscles are the biggest users of glucose, but all the cells in our body use it to function. The amount of carbohydrates you need each day can differ from one person to another and can be based on your daily activity level, weight, muscle mass and overall health.

"Carbs" are not a specific food. They are one of the three major nutrients. Foods that have carbohydrates are also important sources of fiber, vitamins, and minerals.

#### Foods that contain carbohydrates

- Grains
- Beans
- Fruits
- Starchy vegetables
- Milk
- Yogurt
- Simple sugars, honey, maple syrup, agave
   Added sugar is in many processed, unhealthy foods, pre-packaged foods, and beverages.
   Limit the amount of added sugars in your diet.



#### Fiber is a carbohydrate

Many people don't realize that fiber is a type of carbohydrate.

Fiber:

- Helps with feeling full for a longer time
- Helps reduce sugar cravings
- Prevents acid reflux
- Prevents constipation

There are two types of fiber and most foods have a combination of the two:

• **Soluble Fiber** (dissolves in water) – helps to lower cholesterol levels and stabilizes blood glucose. It also draws water into the gut to help soften stool.

• **Insoluble Fiber** (cannot dissolve in water) –adds bulk to the stool, which helps the body eliminate stool more easily.

Fiber foods are **prebiotics** that can help provide your body with a good variety of **probiotic** bacteria in your gut.

#### Best sources of fiber:

- Whole grains
- Beans
- Nuts

- Seeds
- Fruits
- Vegetables

#### **Protein**

Protein is the building block of the body.

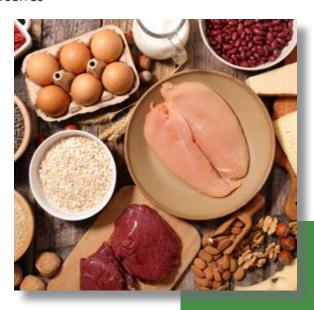
Protein:

- Builds, repairs, and maintains cells, organ tissues, muscle, hair, skin, nails, bones, tendons, ligaments, and blood plasma
- Is involved in the transportation of nutrients, enzymes, and hormones throughout the body
- Makes up the enzymes that regulate our metabolism, that is the total of all physical and chemical changes that take place in our cells or organs. These changes produce the energy and materials needed for important life processes
- Provides essential amino acids that we cannot make ourselves

#### Foods that contain protein

- Beans
- Nuts and seeds
- Lean meats (chicken, turkey, red meat, pork)
- Fish
- Eggs
- Some whole grains
- Dairy (milk, yogurt, cheese)

Animal sources of protein have the highest protein content per calorie, but you can also meet your protein needs without eating animal products.



#### **Fat**

Fats are a long-lasting source of energy. Fats play a vital role in:

- Maintaining healthy skin and hair
- Insulating body organs against shock
- Maintaining body temperature
- Regulating hormones
- Promoting healthy cell function

We need healthy, unsaturated fats in our diet, called mono and polyunsaturated.

Foods that contain healthy unsaturated fats	Foods that contain unhealthy saturated fats
<ul> <li>All nuts</li> <li>Seeds</li> <li>Olives</li> <li>Olive oil</li> <li>Canola oil</li> <li>Avocado</li> <li>Fish</li> </ul>	<ul> <li>Full fat yogurt</li> <li>Cheese</li> <li>Butter</li> <li>Bacon</li> <li>High fat meat</li> </ul>

#### About trans fats

**Trans fats** are the worst type of fats. They increase **LDL cholesterol** (bad cholesterol) which can lead to heart disease. Trans fats are used as preservatives in many processed packaged foods.

#### Foods that contain unhealthy trans fats

- Any food with **hydrogenated oil** on the ingredient list
- Fried foods
- Packaged foods
- Processed or cured meats
- Fats and oils added to food

#### **Micronutrients: Vitamins and Minerals**

Vitamins and minerals are **micronutrients**. An adequate intake of all micronutrients is necessary for optimal health as each vitamin and mineral plays a specific role in the functioning of your body. Depending on their function, micronutrients play a key role in preventing and fighting disease. The micronutrient content of each food is different, so it's best to eat a variety of foods to get your vitamins and minerals from a variety of food groups. A healthy balance of vitamin and mineral-rich foods at every meal will give you all the vitamins and minerals your body needs.

When you eat, you consume the vitamins that plants and animals created or the minerals they absorbed.

#### **Vitamins Are Necessary for:**

- Energy production
- Immune function
- Blood clotting and other functions of the body

#### Minerals Play an Important Role in:

- Growth
- Bone health
- Fluid balance, as well as several other bodily functions



#### Foods that Contain the Most Vitamins and Minerals

- Colorful vegetables and fruits
- Grains
- Beans
- Lean proteins
- Healthy fats

#### Vitamins, Water-Soluble

Water-soluble vitamins can dissolve in water. Water-soluble vitamins are not stored in the body and must be replenished daily.

#### Water-soluble vitamins

- All B Vitamins
- Vitamin C

#### Vitamins, Fat-Soluble

Fat-soluble vitamins can dissolve in fats and oils. They are absorbed along with fats in the diet and can be stored in the body's fatty tissue.

#### Fat-soluble vitamins

- Vitamin A
- Vitamin D
- Vitamin E
- Vitamin K

#### **Minerals**

A mineral is a chemical element and an essential nutrient needed to perform functions necessary for life.

#### **Essential minerals**

- Calcium
- Potassium
- Phosphorus
- Magnesium

- Sodium
- Iron
- Zinc



#### Water

Our bodies are made up of 75%–80% water. We need adequate amounts of water for many important bodily functions to occur. For overall health, stay well hydrated.

Make a habit of drinking water throughout the day. At the same time, limit or avoid beverages with added sugars and artificial colors and sweeteners.

#### **What Water Does:**

- Moistens tissues in the mouth, eyes, and nose
- Protects body organs and tissues
- Helps prevent constipation
- Helps maintain hydration
- Helps dissolve minerals and other nutrients to make them accessible to the body
- Regulates body temperature
- Lubricates joints
- Lessens the burden on the kidneys and liver by flushing out waste products
- Carries nutrients and oxygen to cells
- Prevents kidney stones



## Ostomy and the Digestive System

The parts of the digestive system (tract) that might be affected by ostomy surgery are the small intestines, colon, rectum, or anus, depending on whether you have a colostomy or an ileostomy. Following is information on the digestive tract as well as types of fecal diversions and their effects on the digestive process.

## The Digestive Tract

The digestive tract processes food and fluids so that nutrients can be absorbed from the intestines and circulated throughout the body. Any residue of food that is not digested is solidified and eliminated from the body in the form of stool (feces). The digestive/gastrointestinal (GI) tract is an organ system, which means it is made up of several organs performing different functions. It is divided into an upper and lower tract. It forms a continuous pathway that includes the following:

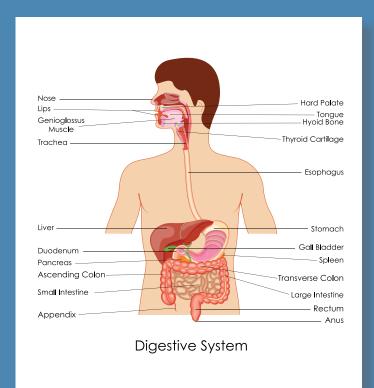
- Esophagus
- Large intestine (colon)
- Stomach
- Rectum
- Small intestines
- Anus

#### **Accessory Organs of Digestion**

The complete digestive system is made up of the gastrointestinal tract plus what are referred to as the accessory organs of digestion, as follows:

Tongue

- Liver
- Salivary glands
- Gallbladder
- Pancreas



## The Digestive Process

#### Mouth



- Starts the process of digestion
- Breaks down food as it is chewed and mixed with saliva.
- Saliva contains digestive enzymes and moistens food to aid in swallowing.
- Food is swallowed and moves down the esophagus until it enters the stomach.

#### Stomach



- Secretes acids and enzymes that further break down and digests food into smaller particles and nutrients that the body can use
- Stores and churns the food
- Slowly releases the processed food to the small intestine

#### **Small Intestine**



Responsible for the absorption of nutrients, which are sent to the liver for processing and allows the nutrients to be used by the rest of the body. Made up of 3 sections:

- The **duodenum** helps neutralize the food as it enters the small intestine.
- The jejunum is where most of the absorption of nutrients takes place.
- The **ileum** is essential for the absorption of certain nutrients, such as vitamin B12 and bile salts.
- From the ileum the intestinal contents pass through the ileocecal valve that separates the small and large intestine.

#### Large Intestine (colon)

Collects, concentrates, transports, and eliminates waste in the form of stool from the body. As the intestinal contents move through the colon, fluids and electrolytes are being absorbed.

- Cecum: pouch-shaped structure that forms the first part of the large intestine
- Ascending colon: stool contents are liquid
- Transverse colon: stool contents are soft or semifluid
- **Descending colon and sigmoid colon:** Stool will thicken as a result of the reabsorption of fluids in the prior sections of the large intestine. Stool content is soft to formed.
- **Rectum:** The end of the large intestine where the stool passes before being eliminated.

#### Anus

The opening where the gastrointestinal tract ends



- Where stool exits the body
- Connected to the rectum

#### Absorption, Elimination, and Common Fecal Ostomy Diversions

With an ostomy, stool will no longer leave your body from your anus; it will leave through the stoma opening. A pouch is worn over the stoma to collect stool.

The type of ostomy surgery you have will affect your ability to absorb nutrients, fluids, and electrolytes and determine the consistency of your stool. These changes might be temporary as your body adapts or they might be permanent depending upon how much bowel remains.

The following are the common fecal ostomy diversions and their effects on the digestive system.

### **Colostomy**

#### **Descending or Sigmoid Colostomy**

A portion of the large intestine (colon) is removed or bypassed. The remaining portion of the colon is brought through the abdominal wall, creating a stoma.

- For most, nutrients are well absorbed as the GI tract remains intact.
- Stool consistency is usually semisoft to formed.

#### **Transverse colostomy**

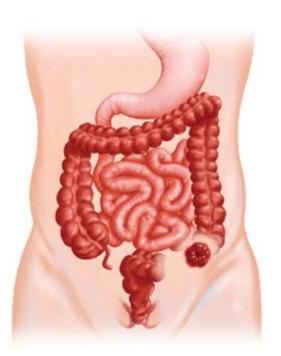
A large portion of the large intestine is removed or bypassed.

- Patients might experience decreased absorption of fluids and electrolytes.
- Stool consistency ranges from semifluid to soft/pasty.

#### **Ascending colostomy**

- Most of the colon is removed or bypassed.
- Decreased ability to absorb fluid and electrolytes
- Dehydration can occur with excessive sweating, diarrhea, and/or vomiting.
- Stool consistency is usually liquid to semiliquid to very soft.
- Digestive enzymes are present in the stool and will be caustic and irritating to the skin, if pouch leakage occurs.
- The thicker the stool, the more nutrients and fluids are being absorbed.

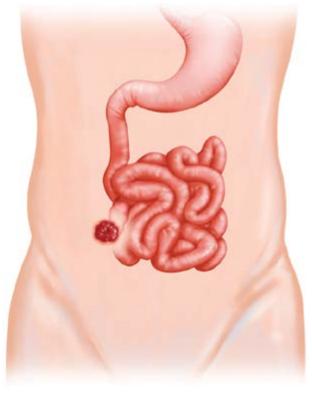
For more information on colostomy, visit www.ostomy.org/colostomy/



Sigmoid Colostomy

### lleostomy

The entire colon, rectum, and anus are removed or bypassed. The small intestine is brought through the abdominal wall, creating a stoma.



lleostomy

- Decreased ability to absorb nutrients, fluid and electrolytes
- Risk for dehydration and increased risk with excessive sweating, diarrhea, and/or vomiting
- Severe dehydration might require intravenous (IV) fluids to rehydrate the body.
- Might affect ability to absorb vitamin B12; supplement might be needed
- Stool consistency ranges from liquid to semisoft (mushy).
- Stool consistency will depend on how much ileum was removed; the shorter the ileum, the more liquid the stool will be.
- Stool color after surgery will often be dark green.
- Digestive enzymes are present in the stool and will be caustic/irritating to the skin, if pouch leakage occurs.
- The thicker the stool the more nutrients and fluids are being absorbed.

#### The following foods help thicken the stool:

- Bananas
- Peeled potatoes
- White rice, bread, pasta
- Applesauce
- Marshmallows
- Creamy peanut butter

For more information on ileostomy, visit <a href="www.ostomy.org/ileostomy/">www.ostomy.org/ileostomy/</a>

## Continent Ileostomy (KOCK Pouch, BCIR [abdominal pouch])

An internal pouch (reservoir) with a nipple type valve is constructed from a section of the small intestine. The valve is connected to a stoma located on the abdominal wall. The valve helps to prevent stool and gas from leaking out of the stoma. A catheter (small plastic tube) is inserted into the stoma to empty the reservoir and for the purposes of irrigation/emptying.



- Large intestine is bypassed and/or removed resulting in decreased water and electrolyte absorption.
- Stool consistency is liquid.
- Stool can be caustic/irritating to the skin due to digestive enzyme content.
- Consistency of stool can be controlled by diet and medications.
- Stool is drained from the reservoir on regular intervals using a catheter.

**KOCK Pouch** 

#### **Ileoanal Reservoir/Pelvic Pouch**

A pelvic pouch/reservoir is constructed from loops of the small intestine and connected to the internal anal sphincter, which provides continence (control of stool output). Depending on the configuration of the internal reservoir, it is sometimes called a J or S pouch. Waste is eliminated through the anus.



lleoanal reservoir (J pouch)

- Large intestine is bypassed and/or removed.
- Decreased absorption of water and electrolytes
- Stool consistency is liquid.
- Stool can be caustic/irritating to the skin due to digestive enzyme content.
- Consistency of stool can be controlled by diet and medications.

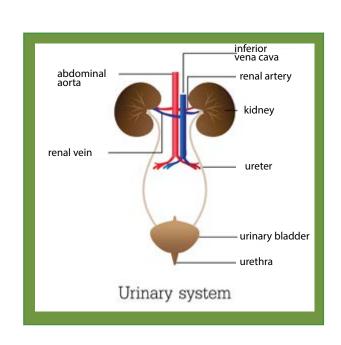
## Ostomy and the Urinary System

The urinary system is made up of two kidneys, the ureters, the bladder, and the urethra. Urine is made in the kidneys and transported through the ureters to the bladder where it is stored and finally leaves the body through the urethra. It is the body's filtering system, responsible for filtering waste products from the blood. As blood passes through the kidneys, waste products are removed along with fluids your body no longer needs.

The urinary system also regulates the volume of fluid in the body and what the fluid contains. It helps to maintain the internal chemical balance of the body.

The bladder is responsible for storing urine. When a person has bladder diversion surgery, the bladder is either removed or bypassed.

## Before Surgery



## **Types of Urinary Diversions**

## **lleal conduit (Urostomy)**

This is the most common type of urinary diversion in which the bladder is surgically removed or bypassed. A conduit (passage) is made from a short segment of the small intestine (the ileum). One end of the conduit is sewn closed and the other end of the conduit is brought to the outside surface of the abdomen to create a stoma (opening). The ureters, which normally carry urine to the bladder, are disconnected from the bladder and connected to the conduit to allow urine to flow through and leave the body through the stoma and into a pouch worn over the stoma. Having an ileal conduit means that one does not have control over urine as it leaves the body. You cannot decide when to pass urine and you do not feel when the urine passes into the pouch. A pouch is worn 24 hours a day to collect and store urine.



lleal conduit

To find out more about ileal conduits visit <a href="www.ostomy.org/urostomy/">www.ostomy.org/urostomy/</a>.

## **Continent Urinary Pouch**

This is a surgical procedure in which the bladder is either removed or bypassed. An internal reservoir or collection area is created by opening loops of the small or large intestines and sewing them back together to create an internal pouch or pseudo-bladder. This is where urine is now stored in the body. A stoma is created on the abdomen and is connected to the reservoir. Urine is drained on a regular basis through the stoma using a catheter (small tube). A pouching system does not need to be worn for this type of procedure.

Continent urinary pouches are called different names according to how they are made by the surgeon and where they are located and include Indiana Pouch, Kock Pouch, Mitrofanoff, Miami, and Mainz.



Illustration of continent urinary pouch

### **Orthotopic Neobladder**

A bladder "substitute" is surgically created from the small intestines, much like the continent pouch. A reservoir or internal pouch is created to store urine. It is connected to the urethra to allow urine to leave the body in the usual manner (sitting on a toilet).

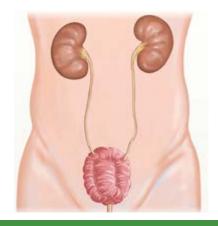


Illustration of Neobladder

## **Dietary Considerations**

People who have undergone surgery for a urinary diversion, no matter what type, should follow a standard post-operative, low-fiber, lower-residue diet for approximately 4–6 weeks. After that time, you can resume a regular diet unless specific recommendations have been made by your doctor.

(See Post-Operative Nutritional Guidelines: The First 4-6 Weeks section)

Foods that Change Urine Color or May Cause Odor

Color

Beets
Odor
Foods that contain dyes

Asparagus
Some spices (i.e., curry)
Some medications (See Ostomy
Broccoli
and Medications)

## **Hydration and UTI Prevention**

People with urinary diversions have a greater chance of developing urinary tract infections (UTIs). Staying hydrated will help prevent UTIs and other potential problems.

- Drink 8-10, eight ounce glasses of fluid daily. This helps prevent UTIs and keeps urine diluted. Concentrated urine also can cause odor.
- Water is the most effective fluid to drink to prevent UTIs and to prevent a strong odor of your urine.
- Keeping your urine acidic also helps reduce the risk of UTIs and odor. Alkaline urine
  will have a strong ammonia odor. Citrus juices (orange and grapefruit) will cause
  urine to be more alkaline.
- Supplement your diet with Vitamin C, unsweetened cranberry juice, or capsules
  to help keep the urine more acidic or control bacterial growth in the urinary tract.

  Discuss these or other supplements with your doctor before using them as they may
  interact with other medications.
- Urinary crystals that cause irritation to the stoma and skin can form in the pouching system. Stay well hydrated and keep the urine acidic to decrease the formation of crystals.
- Limit alcohol use as alcohol is dehydrating and will concentrate the urine.

## Signs of a UTI

After surgery the warning signs of a UTI are different from those experienced prior to surgery. Rather than a burning sensation while urinating or frequency of urination, be alert to the following signs and symptoms:

- Discolored urine
- Blood in the urine
- Strong odor to the urine unrelated to food. For those with a urostomy, pouches are made to be odor proof, so odor may not be noticed until you empty your pouch.
- Back pain
- Fever and chills

Also be aware that a small amount of mucous in the urine may be normal as the bladder diversion is made from the intestine, which contains mucous.

#### **Treatment for UTIs**

- First and most important, notify your doctor, who might want a sample of your urine to determine if you have an infection.
- Samples should be taken in the doctor's office. To get a urine sample the doctor, nurse, or nurse practitioner will catheterize the stoma (insert a small tube). If catheterizing is not possible, urine can also be collected in a sterile cup.
- If the results show that you have an infection, your doctor will prescribe an antibiotic to treat it.
- For information on how to obtain a urine sample, visit <u>www.ostomy.org/</u> <u>urostomy-sample-collection</u>

#### **FAQ**

My urine has a strong odor but I don't have a UTI. What can I do?



Keep your urine acidic by drinking 8–10 glasses of water a day as part of your fluid intake. If the urine is diluted and acidic there will be less odor.



Review the list of foods (Dietary Considerations) that might cause odor. You might want to limit these foods in your diet.



Check the amount of salt in your diet. A diet high in salt may concentrate the urine and produce more odor.



Dietary Supplements (Vitamin C and Cranberry Capsules) may help to acidify urine or control bacterial growth in the urinary tract which may help with odor. Always ask your MD prior to taking.

# Post-Operative Nutritional Guidelines: The First 4-6 Weeks

No matter what type of ostomy surgery you have had, your post-surgical diet will begin with liquids and transition to solids. You also will begin with a diet **low in fiber/low in residue** and focus on low spice and low-fat foods. Spicy and high-fat foods may cause diarrhea and/or reflux. As your bowels return to normal, you may be able to return to your regular diet and food choices, unless your surgeon has recommended alternative choices due to your medical conditions.

## Goals of a Healthy Diet after Surgery

- Maintain weight through calories and protein
- Promote wound healing and healing of the surgical incision, by getting enough protein
- Maintain healthy fluid levels (hydration) and prevent dehydration
- Prevent a stoma blockage. Those with an ileostomy are most likely to be at risk. See **lleostomy: Specific Post-Op Guidelines**.

#### **FAQ**

#### Why a low-fiber/low-residue diet after surgery?

- Helps to rest the gastrointestinal tract after surgery
- Foods are easier to digest and produce less gas
- Helps with diarrhea, abdominal cramping, bowel obstruction
- If applicable, it may help while undergoing chemotherapy or radiation therapy

#### How long should I stay on a low-fiber/low-residue diet?

- Approximately 4–6 weeks after surgery. Your doctor will advise you of the exact time.
- After 4–6 weeks, gradually add fiber-rich foods back into your diet.
- This diet is meant to be temporary to help you recover from surgery.



## Food Guide: Low Fiber/Low Residue (4-6 weeks)

	Allowed	Avoid
Proteins*	Lean meats Meat substitutes (tofu) Poultry, fish Low-fat dairy (milk, cheese, yogurt) Non-dairy milks (soy, almond, coconut, rice) Eggs Smooth nut or seed butters	Fatty, tough meats Beans, peas, lentils Nuts and seeds
Low-Fiber Breads, Cereals, Rice, and Pasta	White breads Crackers  Cooked cereals (farina, cream of rice) Cold cereals (Puffed Rice, Rice Krispies, Rice Chex, Corn Flakes) White rice White pasta	Breads with nuts, seeds, fruit Whole-wheat, whole grains, multigrain, rye, and bran and corn breads Oatmeal, kasha Buckwheat Cold cereals with whole grains Bran, nuts, dried fruit Brown or wild rice Popcorn
Vegetables	Tender, soft-cooked (microwaved or steamed) vegetables. No skins or seeds. Mashed, boiled, or pureed vegetables Peeled potatoes	Raw vegetables and vegetables with seeds Sauerkraut, cabbage, cauliflower, onions, corn Winter squash, broccoli, brussels sprouts, mushrooms Sweet potatoes Unpeeled potatoes

<sup>\*</sup>For advice on protein or calorie supplements, consult your doctor or registered dietician

	Allowed	Avoid
Fruits	Cooked or canned fruit (except canned pineapple) Applesauce Bananas, plantains	Prunes and prune juice Fresh or dried fruit, including berries, figs, dates, and raisins Canned pineapple
Milk and Dairy	Plain, low-fat milk Plain or vanilla low-fat yogurt Pudding Low-fat ice cream	Full-fat milk and cheese Yogurt with whole fruit Cheese sauce or alfredo sauce
Desserts, Condiments	Custard, sherbet, popsicles Clear jelly	Coconut Pickles Relishes Fruit preserves with seeds Marmalade Horseradish Salsa Guacamole

#### **Tips for Success**

- Slowly increase the amount of food you eat.
- Chew well and take small bites. Chewing cannot be stressed enough! Digestion begins in the mouth.
- Give your appetite 4-6 weeks to return.
- Do not force yourself to eat. However, in the beginning try to eat frequent small meals vs. two to three large meals.
- Focus on a balanced diet with a variety of fruits, vegetables, lean protein, and grains.
- Include lean, protein-rich foods with each meal and snack.
- Keep a regular schedule for meals and snacks.
- Avoid the use of straws, which produce gas.
- Add new foods one at a time in small amounts and chew well. This way, if a food is a
  problem, you can tell which food it is.

## **Hydration Needs After Surgery**

One reason for readmission to the hospital after surgery is dehydration. To be fully hydrated, your body needs 8–10, eight-ounce glasses of fluid each day on average. Follow the guidelines below to get the hydration you need from the best sources. (See also **Hydration**, **Fluids**, **and Electrolytes**)

#### Recommended Fluids

- Water, the perfect hydrator
- Soup, broth: Discuss low sodium or regular with your doctor or registered dietitian.
- Gelatin
- Vegetable juice
- Diluted fruit juice, to decrease sugar consumed

#### Signs of Dehydration

- Dark urine
- Passing urine less often than normal
- Feeling light-headed
- Headache
- General weakness
- Frequent feeling of thirst

Everyone's experience with food and hydration needs differ after surgery. The information in this section provides basic nutritional and hydration guidelines for the first 4 to 6 weeks after ostomy surgery. However, your doctor or dietitian may want to create an individualized plan for you. Always follow your doctor's instructions for your diet folowing your surgery.



## **lleostomy: Specific Post-Op Guidelines**

#### Stoma Blockage

If you have a new ileostomy, you are at greater risk for a stoma blockage than someone with a colostomy for several reasons. First, the stoma created from the **ileum** (small intestine) is smaller in diameter than one created from the **colon**. In addition, because after surgery inflammation of the bowel is normal, large particles of food don't break down easily. These particles can get stuck where the intestine comes through the abdominal wall (**stoma**), creating a blockage.

Signs of a stoma food blockage

- Abdominal cramps and pain
- Abdominal distention
- Watery stools with bad odor
- Stool released in spurts
- Absence of stool output
- Pressure at the stoma but little or no output of stool

Contact your doctor immediately if you feel you have a stoma blockage.

#### How to Avoid Food Blockage after Surgery

By following the guidelines in the **Food Guide: Low Fiber/Low Residue** chart and avoiding the foods mentioned in this section, you lower your chances of having a food blockage. In general, remember the following:

- Avoid high-fiber/high-residue foods
- Avoid vegetables and fruits with skins
- Avoid raw fruits and vegetables. Cook them well or use canned.
- Chew your food well. Chew! Chew! If you see visible chunks of food in your pouch, you are not chewing well.

#### Foods to avoid for 4-6 weeks after surgery

- Mushrooms
- Corn
- Celery
- Whole nuts and seeds
- Lentils and kidney beans

- Salad greens
- Dried fruit
- Coconut
- Grapes and cherries
- Brown and wild rice and whole grain breads

#### Warning:

After surgery, a blockage of the small bowel can also happen for many reasons including from scar tissue (adhesions). If stool is not coming out of your stoma, it is best to call your doctor or go to the hospital immediately to determine if you have a stoma blockage related to food, or a small bowel obstruction.

For more information on ileostomy stoma blockage visit www.ostomy.org/ileostomy-blockage

#### **Preventing Dehydration**

People with an ileostomy no longer have the large intestine to absorb water and fluids. As a result, **ileostomates** have a greater chance of becoming dehydrated. The best way to prevent this is to drink an average of 8–10 glasses of fluid a day. This can include many different types of liquid besides water. Be mindful, however, that caffeinated drinks can add to dehydration.

Follow the **Hydration**, **Fluid**, **and Electrolyte** guidelines contained in this guide to ensure you balance your intake. Also avoid the foods and liquids listed in the **Preventing Dehydration** chart below, which may cause high volume stool output.

#### What is a High Volume Stool Output?

- An ileostomy that produces 1,200 milliliters or more of stool per 24 hours
- Normal output is less than 1,000 milliliters of stool per 24 hours

#### How to measure ileostomy output:

To measure your output, you can use a container from the hospital that fits on the toilet or any kind of container with a measuring guide. Another option is to fill your pouch with water half to  $\frac{3}{4}$  full – the same amount of stool you would have in your pouch when you empty it. Empty the water and measure it. This way, you can calculate your output based on the number of times you empty your pouch in a day.

Preventing Dehydration Avoid the Following	To Help Thicken Loose Stool Add the Following	Stay Hydrated
Coffee	Bananas	Sip throughout the day.
Caffeinated tea (herbal is good)	Peeled potatoes	Drink one glass of fluid every time you empty your pouch.
Drinks high in sugar (juices, some sports drinks, soda/colas). Always read the label first.	White rice, bread, pasta	Drink 8–10, eight ounce glasses of fluids a day from the following list:  • Water  • Water-diluted juice and sports drinks  • Jell-O, broth, and vegetable juice
Fried and/or spicy foods	Applesauce	
Alcohol	Marshmallows	
Chocolate	Creamy peanut butter	

Everyone is an individual and experiences with food often differ. Following are basic nutritional guidelines recommended for those living with an ostomy beyond the first 4–6 weeks of healing following your surgery. Your doctor or dietitian might need to create a care plan specifically for you. As always, follow your doctor's instructions for diet following your surgery. \*If you have diabetes or other special dietary needs consult with your registered dietitian (RD) about options.

Many patients living with an ostomy can eat and tolerate a regular diet and many are able to gradually return to the diet they enjoyed before surgery. Some might even be able to expand their diet after the ostomy heals from surgery. However, for others, dietary adjustments might be needed. Certain foods might affect the thickness or liquidity of output from the stoma, which can sometimes cause gas, diarrhea, or constipation.

To make your nutrition transition smooth, slowly introduce foods into your diet, one at a time. A good way to help you recognize what foods might be problematic is to keep a food journal. A food journal also helps when you're speaking with your doctors or registered dietitian about which foods seem to work well and which don't. (See **Food Journal**)

#### Living with a Colostomy

Although there are no absolute contraindications to your diet (things you should not eat), if you are prone to constipation or diarrhea, follow the guidelines found in the **Foods and Their Effects** chart in this section.

#### Living with an Ileostomy

You might be prone to stoma blockage(s) and/or ongoing dehydration, depending upon how much small bowel remains in your body. Slowly begin to introduce high-fiber foods and whole fruits and vegetables one at a time. Expand your diet and food choices under the direction of your doctor. Keep close track of which foods do not produce discomfort of any kind and which are more difficult for your body to process and make a note of these in your food journal.

#### Living with an Ileal Conduit (Urostomy)

While there are no absolute contraindications to your diet, you will be more prone to urinary tract infections (UTIs). Staying well hydrated will be important. (**See Hydration, Fluids, and Electrolytes**) Some foods might change the odor or color of your urine (fish, asparagus, spices). This is normal.

#### **General Eating Guidelines**

- Eat 3 well balanced meals daily or 5-6 small meals.
- Avoid skipping meals or long gaps between meals, which can contribute to gas production.
- Avoid drinking out of straws. They allow air to be swallowed and can contribute to gas production.
- Eat slowly to avoid swallowing air and always chew your food well.
- Drink adequate amounts of fluids (8-10 glasses a day). Water is good!
- Add new foods gradually to learn which foods might give you side effects, such as excess gas, odor, constipation, or loose stool.



#### **Foods and Their Effects**

#### **Loose Stools**

Apple or prune juices
Baked beans
Spicy foods
Alcohol
Chocolate
Milk (lactose intolerance)
Raw fruit
Raw or leafy green
vegetables

#### Increased Odor or Gas\*

Dried beans and peas Cabbage, broccoli, brussels sprouts, cauliflower, asparagus Onion, garlic Cucumbers Melons Radishes **Pickles** Eggs and products made with eggs, such as meringues Spicy foods Alcohol (beer) Strong-smelling cheese Fatty foods

#### **Color Changes**

Asparagus
Beets
Food colors (red dyes from
Kool Aid and punch)
Iron pills
Licorice
Red Jell-O
Tomato sauce

#### Thicken Stool and Resolve Diarrhea

Applesauce
Boiled rice or noodles
Creamy peanut butter
Tapioca pudding
Bananas
Peeled potatoes
Marshmallows
Toast
Yogurt

#### Prevent or Alleviate Constipation\*

Fruits Whole grains Oatmeal Vegetables Warm soups

<sup>\*</sup>Note: Some medications can also affect odor. You might want to discuss with your doctor or pharmacist.

<sup>\*</sup>Increasing the amount of fiber in your diet will help you avoid becoming constipated.

#### **Preventing Stoma Blockage**

Certain foods as well as food that has not been chewed well can result in blockage of the stoma. **People** with an ileostomy are at greater risk for stoma blockage. When eating the following use caution and chew these foods well!

#### Stool and Odor

It is normal for stool to have an unpleasant odor, which comes from bacteria in the colon that help break down digested food. Stool will smell different because of changes in your diet or medications you are taking. However, abnormally very foul-smelling stool can indicate a serious medical condition. If you feel your stool has an abnormal odor, contact your doctor. Following are some of the conditions that might cause abnormally foul odor in the stool:

- Malabsorption of nutrients
- Celiac disease
- Cystic fibrosis
- Crohn's disease
- Pancreatitis
- Ulcerative colitis
- Infection of the intestines
- Abscess or blockage of the intestines

#### Foods that Might Cause Stoma Blockage

- Raw vegetables, skin of raw vegetables
- Popcorn, corn
- Celery
- Coconut
- Raw pineapple, skin of fresh fruits, apple peels
- Dried fruits
- Nuts, seeds
- Mushrooms
- Salad greens
- Cole slaw, relish

#### How to Better Control Stool Odor

- Trim the fat off fatty foods (i.e., fatty meat) and decrease your intake of trans and saturated fats.
- Review the list of foods that might cause odor. Many of these contain sulfur, which can produce odor.
   Because sulfur is an essential dietary mineral you don't want to eliminate these foods from your diet,
   but you can reduce the amount of foods containing sulfur in your diet.
- Cut back on processed foods; they contain synthetic ingredients that might not be digested well.
- Make sure you are not lactose intolerant. If you have diarrhea, abdominal cramps, bloating, and excessive gas after eating dairy products contact your physician.
- If you wear a pouching system, ask your pouch supplier about pouch odor eliminators.
  Manufacturers of ostomy products make drops, gels, and sachets that help decrease the odor of the stool. Pouches are made to be odor poof, but these products help control the odor when you empty the pouch.



There are also oral odor eliminators. These contain chlorophyll, which can turn the stool in your pouch green, or bismuth, which can turn the stool in your pouch black. Both can interfere with medication absorption. Bismuth can mask GI bleeding. Before taking either, discuss with your doctor or pharmacist.

# Hydration, Fluids, and Electrolytes

#### **Important Note**

If you have kidney or cardiac disease, always discuss supplementing fluids and electrolytes with your MD. If you have diabetes, always consult with your doctor prior to supplementing fluid intake with highly sugared/electrolyte drinks.

The main job of the colon or large intestine is to reabsorb fluids into the body. For those who have had a large portion or the entire colon (large intestine) removed, such as those with an **ileostomy**, the small intestine can eventually adapt to absorb some of the body's fluids. However, preventing dehydration and loss of electrolytes must always be a consideration. Large amounts of fluids and electrolytes, such as sodium and potassium, can be lost through your ostomy.

#### Signs of Dehydration

Dehydration resulting in loss of electrolytes is a serious condition. Notify your doctor if you have any of the following:

- Extreme thirst
- Feeling weak
- Dry mouth and skin
- Shortness of breath

- Decreased urine output or dark-colored urine
- Nausea or abdominal cramping
- Feeling light-headed or having a headache

#### What Are Electrolytes?

Electrolytes are chemicals in the body that conduct electricity when mixed with water. Electrolyte levels can be determined with a blood test. They have a number of important roles in the body:

- Regulate nerve and muscle function
- Hydrate the body
- Balance blood acidity and pressure
- Help to rebuild damaged tissue

Symptoms of Low Electrolyte Levels					
Low Sodium (Hyponatremia)	Low Potassium (Hypokalemia)				
Nausea, vomiting	Nausea, vomiting				
Headache	Fatigue				
Confusion	Muscle weakness, cramps				
Drowsiness, fatigue, decreased energy	Gas, bloating, abdominal cramping				
Muscle weakness, spasms, cramps	Shortness of breath				
Restlessness, irritability	Feeling thirsty				
	Decreased sensation of the arms and legs, tingling				
	sensation				
	Depression, confusion, mood changes				

#### **Preventing Dehydration and Electrolyte Depletion**

#### **Tips for Hydration**

- Drink at least 8-10, eight ounce glasses of fluids a day.
- Drink fluids with electrolytes such as sodium and potassium that are also low in sugar. Dilute sports drinks
  with water to decrease sugar concentration.
- Include foods in your diet that are high in water content, such as watermelon, tomatoes, peaches, lettuce.
- Avoid excess caffeine, which can act as a diuretic causing increased urination that leads to dehydration.
- Always carry a water bottle with you and refill it whenever empty.

- Sip liquids slowly. Don't chug! Chugging will make fluid go through your system too fast to hydrate properly.
- Eat before drinking as food will help absorb fluids.
- Drink smoothies for an added nutritional bonus, but keep sugar content low.

#### **Tips to Supplement Electrolytes**

Add good, electrolyte-rich drinks such as those listed below to your daily fluid intake, dilute with water.

- Coconut Water
- G2 low calorie Gatorade
- V8 Juice; vegetable juices
- WHO ORS Oral Rehydration Salts
- Pedialyte

You can order electrolyte liquid concentrate packs and drinks from the following company websites:

www.dripdrop.com www.therightstuff-usa.com www.banadrink.com www.sqwincher.com/product

#### Make Your Own Isotonic Oral Rehydration Solution!

Look for many homemade oral rehydration solution recipes in "A Patient's Guide to Managing a Short Bowel." To order your free copy, go to <a href="https://www.shortbowelsyndrome.com/sign-up">www.shortbowelsyndrome.com/sign-up</a>.

Here's an example:

Crystal Lite® Refresher

1 quart water

3/4 teaspoon table salt

2 tablespoons sugar

Crystal Lite® to taste

Mix ingredients together and refrigerate.

Sodium- and Potassium-rich Foods					
High Sodium	High Potassium				
Broth and bouillon	Bananas				
Crackers, pretzels	Oranges, orange juice				
Soups	Cantaloupe				
Vegetable juice	Dried figs, raisins				
Buttermilk	Artichoke				
Cheese	Avocado				
Soy sauce	Cooked broccoli				
	Greens				
	Sweet potato				
	Cooked spinach				
	Canned pumpkin				
	Tomato juice				
	Sweet potatoes				
	Tomato sauce				
	White potatoes				
	Winter squash				
	Cooked zucchini				
	Peanut butter, nut butters				



To find more detailed information on the sodium and potassium content of different foods, check the USDA National Food Data Central website: www.fdc.nal.usda.gov/.

#### Ostomy and Medications

The way in which your body absorbs medication might change after your ostomy. That's why you must always consult your medical doctor before changing or taking any medications after surgery, even if you are prescribed the same medications you took before surgery.

Make sure you know the type of ostomy you have and pass that information along to all your healthcare providers, including your pharmacist.

#### **Medications and Your lleostomy**

Knowledge about the extent of your surgery is important when considering your medication needs. Ask your surgeon or GI doctor about the length of bowel you have left after surgery, which will affect the absorption of the medications you take. When the colon is removed or bypassed, you might not receive the same benefits from certain medications you took prior to your surgery.

# Changes to Absorption of Medicines

- The time that it takes for a substance to move through your intestine
  after being eaten, called **transit time**, might change. This can affect the
  absorption of your medications.
- Tablets, capsules, or particles of medication found in your pouch when you empty it indicate you might not be getting your full medication dosage. Contact your doctor immediately.

#### **Medications that Cause Problems**

**Enteric-coated** capsules and tablets and tablets that are modified or **time released** are designed to be released in the colon. If you do not have a colon or the colon has been bypassed, the pill will most likely end up in your pouch and you won't be benefiting from the medication as it was designed to work.

#### **Enteric-coated Tablets**

- Have a type of polymer barrier applied on tablets that help to protect the tablet from being disintegrated from acids in the stomach
- Protect the stomach lining
- Might not be absorbed well because of altered transit times with an ileostomy
- Do Not Crush. Talk to your pharmacist, as crushing could alter the medical value of the pill.

#### Modified, Time-released Pills

- Slow down the release of the medication in the body to reduce the chances of side effects
- Are modified in capsules with small pellets with varying thicknesses or put in a thick liquid-filled capsule designed to break down slowly in the body
- **Do Not Crush. Do Not Mix with Water.** These actions could release the whole dose of the drug too quickly and could be dangerous.

#### Sugar- and Film-coated Pills

- Coated to disguise the flavor of the tablet
- Should not cause a problem with absorption
- Do Not Crush. Do Not Mix with Water. Crushing and mixing with water might result in an unpleasant taste and impact how well the medication works.

#### **Get the Most from Medications**

- Liquids or uncoated tablets are best. Avoid liquids with added alcohols or sugars as these can increase diarrhea.
- Always discuss your medications with your doctor and pharmacist.
- Be sure your doctor and pharmacist know that you have an ileostomy, which might alter the way you absorb medications.

 The pharmacist can assist you in choosing the form of medication that will be best absorbed to meet your needs. If they are unsure, you can ask them to contact your doctor so a decision can be made with input from both.

#### **Laxatives**

#### Colostomy

Always seek the guidance of your doctor before taking a laxative. Their effects will vary depending on the type of surgery you have had. People living with a colostomy might benefit at times from taking a laxative as constipation can be an occasional problem.

#### **Ileostomy and Transverse Colostomy**

- Do not take laxatives. A laxative can cause severe fluid and electrolyte imbalance or cause severe dehydration.
- If you are not producing stool, the cause is mostly likely a stoma blockage or bowel obstruction.

  Contact your doctor immediately.
- After normal office hours, call and speak to the doctor on call.
   Follow this UOAA link to What to do for an ileostomy blockage
   www.ostomy.org/ileostomy-blockage

If you are instructed to take a laxative for a bowel prep, remind the individual you have an ileostomy or transverse colostomy. Ask to speak to the ordering physician directly.

#### Vitamin B12

Vitamin B12 (cobalamin) is a water-soluble vitamin needed for DNA synthesis, cell health, and cell production, as well as in the development of red blood cells. The best way to prevent Vitamin B12 deficiency is to have an annual blood test ordered and interpreted by your doctor.

#### People Most at Risk for B12 Deficiency

- Ileostomates. B12 is normally absorbed in the last section of the small intestine known as the
  ileum. The terminal or last section of the ileum is sometimes removed with ileostomy surgery or
  when that section is significantly diseased.
- Urostomates (ileal conduit)
- Fecal or urinary continent diversion patients
- Elderly people
- People who take metformin for diabetes
- Those taking long-term antacid drugs for heartburn

#### Symptoms of B12 Deficiency

- Anemia (low blood count)
- Memory loss
- Mental and physical fatigue
- Pale skin color
- Nerve damage, sensation of "pins and needles"
- Inflammation of the tongue and sores in the mouth
- Shortness of breath, dizziness
- Blurred vision
- Mood changes, such as depression, confusion, dementia

#### **Treatments for B12 Deficiency**

- A monthly injection. Considered by some as the most reliable form of B12 supplement. Patients or family members can learn to give the injection.
- Nasal spray
- Sublingual (a tablet dissolved under the tongue)
- B12 Gummies. "Diet" gummies might cause gas and diarrhea for some people.

#### Medications for People with a High-Output Ileostomy

A high-output ileostomy is one that produces more than 1,200 milliliters (mls) or 5 cups of loose or watery stool in 24 hours. Normal output for an ileostomy is 1,000 mls of stool or less in 24 hours. A high-output ileostomy can lead to dehydration and fluid and electrolyte imbalances.

Measure your output daily if you are unsure if you have a high-output ileostomy. If you do, notify your doctor or surgeon, who might prescribe medicine to help slow down and/or thicken the output.

#### **Medications that Help Lower and Thicken Output**

Work with your doctor to determine which of the following are best for your body to slow your output and decrease your risk of dehydration.

- Loperamide (Diamode, Ultra A-D, Imodium® A-D) Brand name and generic forms are effective. Consult your MD for amount and usage. This is an anti-diarrheal medication that also decreases the amount of output for those with ostomies.
- **Metamucil**® A source of soluble fiber to aid in thickening stool; contains psyllium husk powder and is considered gluten free. It does contain small amounts of wheat dextran.
- Benefiber® A source of soluble fiber to aid in thickening stool; made from wheat dextran
  but in very small amounts. It is also considered gluten free. Take precautions if you have gluten
  sensitivity.
- **Citrucel**® A source of soluble fiber to aid in thickening stool, made from methylcellulose fiber. For some, might be less gas producing than other forms of fiber.

#### **FAQ**

#### Does the food I eat affect high output?

- Some foods might cause an increase in stool output and some foods might help to thicken loose watery stool.
- Find more tips in Ileostomy: Specific Post-Op Guidelines and Nutrition for Those Living with an Ostomy Recovery and Beyond.

#### Considerations for Those Living with an Ileal Conduit (Urostomy)

Certain medications might cause urine discoloration and/or odor. These include:

- Some vitamins: strong odor
- Cascara: black color
- Doxorubicin: red color
- Metronidazole: initially red then brown
- Antibiotics: Strong odor
- Sulfonamides: greenish-blue color

	Drug Group and Ostomy Interaction
Antacids	Colostomy Products containing aluminum might cause constipation (e.g., Amphogel®, Basalgel®, Maalox®, Fast-Acting Mylanta®).
	lleostomy
	Products containing magnesium might cause diarrhea (e.g., Maalox®, Fast-Acting Mylanta®, Mylanta® Gelcaps, Mag-Ox 400, Uro-Mag).
	Urostomy Products containing calcium might cause calcium stones (e.g., Children's Mylanta®, Mylanta® Gelcaps).
Antibiotics	Colostomy Caution–Might destroy normal flora (might cause diarrhea).
	lleostomy Might lead to diarrhea and risk of dehydration (e.g., ampicilin, cephalosporins, sulfonamides, etc).
	Urostomy Usually no problem.
Birth Control Pills	Colostomy Usually no problem.
	lleostomy Birth control pills might not be fully absorbed. Other forms of birth control might be necessary.
	Urostomy Usually no problem.

Drug Group and Ostomy Interaction					
	Colostomy				
	Sodium retention. Possible fungal infection under <b>wafer/barrier</b> due to suppression of immune system.				
Corticosteroids	lleostomy				
	Sodium retention. Possible fungal infection under <b>wafer/barrier</b> due to suppression of immune system.				
	Urostomy				
	Sodium retention. Possible fungal infection under <b>wafer/barrier</b> due to suppression of immune system.				
	Colostomy Usually no problem				
Diuretics	lleostomy Cautionmight cause electrolyte imbalance.				
	Urostomy Will increase urine flow—might cause electrolyte imbalance				
NSAIDS (Nonsteroidal	Colostomy Might cause bleeding from stomach or duodenum-gastric distress. Do not take on an empty stomach.				
anti-inflammatory agents [e.g., Motrin, Aleve, etc.])	Ileostomy Might cause bleeding from stomach or duodenum-gastric distress. Do not take on an empty stomach.				
	Urostomy Might cause bleeding from stomach or duodenum-gastric distress. Do not take on an empty stomach.				
	Colostomy Usually no problem.				
Sulfa Drugs	lleostomy Usually no problem.				
	Urostomy Caution—Stay well hydrated.				
Vitamins	Colostomy Liquid form is best. B complex might cause odor.				
	lleostomy Liquid form is best.				
	Urostomy Tablet/capsules okay. B complex might cause odor.				

### Guidelines for a Continent Fecal Diversion

In the immediate post-operative period, all ostomy patients need to follow the low-fiber/low-residue diet found in the **Post-Operative Guidelines: The First 4-6 Weeks** section. Following the initial 4-6 week recovery period, however, patients with a continent ileostomy (Kock Pouch, BCIR) or ileo-anal reservoir/internal pelvic pouch have very few dietary restrictions.

# Continent Ileostomy (Kock Pouch, BCIR)

These types of continent ileostomies require that a **catheter** (tube) to be used to drain the internal pouch of stool. The catheter is inserted into the stoma located on the abdomen. To avoid clogging the catheter:

- Chew your food well!
- Learn how often your pouch needs to be emptied. This
  varies from person to person and is determined based on the
  capacity of the internal pouch to hold stool as well as the type
  and amount of food you eat. On average, for long-term care,
  the pouch is emptied 4 times a day and when needed.
- Limit foods with insoluble fiber, which can cause an obstruction of the catheter (i.e., celery, pineapple, corn, mushrooms, and fruits and vegetables with peels).

#### Internal Pelvic Pouch

The internal pelvic pouch will undergo a period of adjustment for several months after surgery. During this period, expect the following:

- A gradual thickening of stool consistency
- Increasing capacity of the pouch to hold stool
- Decreasing number of daily bowel movements
- A 6-month to 1-year adjustment time for reliable, consistent stool output

#### **Help Improve Pouch Function**

- Eat slowly and chew well.
- Eat small, frequent meals immediately after surgery and for 4-6 weeks.
- Do not skip meals to avoid output. Empty bowels will produce gas and sometimes nausea.
- If you have trouble tolerating certain foods, try again in several months as your body adapts.
- Add new foods one at a time in small amounts.
- Keep a food journal to help you identify foods that might be troublesome. (See **Food Journal**)
- Try adjusting the time between meals. Traditional meal patterns might cause increased output later in the day. Try a larger breakfast and lunch and a smaller early dinner.
- Limit foods and liquids in the evening to help you sleep better.
- Review all the information and food charts in this guide. The effects of your diet will generally
  be the same as indicated for the traditional ileostomy and colostomy.
- Eating rice, potatoes, or pasta once daily might reduce stool frequency and irritation.
- High potassium foods such as bananas will help offset the effects of electrolyte imbalance caused by diarrhea. (See also Hydration, Fluids, and Electrolytes)
- Limit foods containing simple sugars as they will aggravate diarrhea. These include sweets, honey, jams and jellies, and high-sugar beverages such as juices and soda.
- Drink 8-10 glasses of fluid each day.
- For some people, additional fiber in the diet helps to thicken the stool.

#### **Prevent Anal Irritation**

Avoid the following foods, which might cause anal irritation:

- Chinese/Asian vegetables such as bok choy
- Raw fruits such as oranges and apples
- Raw vegetables such as celery, corn, and coleslaw
- Coconut
- Dried fruits such as raisins and figs
- Spicy foods
- Foods with seeds or nuts

#### Slow Down Diarrhea

Some medications might help to slow down diarrhea. Always talk with your medical doctor before taking any medications, including those listed below.

- Imodium®
- Lomotil® (prescription)
- Codeine
- Morphine Elixir
- Questran® (a binding agent)

#### **Warning**

The following anti-diarrhea medicines contain ingredients related to aspirin (bismuth subsalicylate). Do not give these medications to children or teenagers who are experiencing a fever.

Always contact your medical doctor prior to taking any medications.

- Bismuth (Pepto-Bismol®)
- Kaopectate®



Some patients with an ostomy develop a condition called **Short Bowel Syndrome (SBS).** This is a condition where sections of the small intestine have been removed or bypassed as a result of disease, surgical complications, or injury. The shortened length of the small intestine can create problems with digestion, absorption, and ostomy management.

# What Happens with SBS?

Patients with SBS are unable to naturally absorb enough nutrients, vitamins, minerals, electrolytes, and fluids through their intestine from the foods and liquids they eat. While currently there is no cure for SBS, symptoms can usually be managed, improving quality of life and preventing dangerous complications.

Talk to your doctor if you think you may have SBS. Early treatment will result in the best outcomes for your health and in receiving the vital nutrition you need to heal and thrive.

#### **SBS Risk Factors**

- A birth defect causing intestinal atresia, a narrowed small intestine, or a missing portion of the small intestine
- Trauma or injury to the intestines
- Intestinal motility disorders or sluggish movement within the intestines

- Side effects from cancer or cancer treatment on the intestines
- Crohn's disease, which can cause scarring and obstructions in the digestive tract
- Loss of blood flow to the intestines as a result of blood vessel blockage

#### **Diagnosing Short Bowel Syndrome**

Your doctor can diagnose SBS in several ways:

- Detailed review of your medical, surgical, and family history by your doctor
- Physical exam
- Laboratory tests (blood and stool samples)
- Imaging exams (such as X-rays, CT scans)

#### **Common SBS Symptoms**

Symptoms of SBS vary from person to person depending upon how much of the functioning intestine remains. The following chart lists the most common SBS symptoms.

	SBS Symptoms
General Symptoms	Diarrhea (loose watery stools) and high-volume ostomy output (>1,200 milliliters of stool over 24 hours)
Symptoms	Abdominal pain and bloating
	Weight loss and malnutrition
	Fatigue and weakness
	Infants and children may fail to grow and develop
	Dehydration
Dehydration	Excessive thirst
Symptoms	Light-headedness
	Dizziness, headache
	Fatigue
Dehydration,	Poor condition of the skin and nails
Long-term Effects	Weight loss
	Low energy

#### **SBS Complications**

If you have SBS, you could experience the following complications:

- Small bowel bacteria overgrowth
- Kidney stones
- **Electrolyte** abnormalities/imbalances
- Vitamin and mineral deficiencies
- Acidosis
- Parenteral nutrition (PN)-related line problems (infections)
- Gastric acid hypersecretion
- **Steatorrhea**—a dietary fat remaining in the stool (fatty stool) due to lack of absorption in the small intestine

#### **Short Bowel Syndrome Treatment and Management**

The goals of treating SBS are to ensure you get the nutrition and fluids you need and to manage the symptoms to prevent complications.

Treatment and management options are specific to the individual and determined by the location and health of the remaining bowel. Options can include nutrition and diet modifications, medications, and surgery. Specific actions you can take include the following:

#### **Avoid Hypotonic and Hypertonic Fluids**

Hypotonic fluids pull water into the small bowel lumen causing loose stool.

- Fruit juices and drinks
- Sodas
- Sweetened liquid nutritional supplements
- Sweet tea
- Ice cream
- Sherbet

Hypertonic fluids pull sodium into the small bowel lumen causing loose stool.

- Water
- Tea
- Coffee
- Alcohol
- Diet drinks

#### **Drink Isotonic Fluids**

Isotonic fluids have the same salt concentration as cells and blood. For a complete list, see **Tips to Supplement Electrolytes**, found in the **Hydration**, **Fluids and Electrolytes** section.

#### **Measure Your Output**

Always measure your output, including urine. You should have at least 1200cc (ml) urine output daily. For tips on measuring stool output see page 36.

#### **Avoid Diarrhea-producing Foods**

For a complete list, see the chart **Foods and Their Effects** in the **Nutrition after Recovery and Beyond** section.

#### **FAQ**

#### What if I cannot eat enough food to keep me healthy?

Intravenous (IV) nutrition, called **Total Parenteral Nutrition (TPN)**, can be administered through a special site that can remain in place for an extended time. Generally TPN is a temporary treatment except in the most severe cases when it might be used for a longer period.

TPN, which can be administered by a patient or family members, is often given at bedtime to allow for normal activity during the day.

#### **FAQ**

#### What if I cannot drink enough fluids to keep me healthy?

Intravenous (IV) hydration may be considered. As with TPN, a patient or family members can learn how to give IV hydration.

#### How will having SBS affect my ostomy?

The volume of stool output from the ostomy may be high (more than 1,200 milliliters per day) leading to more frequent emptying of the pouch.

In addition, the loose watery stool may break down the pouch adhesive seal quickly causing a less than average wear time (three days). The skin around the stoma may also become irritated, itchy, or sore if leakage occurs or with frequent pouch changes. A certified ostomy nurse can assist with any pouch or skin issues.

#### **SBS Information and Resources**

National Organization for Rare Disorders (NORD) (rarediseases.org)

Short Bowel Syndrome (<u>www.shortbowelsyndrome.com/</u>) (offers a complimentary book, A Patient's Guide to Managing a Short Bowel)

Short Bowel Syndrome Foundation (www.shortbowelfoundation.org/)

#### Resources

#### **United Ostomy Associations of America**

United Ostomy Associations of America (UOAA) is a national non-profit organization that promotes quality of life for people with ostomies and continent diversions through information, support, advocacy, and collaboration. UOAA is here for you.

- Connect with people just like you!
- Participate in various regional and national events.
- Share with others on our social media platforms and discussion board.
- Learn more about our 300+ local support groups and find their locations.
- Sign up to receive our monthly E-newsletter.
- Become a member.
- Make a donation to help support our programs, advocacy, and educational work.
- Advocacy—Know what to expect and what your rights are as a person living with an ostomy in our "Ostomy and Continent Diversion Patient Bill of Rights." Visit <u>www.ostomy.org/bill-of-rights/</u>. Review all of our tools, such as those for travel, health care, or swimming, to self advocate as needed.
- Visit our website <u>www.ostomy.org</u> for information, resources, and educational material.
   Call our information line at 800-826-0826.

#### The Phoenix Magazine

The official publication of UOAA and the leading ostomy publication in America.

- Learn about topics affecting people living with an ostomy or a continent diversion, from skin care to nutrition to intimacy.
- Read inspirational stories of people living with an ostomy or continent diversion.
- Discover something for every ostomate in each 80+ page quarterly magazine.
- Call 800-750-9311 or go to <u>www.phoenixuoaa.org</u> for more information and to subscribe.

#### Resources

#### Wound, Ostomy and Continence Nurses Society (WOCN)

Wound, Ostomy and Continence (WOC) nurses are highly prepared expert clinicians who treat complex wounds, ostomy issues, and incontinence.

- To help patients like you, WOC nurses serve in a variety of roles, including educator, consultant, researcher, and administrator.
- Learn about the Ostomy Care Associate (OCA) Program and OCA nurses.
- Find out more by visiting **www.wocn.org**.

#### **Ostomy Management Specialists**

Ostomy Management Specialists are clinicians trained to understand both the physiological and emotional challenges people face after ostomy surgery.

• Find out more by visiting **www.nawccb.org/**.

#### **Vegan Ostomy**

A patient-run support website that helps people who have a stoma to live happier lives.

- Includes ostomy product reviews, stoma care, a support forum, videos, and tips for ostomates, including nutrition.
- To learn more visit www.veganostomy.ca.

#### Resources

#### Other Helpful Organizations

- Academy of Nutrition and Dietetics: www.eatright.org
- American Cancer Society: www.cancer.org
- American College of Gastroenterology: www.gi.org/patients/
- American Institute of Cancer Research: www.aicr.org/
- Bladder Cancer Advocacy Network (BCAN): www.bcan.org/
- Colorectal Cancer Alliance: www.ccalliance.org/
- Crohn's & Colitis Foundation: www.crohnscolitisfoundation.org/
- International Foundation for Gastrointestinal Disorders (IFFGD): www.iffgd.org. Visit their dietitian locator at www.iffgd.org/dietitian-listing.html and their sister organization for information on kids and nutrition at www.aboutkidsgi.org.
- National Association for Homecare & Hospice: www.nahc.org
- National Organization for Rare Disorders: www.rarediseases.org/
- National Institute of Diabetes and Digestive and Kidney Diseases: <u>www.niddk.nih.gov/</u>
- Short Bowel Syndrome: <u>www.shortbowelsyndrome.com</u>. Free book offered on living with short bowel syndrome.

#### **Nutritional Support**

The Oley Foundation provides support, education, advocacy, and networking for those living with home intravenous nutrition and tube feeding.

• For more information, visit **www.oley.org/**.

**Acidosis:** When body fluids contain too much acid. Acidosis occurs when the kidneys and lungs can't keep the body's pH in balance. Symptoms can include fatigue, confusion, and rapid, shallow breathing.

**Amino Acids:** Compounds that combine to make proteins. When a person eats a food that contains protein, their digestive system breaks the protein down into amino acids. The body then combines the amino acids in various ways to carry out bodily functions.

**Bowel Obstruction:** A blockage in the small or the large intestine that can be a **potentially dangerous condition.** Someone with a full obstruction will not pass stool or gas. Someone with a partial obstruction may have diarrhea. Signs that you may have an obstruction include abdominal pain, constipation, nausea and vomiting, swelling of the abdomen, feeling like you don't want to eat.

**Catheter:** A soft hollow tube, which is passed into a stoma to drain stool (for those with a continent fecal diversion) or urine (for those with continent urinary diversions). It can also be used to collect a urine sample from an ileal conduit (urostomy).

**Colon:** Part of the digestive system, also called the large intestine. It removes water and some nutrients and electrolytes from partially digested food. The remaining material, solid waste called stool, moves through the colon to the rectum and leaves the body through the anus.

**Colostomate:** A term used for a person living with a colostomy.

**Continent Diversion:** A fecal (stool) or urinary diversion where one has control of elimination instead of needing to wear a pouching system.

**Crohn's Disease:** A chronic inflammatory bowel disease (IBD) that causes inflammation of the digestive or gastrointestinal (GI) tract. It can affect any part of the GI tract from the mouth to the anus but is more commonly found at the end of the small intestine (ileum).

**Dehydration:** Occurs when you use or lose more fluid than you take in. It results in your body not having enough water and other fluids to carry out its normal functions. Feeling thirsty, tired and weak are some of the symptoms of dehydration.

**Electrolytes:** Minerals that are involved in many essential bodily processes.

**Enteric-coated Tablets:** Tablets (medications) that have a polymer barrier applied to prevent disintegration (break down) of the tablet in a gastric environment such as the stomach. They allow medications to be released in the small intestine. People with ileostomies may not absorb enteric coated tablets well.

**Enzymes:** Digestive enzymes help to break down molecules such as fats, proteins, and carbohydrates into even smaller molecules that can be easily absorbed.

**Fat-Soluble (Vitamins):** Essential nutrients that dissolve in fats and oils. They are absorbed along with fats in the diet and can be stored in the body's fatty tissue. They come from plant and animal foods or dietary supplements.

**Hydration:** Getting the right amount of water, fluids, and electrolytes to maintain health.

**Hydrogenated Oil:** A manufacturing process in which liquid unsaturated fat is turned into a solid fat by adding hydrogen. It is used in foods to help increase shelf life and save costs. However, during this process a type of fat called trans fat is made. Trans fat is an unhealthy type of fat and can be found in fried and processed foods (i.e., premade snacks and baked goods). They increase LDL, "bad" cholesterol, in the body.

**Hypersecretion:** An excessive production of gastric acid.

**lleostomate:** A term used for a person living with an ileostomy.

**Ileum:** The last part of the small intestine. It connects to the cecum (first part of the large intestine). The ileum helps to digest food coming from the stomach and other parts of the small intestine. It absorbs nutrients and water from food so they can be used by the body.

**Insoluble Fiber:** Helps to add bulk to waste in the digestive system and prevent constipation. People often think of this type of fiber as "roughage" as it does not dissolve in water. Found in foods such as wheat bran, vegetables, and whole grains.

**Intestinal Atresia:** When the bowel does not form correctly causing narrowing or closure of the intestine. Food is blocked from passing through the intestine.

**Intestinal Motility:** Muscular movement (or contractions) of the intestine, also called peristalsis.

**LDL Cholesterol (Low Density Lipoprotein):** Considered "bad" cholesterol. Cholesterol is naturally produced by the body and is essential to its function. When LDL level is high, it can start to form a plaque-like substance on artery walls that blocks the natural flow of blood, increasing the risk of heart attack and stroke. In contrast, HDL (high density lipoprotein) is considered "good" cholesterol as it helps to removed harmful cholesterol from the body and reduces the risk of heart disease.

**Low in Fiber/Low in Residue Diet:** A diet that includes easy to digest foods and limits high fiber foods. After some types of intestinal surgery, a low fiber/low residue diet may be used as a transition to a regular diet. This diet helps decrease the amount of stool in the intestines for healing.

**Macronutrients:** The three basic components of every diet—carbohydrates, fat, and protein—that make up everything that we eat.

**Malnourished (Malnutrition):** A condition that results when someone does not receive enough nutrition from their diet. It may result from not getting enough calories, protein, carbohydrates, vitamins, or minerals.

**Metabolism:** The process by which your body converts what you eat and drink into energy. During this complex biochemical process, calories in food and beverages are combined with oxygen to release the energy your body needs to function.

**Micronutrients**: One of the major groups of nutrients your body needs, including vitamins and minerals.

**Parenteral Nutrition:** A method of getting nutrition into your body through your veins, also called intravenous administration of nutrition, for people who cannot eat or absorb enough food by mouth to maintain good nutrition status. Depending on which vein is used, this procedure is often referred to as either total parenteral nutrition (TPN) or peripheral parenteral nutrition (PPN).

**Prebiotics:** Types of dietary fiber that feed the "good" bacteria (normal microflora) in your gut. They help the gut bacteria produce nutrients for colon cells, leading to a healthier digestive system. Chicory root, onions, garlic, oatmeal, and wheat bread are examples of foods high in prebiotics.

**Probiotics:** Live beneficial bacteria for your gut that are naturally created by the process of fermentation in foods such as yogurt and sauerkraut. They are intended to maintain or improve the "good" bacteria (normal microflora) in the gut. They can be found as a dietary supplement in pill form and as an added ingredient in foods such as health drinks and yogurt.

**Prosthetic:** Title XVIII, §1861 (s)(8) of the Social Security Act defines prosthetics as those, which replace all or part of an internal body organ, including colostomy bags and supplies directly related to colostomy care, and replacement of such devices.

**Registered Dietitian (Nutritionist) RD/RDN:** Medical professionals who are credentialed experts in food and nutrition.

**Saturated Fats:** A type of unhealthy dietary fat. These fats are most often solid at room temperature. Foods like butter, palm and coconut oils, cheese, and red meat have high amounts of this type of fat.

**Short Bowel Syndrome (SBS):** A serious condition where patients are unable to absorb enough nutrients and fluids from the food they eat due to the surgical removal of a large part of their intestines.

**Soluble Fiber:** Dietary fiber that absorbs water to form a gel-like substance inside the digestive system to help soften stool. It is found in foods such as oats and oatmeal, barley, bean, lentils, peas, and some fruits and vegetable. It is also found in psyllium, a fiber supplement, which may be used by people with an ileostomy to help thicken the stool. Soluble fiber also helps to moderate blood glucose levels and lower cholesterol.

**Steatorrhea:** The presence of too much fat in the stool. Stools may be bulky and difficult to flush, have a pale and oily appearance and can be very foul-smelling.

**Stoma:** A portion of the large or small intestine that has been brought through the surface of the abdomen (belly) and then folded back like a sock cuff. A stoma provides an alternative path for urine (in the case of a urostomy) or stool (in the case of a colostomy or ileostomy) to leave the body.

**Stoma Blockage:** When something obstructs the stoma preventing stool from coming out. A blockage can be partial (a small amount of stool is able to come out) or complete (no stool is able to come out).

**Time-Released Tablets:** Tablets that are designed to release a steady stream of a drug into your system over a certain time period, usually over 6–8 hours. People with an ileostomy may not absorb a time released tablet.

Total Parenteral Nutrition (TPN): See Parenteral Nutrition

**Trans Fats:** An unhealthy type of fat made through the chemical process of adding the molecule hydrogen to oils. This process solidifies liquid oils and increases the shelf life and flavor of the foods that contain them. Many processed and deep-fried foods contain these types of fats.

**Transit Time (Bowel Transit Time):** The time it takes for food to travel from the mouth through the digestive tract to the anus. The type of food eaten, stress, and medical conditions can influence transit time.

**Ulcerative Colitis (UC):** Is a type of inflammatory bowel disease that affects the large intestine (colon) and causes irritation, swelling, and sores called ulcers on the lining of the colon.

**Unsaturated Fats (Monounsaturated, Polyunsaturated):** Healthy fats that are liquid at room temperature. They help to improve blood cholesterol levels, ease inflammation, stabilize heart rhythms, and play several beneficial roles for the body. Unsaturated fats are predominantly found in foods from plants, such as vegetable oils, nuts, and seeds.

Urostomate: A term used for a person living with a urostomy (ileal conduit).

**Water-Soluble (Vitamins):** Essential nutrients that can dissolve in water and are found in plant and animal foods or dietary supplements. They are carried to the body's tissues when consumed but are not stored in the body.

**Wafer/Barrier:** The part of a pouching system that attaches to the abdomen to keep the pouch in place. A wafer/barrier can be incorporated into the pouching system for one-piece pouches or it can be a separate part from the pouch for two-piece pouching systems.



#### **DAILY FOOD JOURNAL**

Keeping a food journal may be helpful for some people. If you have persistent gas, diarrhea, or do just not feel well, a journal may help you see patterns related to how or what you eat or drink and when problems occur. You may need to consult a registered dietitian (RD) to review the journal with you. It is important to consult an RD who has knowledge of gastrointestinal diseases and ostomies. There are many ways to keep a food journal. This is a sample journal.

Date:	Mon	Tues	Weds	Thurs	Fri	Sat	Sun

т.	F .	F1 . 1	Malian			F	Output
Time	Food	Fluid	Medications	Physical Symptoms	Cravings	Emotions	U = urine B = bowel