

## Constipation

Constipation is a common problem, described as having stool that is hard, dry, and cannot be passed without straining or causing pain. There are numerous causes of constipation, and thankfully there are some things that can be done to help relieve it. The best way to begin promoting regular bowel movements is to include plenty of fiber and fluid in your daily intake.

### Fiber

Not only is fiber helpful for improving bowel movements, it also increases the feeling of fullness after a meal and can help with cholesterol and weight management. Fiber is a natural substance that is found in plant products such as fruits, vegetables, whole-grains, and beans.

### Fluid

The perfect partner for fiber is fluid. Fluid moistens the stool and helps replace the water that will be absorbed into the fiber and then moved out of the body. Water is essential to life and the ideal fluid for everyone, but it is all the more important for those with constipation. Fluid needs can be met through other sources too, such as soup, tea or milk.

### Exercise

Daily activity can help make going to the bathroom easier by moving the intestines around and strengthening abdominal muscle tone, which may increase bowel movements.

### Other Factors

If the constipation problem continues and is not relieved after regularly increasing the amount of fiber, fluid, and exercise in your routine, there may be a medical reason for the constipation. Contact your pediatrician about this, as there may be some recommended tests and/or other interventions that could be appropriate at that point.

### Prescription

**Fiber:**  $\frac{\text{age}}{\text{age}} + 5 = \text{ \_\_\_\_ }$  grams of fiber daily (for those 3-18 years of age)

\*for those over age 18, aim for 25-35 grams daily

**Fluid:** at least 6-8 cups of fluid daily

**Exercise:** 60 minutes of activity daily





## Diarrhea

There are many medical causes for diarrhea, and thus there are different tests and treatments that your pediatrician may recommend to address them. If the diarrhea lasts for more than three days, contact your pediatrician.

### Common dietary causes of diarrhea:

- Excessive juice intake
- Food poisoning
- Gluten or lactose intolerance (if suspected, contact pediatrician)

During an acute episode of diarrhea, the two main dietary goals are to control the movement of stool through the intestines and maintain fluid balance.

## Prescription for Diarrhea Management

- 1. Increase soluble fiber**, including white bread, white rice, well-cooked oatmeal, barley, most cooked fruits and vegetables (without skins), applesauce, bananas, oranges.
- 2. Avoid insoluble fiber**, including wheat bran, raw fruits and vegetables, corn, and green beans.
- 2. Include lean protein** from foods like chicken, fish, eggs, yogurt, and others, as tolerated. The basic “BRAT” diet (Bananas, Rice, Applesauce, Toast) is not nutritionally adequate.
- 3. Drink plenty of fluid**, aim for at least 8 cups daily. For children 2 years or younger, extra precautions are needed. Specially-formulated hydration maintenance solutions such as Pedialyte® or Enfalyte® should be given to help prevent dehydration. Children older than 2 can also benefit from these solutions, but they can typically use other fluids such as broth, Gatorade, and water along with dietary intake (as above) to stabilize and re-hydrate during and after diarrhea.

## Prevention of future diarrhea

- Practicing careful food-safety habits (e.g. washing hands before touching food, not eating while bowling) can help prevent the reoccurrence of diet-related diarrhea.
- If there is a dietary cause for the diarrhea, meeting with a dietitian, restricting the offending food(s), and/or

### The Poo-Poo Stopper

Congee is a traditional rice porridge that can be very helpful with managing diarrhea. Place 1 cup of rinsed white rice and 3 quarts of water or broth in a pot and bring to a boil. Reduce heat to medium-low, cover partially, cook for 1 to 1 ½ hours, and stir occasionally – is ready when at a porridge-like consistency. Add a pinch of cinnamon, salt, or other flavorings to taste, as desired.



## Vomiting

The occasional vomiting episode is to be expected during infancy and childhood. An isolated vomiting incident is not something to be too concerned about, but if vomiting continues for more than 12 hours something more serious may be at work and you should contact your pediatrician. Also, if the vomiting episode is associated with a recent injury to the head, fever, or if the vomit contains blood or greenish bile, contact your pediatrician immediately. If your child is an infant who is vomiting forcefully after feedings, losing weight, or not growing well, contact your pediatrician.

Dehydration and under-nutrition can result from prolonged vomiting. Although food intake may not be desirable while feeling ill, fluid and electrolytes are quickly depleted and need to be replaced with the regular intake of appropriate liquids as soon as possible.

### Prescription

**1. Drink plenty of fluids, but start slowly** or symptoms could worsen. Begin giving occasional small sips, as tolerated, and work up to 1-2 ounces or more of liquid per feeding until a goal of at least 8 cups per day can be reached.

If the child is 2 years old or younger, extra precautions are needed. Specially-formulated hydration maintenance solutions such as Pedialyte® or Enfalyte® should be given to help prevent dehydration. If breastfeeding, continue as tolerated. Children older than 2 can also benefit from these solutions, but they can typically use other fluids such as broth, Gatorade®, and water to stabilize and re-hydrate after vomiting.

**2. Begin solid foods once the vomiting subsides.** Start out with small amounts at a time to see how the child tolerates the food. Good choices to begin with include bananas, applesauce, cereal, yogurt, chicken soup, potato, cooked carrots, or other favorite soft, bland foods. Infants can resume breast feeding or formula intake as soon as tolerated.



## High Blood Pressure

**Picture your blood vessels as thin tubes running through your body** that are stretchy like rubber balloons. As blood pumps through your veins, the soft and flexible blood vessels react like a rubber tube would if you ran water through it. Normally as your heart pumps, the blood exerts some pressure against the walls of your blood vessels without any problems. But if the pressure gets too high, the blood vessels can get stretched too far and lose some of their flexibility. If this happens, something called “plaque” can build up on the vessel walls, which can cause a heart attack. High blood pressure can also damage organs like the kidneys, eyes, and brain because the blood vessels in them become more fragile.

### How can I lower my high blood pressure?

**Lose weight** and your heart will not have to have to work so hard to pump blood through the body. When your heart has less work to do, your blood pressure will go down. A dietitian or your physician can help you reach this goal.

**Eat less salt** in your diet. Sodium (another name for salt) is like a magnet for water: if there is a lot of sodium in your blood more water will stay in the blood, which raises the blood volume and blood pressure. See the DASH (Dietary Approaches to Stop Hypertension) guidelines below.

**Do not smoke.** Nicotine causes the blood vessels to become smaller and less flexible, which raises the blood pressure.

**The DASH diet has been shown to lower blood pressure.** It is a diet that is high in fruits, vegetables, whole grains, nuts, and low-fat dairy, while low in salt, sugar, and saturated fat.

**For extra help, a Registered Dietitian (RD) can help you understand how to make changes to your current diet in order to lower your blood pressure.**



## High Cholesterol

“Fats” are nutrients found in many foods we eat. There are several different kinds of fats, and some are good for your body and some are unhealthy. Eating too many of these unhealthy fats can result in your body storing too much unhealthy cholesterol (measured by your **total cholesterol** or **LDL cholesterol** numbers). Having high cholesterol can make it hard for the blood to travel through the body. This poor blood flow increases the risk of heart disease, stroke, pancreatitis, and kidney problems. In contrast, eating only healthy fats can actually lower the bad cholesterol and increase the healthy kind of cholesterol (**HDL cholesterol**).

### What are the different types of cholesterol?

**The total cholesterol level** can be dangerous if high because cholesterol is a waxy substance that tends to build up on blood vessels, which can cause the problems described above.

**LDL cholesterol** is known as the “bad cholesterol” because this is the kind that builds up on walls of blood vessels leading to the heart and brain, which can cause them to get blocked up.

**HDL cholesterol** is the “good cholesterol” because it acts like a cleaner that carries cholesterol out of the blood vessels and into the liver to be gotten rid of.

**Triglycerides** are different in that it is a type of fat found in your blood. Any food eaten that is more than it can be used immediately is turned into triglycerides and stored in fat cells to be used later. Too many triglycerides in the blood is linked to heart disease. Elevated triglycerides may be a consequence of another disease, such as untreated diabetes mellitus.

### What is my cholesterol?

Blood Fats	My Results	Acceptable (mg/dL)	Borderline (mg/dL)	High (mg/dL)
Total Cholesterol		120-170	170-199	200 or greater
LDL Cholesterol		< 110	110-129	130 or greater
HDL Cholesterol		> 40 (the higher the better)		
Triglycerides		< 150	150-199	200 or greater



## How do I treat my high cholesterol?

### Lower LDL cholesterol

- **Eat less saturated fat.** Saturated fat is the kind of fat found mostly in animal foods, such as high-fat meats (like beef, bacon, sausage, and pepperoni) and dairy products; it is also in palm and coconut oil.

#### **Tips to reduce saturated fat**

- Choose low-fat milk, yogurt, and cheese
  - Order pizza and sandwiches with less full-fat cheese/meat and more vegetables
  - Limit beef to 1-2 servings per week
  - Try lean turkey bacon and sausage made from chicken or turkey
  - Buy leaner cuts of meat (i.e. “round” and extra lean (95%) ground beef)
  - Substitute butter with margarines made without trans fat (e.g. I Can’t Believe It’s Not Butter, Promise, Smart Balance) and canola or olive oil for cooking
- **Choose products without trans fat.** These fats are man-made and even more harmful than saturated fats. They appear on the ingredient list as “partially hydrogenated” or “hydrogenated vegetable oil” of many packaged foods, cookies, and baked goods. They are also high in fried foods from restaurants.

#### **Tips to reduce trans fat**

- Pick foods that have not been fried when eating out at restaurants
  - Look at labels and choose brands that have 0 grams of trans fat
  - Most baked goods and boxed brownie/cake mixes have trans fat – try baking from a recipe at home or choose an all-natural brand from the store that is trans fat free
  - Avoid Crisco and margarine made from trans fat – use spreads like Promise, I Can’t Believe It’s Not Butter, or Smart Balance, and use canola or olive oil for cooking
- **Eat foods high in soluble fiber.** This type of fiber helps wash cholesterol out through the intestines. Some of the best sources are oatmeal/oat bran, barley, beans, fruits (especially apples, oranges, strawberries, and pears), and vegetables.
  - **Exercise.**



### Increase HDL cholesterol

- **Eat fats high in unsaturated fat.** Good sources of healthful fats include olive and canola oil, avocado, nuts (e.g. walnuts, almonds, cashews), and peanut butter.
- **Exercise.** This will help to increase HDL *plus* lower LDL and triglycerides!

### Lower Triglycerides

- **Eat less simple sugars.** Extra sugars and starches get broken down and made into triglycerides – eat less white rice, white bread, cookies, juice, and other sweets.
- **Exercise.**



## Underweight

Underweight or growing more slowly than is optimal is most frequently encountered during infancy and early childhood. Insufficient growth is important to notice as soon as possible because the first few years of life are critical for growth and optimal mental development, and poor nutrition during this time can set children back for the rest of their lives. It is diagnosed by a pediatrician based on growth patterns and various other symptoms.

### What are the causes for underweight?

- **An underlying medical condition** that prevents the child from obtaining or utilizing enough nutrition – causes could include gastrointestinal problems (e.g. vomiting, reflux, chronic diarrhea), genetic diseases (Celiac disease, cystic fibrosis), inability to eat enough food (cleft lip or palate, altered mental status, dysphagia), or increased demand for calories (infection/fever, respiratory problems).
- **Food intolerances or other reasons for dietary restrictions.**
- **Inadequate food intake for some other reason** such as the child being a “picky eater” or has a temperament that makes them difficult to feed, the lack of funds for food, stress/trauma in life, a hectic daily schedule, caregiver unsure of what/how much to feed the child, or various other hindrances to having a nutritionally-balanced daily intake.

### Strategies to help increase intake

#### Behavioral tips

- Schedule six eating events (3 meals + 3 snacks or “mini-meals”) each day. For each of these, sit down and focus on eating. Do not skip or miss a snack or meal
- Try not to eat on the run; avoid games and minimize other distractions at meals
- Limit meal times to about 30 minutes of focused eating
- Work together as a family to make meals enjoyable and peaceful
- Let children feed themselves as much as possible
- Do not allow “grazing” between meals and snacks; only give water in-between feedings to promote hunger at scheduled meal and snack times

#### Food/beverage tips

- Serve beverages last at meals or snacks so that they don’t fill up on liquids
- Do not allow juice or soda to drink
- Children 1 year or older could benefit from supplements for kids, e.g. PediaSure®
- Use whole milk, full-fat cheese, yogurt, dressing; add dry milk powder to recipes
- Try more nutrient-dense foods like peanut butter, nuts, avocado, pudding (with extra dry milk mixed in), smoothies, whole grain muffins, and mini-pizzas
- Mix 1-2 teaspoons of canola oil into soft foods to increase calories without changing the taste, or use extra olive oil to vegetables, soups, etc.

**Children diagnosed with underweight could benefit from a full nutritional assessment from a pediatric Registered Dietitian.**



# Iron

Iron has many jobs in the body, but it is most renowned for its role in helping to make red blood cells which transport oxygen throughout your body. Without enough iron, the body will not be able to get all of the oxygen that it needs, resulting in anemia – this can cause a person to feel tired, weak, cold, dizzy, or faint.

## Who is at higher risk for iron deficiency anemia?

**Infants** - who no longer have the iron stores with which they were born. When solids are introduced, they will need iron-fortified foods (such as enriched rice cereal).

**Older children and adolescents** - if their diets are low in protein and are not balanced

**Vegetarian teens** - are at especially high risk

**Menstruating females** - due to blood loss

## Which foods have iron and how much iron do I need?

There are two types of iron in the diet: **Heme iron** (from animal foods) and **Non-heme iron** (from plant foods). Heme iron is easily absorbed into the body, while Non-heme iron is harder to get out of plant foods. This means that when you see a plant food that has a lot of iron in it, remember that a smaller amount of it will actually get absorbed by your body.

Category	Daily Iron Need
7-12 months	11 mg
1-2 years	7 mg
3-8 years	10 mg
9-13 years	8 mg
M 14-18 years	11 mg
F 14-18 years	15 mg
Pregnant	27 mg

Animal Iron Sources		
Food	Portion	Iron (mg)
Beef	3 ounces	2
Chicken (dark meat)	3 ounces	1.3
Chicken (light meat)	3 ounces	0.9
Fish	3 ounces	0.5-1
Tuna (canned)	3 ounces	1.3
Plant Iron Sources		
Food	Portion	Iron (mg)
Beans (canned)	1 cup	3.5-4.5
White beans	1 cup	8
Bread	1 slice	1
Cereal (fortified)	$\frac{3}{4}$ cup	4.5-18
Peaches (dried)	$\frac{1}{4}$ cup	1.6
Rice (enriched)	$\frac{1}{2}$ cup	1.5
Tomatoes (canned)	$\frac{1}{2}$ cup	1.7
Potato (baked)	1	2
Almonds	1 ounce	1.2
Cashews	1 ounce	1.9

## Tips for increasing iron absorption

- **Eat it along with foods high in vitamin C** such as broccoli, cauliflower, sweet peppers, tomatoes, oranges, strawberries, cantaloupe, kiwifruit, pineapple
- **Eat at least some meat, fish, or poultry with plant sources of iron** because they help increase the absorption of the plant iron sources
- **Eat foods high in iron separately from things high in calcium** (e.g. milk and cheese), **separately from phytates** (e.g. a lot of whole grain fiber, soybeans, and other beans), and **separately from tannins** (e.g. tea and coffee) – these all can block iron from getting absorbed.



## Calcium: A Building Block For Bones

Calcium is a mineral that we all need for building strong teeth and bones. Think of your skeleton as a bank that accepts the most calcium deposits while it is growing. Childhood is thus the best time to store up calcium.

### How much calcium do I need?

Three to four servings of calcium-rich foods per day will meet the needs of most children.

Age (years)	Calcium Goal (mg/day)
1-3	500
4-8	800
9-18	1,300
19-50	1,000

### What foods give me the calcium I need?

Meet your daily calcium needs by eating foods rich in calcium:

Excellent (>300 mg)	Very Good (200 mg)	Good (>100 mg)
6 oz low-fat yogurt 8 oz low-fat milk 8 oz fortified soy/rice milk 8 oz fortified orange juice ¾ cup fortified cereals 1.5 oz Swiss, cheddar, mozzarella, provolone, and parmesan cheese ½ cup ricotta cheese	1.5 oz American, feta, and blue cheese 8 oz pudding 1 ½ cups macaroni and cheese 1 packet Instant Breakfast ½ cup tofu with calcium ¾ cup cooked spinach and collard greens	½ cup navy, white, great northern, and pinto beans 1 packet fortified oatmeal ¾ cup cottage cheese ¾ cup frozen yogurt ¼ cup almonds 5 dried figs 2 cups broccoli

### Fun and simple high calcium snack ideas

- Smoothie made with milk or yogurt and blended with fresh or frozen fruit
- Sliced fruit dipped in yogurt
- Cheese and whole-grain crackers
- Yogurt parfait with layers of fruit, yogurt, and granola
- Cheese sandwich or a cheesy quesadilla with salsa
- Mini-pizzas made on whole-wheat English muffins
- Bowl of cereal with fruit and/or almonds in it

### Also Important!

**Vitamin D** helps calcium to be absorbed into the body. Drinking at least 2 cups of milk daily or getting 15 minutes of sunlight daily will help to meet your Vitamin D needs. Other Vit-D-rich foods include fish, eggs and fortified foods like soy milk, rice milk, cereals, and bread. Look for the vitamin D content on the nutrition label.

**Exercise** for 1 hour each day to build strong bones and a healthy body!



## Reflux

Reflux, also called acid reflux or Gastroesophageal Reflux (GERD), refers to a condition in which the stomach contents (food and gastric secretions) frequently move back up into the esophagus. Reflux can lead to unpleasant symptoms like heartburn and chest discomfort. You'll need to work with your doctor to determine the cause of the reflux and to see if there is any medical treatment necessary. In the meantime, there are some additional things that can be done to help support treatment and relieve symptoms.

### **Avoid large meals and drinking too much liquid with meals**

Eating a large meal distends the stomach and can contribute to reflux. Try to eat smaller meals to avoid overwhelming the stomach with too much food at one time. Additionally, drinking too much liquid with meals can increase the likelihood of reflux. Try hydrating between meals, rather than during meals, to see if this helps reduce symptoms.

### **Eat dinner at least 3 hours before bedtime**

Eating an early dinner can be very helpful in dealing with reflux. Giving your stomach adequate time to digest the food before lying down is important because when you lay down, gravity no longer helps to keep the food down.

### **Elevate your head at night**

It may be helpful to sleep with your head propped up on a few pillows at night. Some even find it helpful to raise the head of the bed. This enables gravity to help pull the stomach contents down, preventing stomach content from creeping back up the esophagus during the night.

### **Other factors to consider**

Food intolerances can sometimes lead to reflux. For example, casein, a protein found in milk, can cause reflux in some individuals. It may be helpful to temporarily eliminate dairy from the diet to see if symptoms resolve. However, you'll need to work with your doctor or nutritionist to make sure that you are still getting enough calcium, vitamin D and protein from other sources. (See calcium handout for alternative calcium sources.) Other foods like peppermint, spices, tomatoes, caffeine, high fat foods and chocolate can trigger acid reflux in some individuals.

### **Home remedies that may help**

Apple Cider Vinegar – Many people have found that this old remedy is helpful in relieving reflux symptoms. Stir 2 teaspoons of raw, unfiltered apple cider vinegar in 8 ounces of water. Have one glass before breakfast and another mid-morning.

Ginger – Ginger can aid in harmonizing the stomach and can ease acid reflux. Ginger tea can be found in most grocery stores.

Licorice – Licorice is thought to help soothe irritated mucosal membranes. It can be found in pill form at health food stores.



## Reflux - Infants

Reflux (also called GERD or Gastroesophageal Reflux) refers to a condition in which the stomach contents (food and gastric secretions) frequently move back up into the esophagus. It is a common problem for infants. Most babies with reflux will grow out of it by the age of two. However, if it continues to be a problem, or if complications develop, you will need to seek advice from your pediatrician. Here are some tips to help deal with reflux in infants.

### **Breastfeeding**

Breastfed babies tend to have less reflux than formula fed babies. Breast milk contains a natural antacid and babies are less likely to develop food allergies/intolerances to breast milk.

### **Formula type and thickness can make a difference**

If breastfeeding isn't an option, you may want to work with your nutritionist to evaluate the formula you are using. Certain ingredients can cause reflux in some infants. For example, some babies develop reflux on formulas that are casein based. (Casein is a milk protein). Additionally, thickening the formula can sometimes be helpful.

### **Frequent burping**

Eating too fast can contribute to reflux. Gulping can trap gas in the stomach along with the food. If there is a bubble of trapped gas at the beginning of feeding, it can push food back up at the end of the meal when it is released. Therefore, stopping and burping the baby frequently during feedings can sometimes be helpful.

### **Positioning baby using gravity**

Holding the baby upright ensures that gravity is pulling the stomach contents downward. Babies with severe reflux may need to be held in an upright position for most of the day.

### **Raising the head of the crib**

Some babies benefit from having the head of their crib raised. Again, this allows gravity to help keep the food down.

