



# Fluid and Fiber

Fiber is normally ingested in the diet, and part of fiber cannot be broken down. A diet rich in fiber produces soft and more frequent stool and can help with constipation. There are two types of fiber, both of which are important in your child's diet:

## 1. Soluble

- Creates larger, softer stool
- Good sources: beans, fruit, oat products

## 2. Insoluble

- Increases stool bulk
- Good sources: whole-grain products and vegetables

## Daily fiber recommendations:

Use this formula to figure out how much fiber your child needs daily:

**Minimum:** *Child's age + 5 = grams of fiber needed per day*

**Maximum:** *Child's age + 10 = grams of fiber needed per day*

**Example:** Eric is 10 years old. The amount of fiber he needs daily is:

$10$  (his age) +  $5$  = **15** grams per day, minimum

$10$  (his age) +  $10$  = **20** grams per day, maximum

Eric needs **15–20** grams of fiber per day.

## Tips to encourage and increase fiber intake:

- Include a variety of food sources at meal times that contain fiber, such as fruits, vegetables, whole grains, and nuts.
- Slowly increase the amount of fiber your child eats over the course of a few weeks to meet his/her fiber goal. Rapid increase may make the constipation worse or cause gas, cramping, bloating, or diarrhea.
- Drink plenty of fluids. Fiber works best with adequate fluids, which will help soften the stool and make it easier to pass.
- On certain occasions, your physician may recommend over-the-counter fiber supplements (Benefiber, Metamucil, etc.) if dietary fiber is insufficient.



## Ways to incorporate fiber at meal and snack times:

Meal	Choose
Breakfast	<ul style="list-style-type: none"> <li>• Original rolled oats instead of instant oats</li> <li>• Whole grain cereals or bran</li> <li>• Add sliced apples, peaches, or berries to cereal or oatmeal; keep the skin on for extra fiber</li> <li>• Whole wheat flour when making muffins, pancakes, and waffles</li> </ul>
Lunch and dinner	<ul style="list-style-type: none"> <li>• Brown or wild rice instead of white rice</li> <li>• Whole wheat breads for sandwiches</li> <li>• Whole wheat pasta instead of white pasta</li> <li>• Add vegetables to pizza, tacos, and pasta</li> <li>• Add beans to soups</li> </ul>
Snacks	<ul style="list-style-type: none"> <li>• Popcorn, whole grain pretzels, whole grain fruit and granola bars, and whole grain crackers</li> <li>• Dried fruit (prunes, raisins, and cranberries)</li> <li>• Add fruits and vegetables to smoothies</li> <li>• Puree black beans or chickpeas to make dips</li> </ul>

## Choose high-fiber fruits and vegetables at all meal times:

- Eat raw fruits and vegetables with the skin on.
- Choose fresh fruits and vegetables instead of juices.
- Fruits, including green kiwis, dates, figs, pears, apples with skin, prunes, and raisins are helpful for constipation management.

## Reading food labels:

<b>Nutrition Facts</b>	
8 servings per container	
<b>Serving size</b>	<b>2/3 cup (55g)</b>
<b>Amount per serving</b>	
<b>Calories</b>	<b>230</b>
<b>% Daily Value*</b>	
<b>Total Fat</b> 8g	<b>10%</b>
Saturated Fat 1g	<b>5%</b>
<i>Trans Fat</i> 0g	
<b>Cholesterol</b> 0mg	<b>0%</b>
<b>Sodium</b> 160mg	<b>7%</b>
<b>Total Carbohydrate</b> 37g	<b>13%</b>
Dietary Fiber 4g	<b>14%</b>
<b>Total Sugars</b> 12g	
Includes 10g Added Sugars	<b>20%</b>
<b>Protein</b> 3g	<b>10%</b>
Vitamin 2mcg	10%
Calcium 260mg	20%
Iron 8mg	45%
Potassium 235mg	6%
*The % Daily Value (DV) tells you how much a nutrient in a serving of food contributes to a daily diet. 2,000 calories a day is used for general nutrition advice.	



When grocery shopping, read the labels to see how much fiber a product contains. It will list the amount of fiber per serving. The first ingredient listed should be whole grain or whole wheat.

Choosing foods with at least 3 grams of fiber per serving will help your child meet his/her daily fiber goal.

## Fiber-containing foods:

### Breads/muffins

- 1 slice whole wheat, rye, or pumpernickel bread: 1-2 grams
- 1 small corn tortilla: 1-2 grams
- 1 small bran muffin: 3-4 grams

### Cereals

- 1 cup Corn Flakes or Fruit Loops: 1-2 grams
- 1 whole-grain Pop-Tart: 3 grams
- 1 cup Cheerios: 3-4 grams
- ½ cup Quaker old fashioned oats: 3-4 grams
- 1 cup Kashi: 9 grams

### Fruits

- 10 grapes or 1 cup cantaloupe or pineapple: 1-2 grams
- 1 medium-size banana, kiwi, peach, or plum: 1-2 grams
- 1 cup blueberries or strawberries: 3 grams
- 6-8 prunes or 1 medium pear: 4-5 grams
- 1 cup raspberries: 8 grams

### Vegetables

- 1 cup raw spinach or ½ cup broccoli, green beans, corn, or raw carrots: 1-2 grams
- ½ cup green peas, brussels sprouts: 3-4 grams
- 1 medium sweet potato with skin: 3-4 grams
- ½ cup lima beans: 8 grams

### Pasta/rice

- ½ cup whole wheat pasta: 3-4 grams
- 1 cup brown rice: 3-4 grams

### Dried beans/nuts/peas

- 1 ounce nuts or ½ cup seeds: 3-4 grams
- ½ cup kidney beans, pinto beans, or chickpeas: 5-6 grams

### Snack foods

- 1 serving whole-grain goldfish: 1-2 grams
- 6 Triscuit crackers: 3-4 grams
- 3 cups popcorn: 3-4 grams
- Kashi granola bar: 4 grams

## Fluids

Fluid helps soften stool and make it easier to pass. Adequate fluid is important when increasing fiber in the diet. Water is the best source, but fluid can also come from healthy beverages and even some foods. Clear or pale urine is a good sign that your child is hydrated.

### Daily fluid recommendations:

*Note: 1 cup = 8 ounces*

Age	Ounces/day	Cups/day
1-3 years	45-50 ounces	5.5-6 cups
4-8 years	55-60 ounces	7-7.5 cups
9-13 years	Males: 80-85 ounces Females: 70-75 ounces	Males: 10-10.5 cups Females: 8.5-9 cups
14-18 years	Males: 100-110 ounces Females: 75-80 ounces	Males: 12.5-14 cups Females: 9.5-10 cups

## Types of fluid:

### 1. Water

- This is the recommended source of fluids.

### 2. Juice

- Choose 100% fruit juice – apple, pear, and prune juices can help with constipation.
- Substitute half of juice with water to increase overall fluid intake.
- Limit to the following:
  - 1-3 years old: up to 4 ounces daily.
  - 4-6 years old: up to 4-6 ounces daily.
  - 7-18 years old: up to 8 ounces daily.

### 3. Milk

- 1-2 years old: 2 cups daily
  - Offer whole milk.
  - Reduced fat (2%) milk is recommended if obesity is of concern or if there is family history of obesity, dyslipidemia, or cardiovascular disease.

- 2–8 years old: 2 cups daily
  - Offer low-fat (1%) or fat-free (skim) milk.
- 9+ years old: 3 cups daily
  - Offer low-fat (1%) or fat-free (skim) milk.

#### 4. Sports drinks

- Use only with prolonged, vigorous physical activity (>90 minutes).

#### 5. Soda/energy drinks

- Not recommended for children or adolescents.

### Ways to increase fluid intake:

- Flavor water with cut-up fruit, vegetables, or herbs.
- Offer fruits and vegetables that are high in fluids, such as grapes, watermelon, cucumbers, oranges, celery, strawberries, blueberries, and kiwis.
- Include low-sodium broths and soups at meal times.
- Snack on fruit popsicles, Jell-O, or Italian ice.

### → Locate a Pediatric Gastroenterologist

**IMPORTANT REMINDER:** This information from the North American Society for Pediatric Gastroenterology, Hepatology and Nutrition (NASPGHAN) is intended only to provide general information and not as a definitive basis for diagnosis or treatment in any particular case. It is very important that you consult your doctor about your specific condition.



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