



# Living with Cirrhosis



**THE OHIO STATE UNIVERSITY**

WEXNER MEDICAL CENTER



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For a digital copy of this book, please visit [go.osu.edu/pted3511](https://go.osu.edu/pted3511).

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**This book is for informational purposes only. Talk to your doctor or health care team if you have any questions about your care.**

For more health information, go to [wexnermedical.osu.edu/patiented](https://wexnermedical.osu.edu/patiented) or contact the Library for Health Information at 614-293-3707 or [health-info@osu.edu](mailto:health-info@osu.edu).

# Welcome

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Thank you for choosing The Ohio State University Wexner Medical Center for your health care. Our team of doctors, nurses, and staff work together to help you, our patients, and families to find ways to manage cirrhosis.

**Cirrhosis is a chronic condition, meaning it lasts a long time. Every day you need to make choices to protect your liver.** There is no cure for cirrhosis, and we want your liver to work as well as it can. We want you to have a good quality of life. Follow this plan for your liver and health:

- **Eat a low sodium diet or less than 2,000 milligrams (mg) of sodium a day.**
- **Weigh yourself at the same time each day.** Keep a calendar by the scale, and write your weight on it every day. Call your health care provider if you have sudden weight gain, such as 2 to 3 pounds in a day or 5 pounds in a week. (Your provider may suggest a different range of weight gain.) Wear compression/support stockings and ace wraps, if prescribed.
- **Take your medicines every day, even if you feel well.**
- **Avoid taking any NSAIDs (nonsteroidal anti-inflammatory drugs), such as ibuprofen (Advil, Motrin) and naproxen (Aleve).** Limit acetaminophen (Tylenol) to no more than 2,000 mg per day.
- **Avoid alcohol, recreational drugs, and herbal supplements** to reduce the risk of more damage.

Ask your family and friends to support these behaviors. Ask questions and share your concerns with us. We want you to have good liver health.

Sincerely,

Your Ohio State Hepatology Team

## Contact Information

### Gastroenterology, Hepatology & Nutrition Division:

614-293-6255

Fax: 614-293-8518

### Ohio State University Hospital:

614-293-8000

### Ohio State East Hospital:

614-257-3000

### Outpatient EGD

#### Scheduling:

614-293-8784

### Outpatient Paracentesis Interventional

#### Radiology Scheduling:

614-293-2773

### Outpatient Nutrition and Dietetics

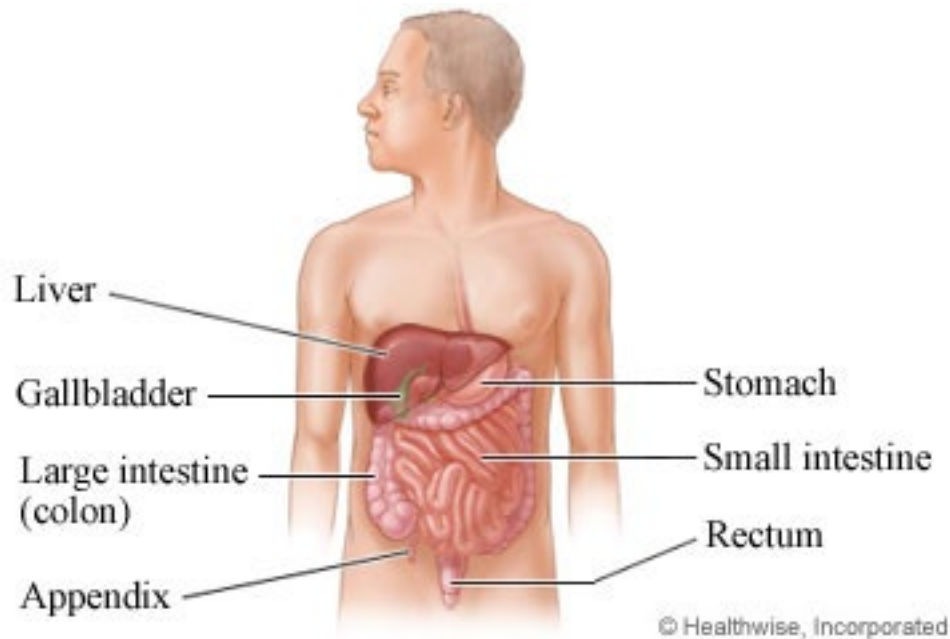
#### Appointments:

614-293-4333 (Option 1)

### Outpatient Radiology Scheduling:

614-293-4333

# About Your Liver



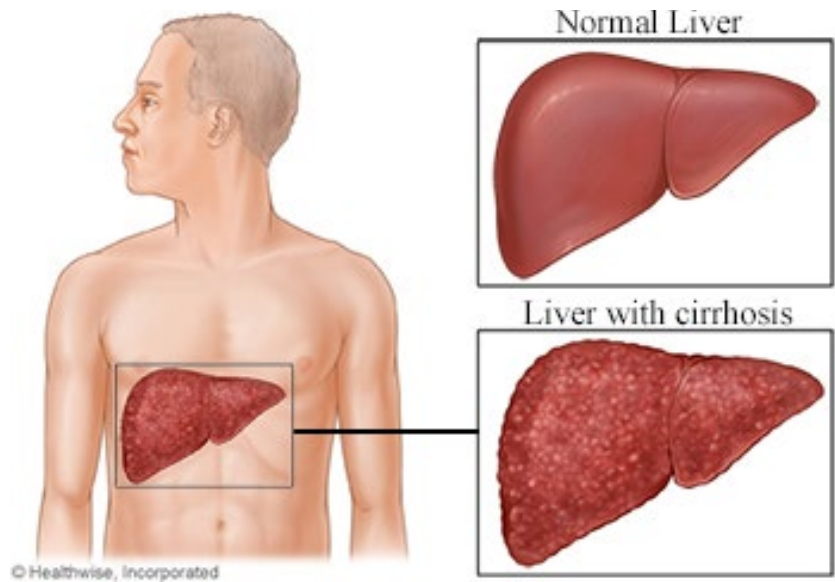
The adult liver weighs about 2 to 4 pounds. It lies in the right side of the upper abdomen next to the stomach. The rib cage covers most of the liver except that area just below the breastbone. Underneath the liver sits the stomach, large intestine, the right kidney, and the gallbladder.

The liver works to:

- Fight infections by destroying germs, called bacteria, in the blood
- Remove or change hormones, drugs, chemicals, and toxins (ammonia) that enter or are already in your body
- Store and use vitamins including A, D, E, K, and B12
- Make and store substances that help clot blood
- Store nutrients until the body needs them for energy
- Produce bile, which helps digest food

# Understanding Cirrhosis of the Liver

With cirrhosis, the liver becomes injured and scarred over time. The scar tissue blocks the flow of blood through the liver. This blockage causes the liver to be slow in breaking down food products, hormones, medicine, and waste products in the body. It also slows the liver's ability to make proteins and other substances.



## Symptoms of cirrhosis

You may have no symptoms of cirrhosis until your liver is badly damaged.

Early symptoms of cirrhosis may include:

- Feeling tired or weak
- Poor appetite
- Losing weight without trying
- Nausea and vomiting
- Mild pain or discomfort in the upper right side of your abdomen

As your liver function gets worse, you may have other symptoms, including:

- Bruising and bleeding easily
- Confusion, problems thinking, memory loss, personality changes, or sleep disorders
- Swelling in your lower legs, ankles, or feet, called edema
- Bloating from buildup of fluid in your abdomen, called ascites
- Severe itchy skin
- Darkening of the color of your urine
- Yellowish tint to the whites of your eyes and skin, called jaundice

## Causes of cirrhosis

These diseases and conditions can damage the liver, leading to cirrhosis.

### Most Common Causes

- Alcohol abuse
- Nonalcoholic fatty liver disease (NAFLD), a condition in which fat builds up in the liver
- Chronic hepatitis C, a viral infection that causes liver inflammation and damage
- Chronic hepatitis B, a viral infection that causes liver inflammation and damage

### Less Common Causes

- Autoimmune hepatitis, a chronic disease in which the body's immune system attacks the liver, causing inflammation and liver damage
- Diseases that damage, destroy, or block bile ducts (the tubes that carry bile from the liver to the gallbladder and small intestine), such as primary biliary cholangitis (PBC) and primary sclerosing cholangitis (PSC)

- Inherited liver diseases that affect how the liver works, such as:
  - Wilson disease, a disorder in which the body builds up too much copper
  - Hemochromatosis, a disorder in which the body builds up too much iron
  - Alpha-1 antitrypsin (AAT) deficiency, a condition that raises your risk for lung and liver disease
- Long term use of certain medicines
- Chronic heart failure with liver congestion, a condition where blood flow out of the liver is slowed

## Testing for cirrhosis

Talk with your provider about your symptoms during your physical exam. Your provider may recommend 1 or more of these tests:

- **Blood tests** to check how your liver is working.
- **Abdominal CT (computerized tomography) scan** to check the liver. This scan allows your provider to see pictures of thin slices of your abdominal organs.
- **Magnetic resonance imaging (MRI)** that uses radio waves in a magnetic field to check bones and soft tissue, such as the liver.
- **Ultrasound** of the liver that uses sound waves to create pictures of the liver to check how well the liver works.
- **Liver biopsy** where a needle is put through the skin to take a sample of the liver tissue to check liver function.

## MELD 3.0 score

The MELD 3.0 score (Model for End-stage Liver Disease) is a useful tool for both you and your health care team. It is a numbered scale that estimates how well your liver is working. With cirrhosis, the function of the liver can change constantly, even every day. These changes are seen in your blood work, which is used to find your score. The score ranges from 6 (which means the liver is working well) to 40 (which means the liver is working poorly). The number is calculated by a formula using sex (at birth) and 5 routine lab test results:

- **Sex (at birth):** The score factors in patient sex to address disparity between males and females. Females have historically been less likely than males to receive a donor liver.
- **Creatinine:** Measures kidney function because kidney function is often affected by liver disease.
- **Bilirubin:** Measures how well your liver gets rid of bile, a fluid produced in the liver that helps with absorption and digestion.
- **INR:** Measures your liver's ability to make blood clotting factors.
- **Sodium (Na):** A type of electrolyte that helps control the amount of fluid in your body.
- **Albumin:** The main protein in blood plasma that is made by the liver.

Your MELD 3.0 score is helpful to manage your care, such as when to do certain procedures or when to consider referral for liver transplant.

## Testing for liver cancer

Cirrhosis can increase the chance of cancer in the liver called **hepatocellular carcinoma (HCC)**. Your provider will order tests to check for HCC every 6 months. Tests may include abdominal MRI, CT scan, or ultrasound.

# Outpatient Blood Drawing Stations

A Department of The Ohio State University Hospitals

Services offered vary by location. For the latest clinical laboratory information, please visit [wexnermedical.osu.edu/laboratory-services](http://wexnermedical.osu.edu/laboratory-services).

- 1 Outpatient Care East**  
 Monday-Friday, 7:30 a.m.-5:30 p.m.  
 Ph: 614-688-6134 Fax: 614-688-6483  
 543 Taylor Ave., Room 2148
- 2 Outpatient Care Gahanna**  
 Monday-Friday, 7:30 a.m.-5 p.m.  
 Ph: 614-293-6468 Fax: 614-366-8481  
 920 N. Hamilton Road, Suite 104
- 3 Outpatient Care Lewis Center**  
 Monday-Friday, 7:30 a.m.-4:30 p.m.  
 Ph: 614-688-7105 Fax: 614-688-7107  
 6515 Pullman Drive, Suite 1004
- 4 Outpatient Care New Albany**  
 Monday-Friday, 7:30 a.m.-5 p.m.  
 Ph: 614-814-8004 Fax: 614-814-8523  
 6100 N. Hamilton Road, Suite 1A
- 5 Martha Morehouse Outpatient Care**  
 Monday-Friday, 7:00 a.m.-5:00 p.m.  
 Ph: 614-293-0862 Fax: 614-293-6855  
 2050 Kenny Road, Suite 1B
- 6 Richard M. Ross Heart Hospital**  
 Monday-Friday, 7:30 a.m.-4:30 p.m.  
 Ph: 614-293-4681 Fax: 614-293-9500  
 452 W. 10th Ave.  
 First Floor, Room H1100
- 7 Outpatient Care Upper Arlington**  
 Monday-Friday, 7:30 a.m.-5 p.m.  
 Saturday, 8 a.m.-noon  
 Ph: 614-293-0252 Fax: 614-293-3602  
 1800 Zollinger Road
- 8 Stefanie Spielman Comprehensive Breast Center**  
 Monday-Friday, 8 a.m.-4:30 p.m.  
 Ph: 614-293-6106 Fax: 614-366-8113  
 1145 Olentangy River Road  
 First Floor, Room 1400
- 9 Outpatient Care Dublin**  
 Monday-Friday, 7:30 a.m.-5 p.m.  
 Ph: 614-814-7300 Fax: 614-814-7287  
 6700 University Blvd., Suite 1A
- 10 Hilliard**  
 Monday-Friday, 7:30 a.m.-5 p.m.  
 Ph: 614-366-1581 Fax: 614-366-1582  
 3711 Ridge Mill Drive  
 Lab, Room 1001



# Treating Cirrhosis

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## Based on your needs

You and your provider will talk about your treatment options. These may include:

- **Limit sodium to no more than 2,000 mg each day, eat the right amount of protein for you, and eat smaller, more frequent meals.** Read more about diet changes later in this book.
- **Endoscopy to find and treat swollen blood vessels (varices) in the stomach or esophagus.** A thin, flexible tube with a light and a camera is put into your mouth, through your esophagus (food tube), and into your stomach for this procedure. Small bands may be placed during this procedure on swollen blood vessels to stop blood flow and prevent bleeding. This is called variceal banding.
- **Paracentesis to remove fluid from your abdomen if you have ascites.** The doctor guides a needle into your abdomen to drain fluid, using an ultrasound machine to avoid your organs. The fluid can be removed to help ease discomfort and make breathing easier.
- **Liver transplant** may be needed if the cirrhosis is not controlled with other treatments or if the liver stops working.

## Common medicines

Your provider may order medicines, such as:

- **Diuretics**, also known as water pills, work to reduce fluid in your abdomen and legs through increased urination. This group of medicines includes:
  - bumetanide (Bumex)
  - eplerenone (Inspra)
  - furosemide (Lasix)
  - spironolactone (Aldactone)
  - torsemide (Demadex)

Diuretics reduce extra fluid in your body and work together to help keep your potassium level from going too low.

- **Lactulose** is used to treat a side effect of cirrhosis called hepatic encephalopathy (HE), a disorder in which there is a loss of brain function when a damaged liver does not remove toxins, like ammonia, from the blood. Lactulose is a sweet liquid that is a laxative (softens stool and can cause bowel movements). It works by binding to ammonia in your gut, which is then expelled from the body through stool. This is why it is recommended to have 3 or 4 bowel movements a day.

Tips for taking lactulose:

- “Start low and go slow!” Start with a small dose of lactulose in the morning, working your way slowly up to the total dose you need to have 3 or 4 bowel movements a day. This may be 1 to 3 doses of lactulose a day. If you are having more than 5 bowel movements a day, you are likely taking too much lactulose.
- Side effects of lactulose can be tough. If you are having trouble with nausea, gas, cramping, pain, diarrhea, or stool accidents, please call our clinic so that we can help you.
- If you do not like the taste of lactulose, you can mix it with other liquids, like Sprite, juice, and even milk.
- **Rifaximin** (Xifaxan) works with lactulose to reduce changes in thinking or confusion.

Your provider may order other medicines to:

- Reduce symptoms of cirrhosis.
- Limit further liver injury.
- Reduce viral hepatitis in the body.

# Eating Tips for Living with Cirrhosis

As a part of your treatment, your health care provider may recommend that you make some changes to your diet. This may include limiting sodium and getting enough calories and protein. This is important to stop you from becoming malnourished and losing muscle mass.

Here are some general tips to help your body get the nutrition it needs. For specific advice on your diet, talk to your health care team and ask your health care provider for a referral to see a dietitian.

## Limit sodium to no more than 2,000 mg a day

When your body has too much sodium, fluid in the body builds up. Limit sodium in your diet to help control swelling in your legs, feet, or abdomen. Read more about limiting sodium in your diet later in this book. Your provider may also recommend restricting fluids in your diet.

## Eat the right amount of protein for you

Follow your provider's instructions for the amount of protein to eat each day.

- Good sources of protein include:
  - Meats, such as beef, veal, pork, lamb, chicken, turkey, duck, goose, and organ meats
  - Fish, such as tuna, salmon, shrimp, and scallops
  - Eggs
  - Dairy products, such as milk, yogurt, ice cream, pudding, custard, cheese, cottage cheese, and dairy alternatives, such as soy milk
  - Beans (dry or canned with no salt added), such as lima, kidney, baked, garbanzo, white, navy, and great northern
  - Nuts (unsalted), such as cashews, walnuts, peanuts, pistachios, and almonds
  - Peanut butter (unsalted)
  - Grains that are naturally higher in protein, such as quinoa, bulgar, and amaranth
- You can also sip on nutritional liquid supplements between meals to get more calories and protein. Brands like Boost, Carnation, Ensure, and Glucerna have good options. These drinks can be used to meet your calorie and protein needs when you are not able to eat much. They are also a good source of vitamins and minerals.

## Eat a small meal every 2 to 4 hours

- Turn 3 large meals into 6 small meals each day so that you are eating smaller, more frequent meals throughout the day.
- At each meal, include a carbohydrate (carb) and a protein, such as:

Carbohydrates	Proteins
<input type="checkbox"/> 1 small apple	<input type="checkbox"/> 1 tablespoon natural, unsalted peanut butter or other nut butter
<input type="checkbox"/> ½ large banana or pear	<input type="checkbox"/> ½ cup tuna, chicken, or egg salad made with mayonnaise
<input type="checkbox"/> ¾ cup blueberries	<input type="checkbox"/> 1 hard boiled egg
<input type="checkbox"/> ½ cup fruit, such as grapes, pineapple, or peaches	<input type="checkbox"/> 1 scrambled egg
<input type="checkbox"/> 2 tablespoons dried fruit, such as raisins and cranberries	<input type="checkbox"/> ¼ cup unsalted nuts, such as walnuts and almonds
<input type="checkbox"/> 1 cup non-starchy vegetables, such as carrots, cucumber, sugar snap peas, and bell pepper strips	<input type="checkbox"/> 1 ounce cheese, such as Swiss cheese or string cheese)
<input type="checkbox"/> ½ cup cooked oatmeal	<input type="checkbox"/> ½ cup low fat cottage cheese
<input type="checkbox"/> 5 to 6 low salt crackers	<input type="checkbox"/> 6 ounces Greek or other yogurt
<input type="checkbox"/> 3 (2.5 inch) graham crackers	<input type="checkbox"/> ⅓ cup hummus
<input type="checkbox"/> ½ whole wheat pita	<input type="checkbox"/> 2 to 3 slices of low fat lunch meat
<input type="checkbox"/> 1 slice whole wheat toast	<input type="checkbox"/> ½ cup unsalted roasted chickpeas
<input type="checkbox"/> ½ whole wheat toasted English muffin	<input type="checkbox"/> 1 ounce of unsalted seeds, such as sunflower and pumpkin
<input type="checkbox"/> 3 cups unsalted popcorn	

- Examples of small meals include:
  - › 3 (2.5 inch) graham crackers (carb) with 1 tablespoon natural peanut butter (protein)
  - › ½ whole wheat pita (carb) filled with ½ cup tuna salad made with light mayonnaise (protein)
  - › 1 small apple (carb) with a hard boiled egg (protein)
  - › ½ cup cooked oatmeal (carb) with ¼ cup chopped nuts (protein)
  - › 5 to 6 whole wheat crackers (carb) with 1 ounce cheese (protein)
  - › 1 cup non-starchy vegetables, such as carrots, cucumber, sugar snap peas, and bell pepper strips (carb) with ⅓ cup hummus (protein)
  - › 2 tablespoons raisins (carb) and ¼ cup roasted unsalted almonds (protein)
  - › ½ cup peaches (carb) and ½ cup low fat cottage cheese (protein)
  - › ¾ cup blueberries (carb) and ¼ cup walnuts (protein)
  - › Celery topped with 2 tablespoons raisins (carbs) and 1 tablespoon natural peanut butter (protein)

- ▶ 1 slice whole wheat toast (carb) with 1 scrambled egg (protein)
- ▶ ½ cup grapes (carb) and 1 ounce cheese (protein)
- ▶ ½ whole wheat toasted English muffin (carb) topped with 1 tablespoon cashew butter (protein)
- ▶ 3 cups popcorn with less than 3 grams of fat per serving (carb) and 1 ounce cheese (protein)



For more information, view the video “How to Eat with Cirrhosis of the Liver” at <https://youtu.be/Ns8SHmyVMwU>.

# Liver Disease and Protein Needs

Proteins are the building blocks of our bodies and keep our bodies working well. Our bodies use the protein to:

- Build and maintain bones, muscles, and skin
- Heal wounds
- Promote growth
- Maintain healthy organs

## Eat the right amount of protein if you have liver disease

- Liver disease can cause you to have high ammonia levels that may make you feel tired, confused, or irritable. Medicines will be ordered to help keep your ammonia levels under control while you eat a higher protein diet, if needed.
- Not eating enough protein can also cause problems, such as:
  - Weakness
  - Poor wound healing
  - Loss of muscle mass – with liver disease, this can also increase ammonia levels
- **Eat enough protein to keep your body well nourished.** It is recommended to include a source of protein with each meal and snack. If you have questions about how much protein is right for you, talk to your doctor or dietitian.

## Sources of protein

Sources of protein are listed below. A serving of protein has about 7 to 9 grams of protein in it. The amount of protein in a product may vary by brand and is subject to change by the manufacturer. Check a product's food label to learn the grams of protein per serving.

Food	Serving Size	Protein (grams)
Greek yogurt	5 ounces	11 to 18
Cottage cheese, low sodium versions	¼ cup	13
Grains, naturally higher in protein (such as quinoa, bulgar, and ammanth)	½ cup unprepared	8 to 12
Hemp heart seeds	3 tablespoons	10
Cream soups, low sodium versions	1 cup	8
Ice cream	1 cup	8
Milk (such as whole, 2%, fat free, buttermilk, chocolate)	1 cup	8
Pudding and custard	1 cup	8
Beans, with no added salt (such as lima, kidney, baked, garbanzo, white, and navy)	½ cup	7
Cheese, most types	1 ounce or 1 slice	7

<b>Food</b>	<b>Serving Size</b>	<b>Protein (grams)</b>
Eggs	1 medium	7
Fish	1 ounce	7
Hummus	½ cup	7
Meats, such as beef, veal, pork, lamb, chicken, turkey, duck, goose, organ meats	1 ounce or ¼ cup	7
Peanut butter, unsalted	2 tablespoons	7
Shrimp or scallops	4 medium	7
Tofu	⅓ cup	7
Tuna or salmon, canned	¼ cup	7
Nuts, unsalted (such as cashews, walnuts, peanuts, pistachios, and almonds)	1 ounce or ¼ cup	4 to 7

## Using supplements to get enough protein

People with liver problems often have problems eating, such as no appetite or feeling full. Oral supplements are a good source of protein and provide vitamins and minerals. They can be used to meet your protein needs if you are not able to eat enough.

<b>Oral Supplements</b>	<b>Serving Size</b>	<b>Calories</b>	<b>Protein (grams)</b>
Boost Original	8 ounces	240	10
Boost Plus	8 ounces	360	14
Boost Breeze	8 ounces	250	9
Boost Soothe	8 ounces	300	10
Boost Glucose Control	8 ounces	190	16
Boost High Protein	8 ounces	250	20
Boost Very High Calorie	8 ounces	530	22
Carnation Breakfast Essentials (Powder Drink Mix), mixed with 8 ounces whole milk	1 packet	280	13
Carnation Breakfast Essentials Light Start (Powder Drink Mix), mixed with 8 ounces whole milk	1 packet	215	13
Carnation Breakfast Essentials High Protein (Ready-to-Drink Bottle)	8 ounces	220	15
Ensure Original	8 ounces	220	9
Ensure Clear	8 ounces	180	8
Ensure High Protein	8 ounces	160	16
Ensure Plus	8 ounces	350	16
Ensure Complete	8 ounces	350	30
Ensure Compact	4 ounces	220	9
Ensure Plant-Based	8 ounces	180	20

Oral Supplements	Serving Size	Calories	Protein (grams)
Glucerna Shake	8 ounces	180	10
Orgain (Grass-Fed Protein Shake)	11 ounces	250	16
Orgain (Plant-Based Protein Shake, Vegan)	11 ounces	230	16
Kate Farms Nutrition Shake (Plant Based, Vegan)	11 ounces	330	16

## How to make homemade protein shakes

High calorie, protein shakes are a great way to prevent weight and muscle loss. You can make these at home to add variety to your routine or if you do not like the store brands. To save time, you can double the recipe and keep extra in the refrigerator or freezer.

### Step-By-Step Instructions

#### 1. Choose your liquid base:

- Whole milk
- Half-and-half or heavy whipping cream
- Buttermilk
- Pre-made nutrition drinks
- High calorie milk substitute

#### 2. Increase your protein:

- Protein powder
- Greek yogurt
- Dried milk powder
- Ground hemp heart seeds

#### 3. Add some flavor:

- Peanut butter, nut butter, hazelnut spread
- Spices (such as cinnamon, nutmeg, and vanilla extract)
- Fruit or fruit juice
- Chocolate or caramel syrup

#### 4. Increase your calories:

- Rolled oats
- Olive oil
- Avocado
- Ice cream
- Chia seeds

#### 5. Blend until smooth.

### How to Perfect Your Shake

You can add more or less ingredients to help reach the right texture and taste for you.

- Too thick? Slowly add more water or milk.
- Not blending well? Add fruit first (to the bottom of the blender) and pour liquids on top.
- Too thin? Add more fruit, yogurt, or peanut butter.
- Too bitter? Add pineapple or orange juice.
- Not sweet enough? Add honey, stevia, or extract flavoring.
- Want more calories? Add 1 to 2 tablespoons olive oil.
- Want even more calories? Use oral supplements, like Boost or Ensure, instead of milk.
- Want more calories and texture? Add 1 to 2 tablespoons of chia or hemp heart seeds.

## Protein Shake Recipes

### Orange creamsicle:

- 1 scoop vanilla protein powder
- ½ cup full fat Greek yogurt
- ½ banana
- 3 to 5 ice cubes
- ½ cup orange juice
- 1 cup milk

### Oatmeal cookie:

- 1 scoop vanilla or chocolate protein powder
- ¼ cup rolled oats
- ½ banana
- ½ tsp vanilla extract or cinnamon
- 1 to 2 cups milk
- 3 to 5 ice cubes
- 1 to 2 teaspoons cocoa powder
- 1 tablespoon chocolate chips

### Strawberry banana:

- 1 scoop vanilla protein
- ½ banana
- ½ cup frozen strawberries
- 1 cup milk

### Pumpkin spice:

- 1 scoop vanilla protein powder
- ½ banana
- ½ cup full fat Greek yogurt
- ½ tsp cinnamon
- ¼ tsp pumpkin spice seasoning
- 1 to 2 cups milk
- ⅔ cup pumpkin puree

# Limiting Sodium in Your Diet

Sodium is a mineral, and it occurs naturally in the soil. Most foods have a low level of natural sodium before any salt is added in cooking or for seasoning. When your body has too much sodium, fluid in the body builds up. Extra fluid increases the work of your heart and kidneys and can increase blood pressure. Some health conditions, like cirrhosis, are greatly affected by this extra fluid. Eating less sodium may help control these problems.

## Small changes can reduce sodium in your diet

Choosing carrots with low salt hummus over pretzels saves salt. Even a small amount of salt has a lot of sodium in it.

- ¼ teaspoon salt = 575 mg sodium
- ½ teaspoon salt = 1,150 mg sodium
- ¾ teaspoon salt = 1,725 mg sodium
- 1 teaspoon salt = 2,300 mg sodium



Source: Centers for Disease Control and Prevention.

## Read the Nutrition Facts label on food items

This label shows how quickly salt adds up in your diet:

- This product's container has 4 servings. Each serving has 460 mg of sodium.
- If you ate the entire container, that is 1,840 mg of sodium.
- To stay with your low sodium diet, find another product with less sodium in it or cook at home where the amount of salt can be controlled.

Amount listed is for 1 serving (1½ cup). This container has 4 servings total.

1 serving has 460 mg of sodium.

Nutrition Facts	
4 servings per container	
<b>Serving size</b>	<b>1 1/2 cup (208g)</b>
Amount per serving	
<b>Calories</b>	<b>240</b>
% Daily Value*	
Total Fat 4g	5%
Saturated Fat 1.5g	8%
Trans Fat 0g	
Cholesterol 0mg	0%
<b>Sodium 460mg</b>	<b>20%</b>
Total Carbohydrate 22g	17%
Dietary Fiber 7g	25%
Total Sugars 4g	
Includes 2g Added Sugars	4%
<b>Protein 11g</b>	
Vitamin D 2mcg	10%
Calcium 260mg	20%
Iron 6mg	35%
Potassium 240mg	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.

1 serving of this product has 20% of the Daily Value of sodium.

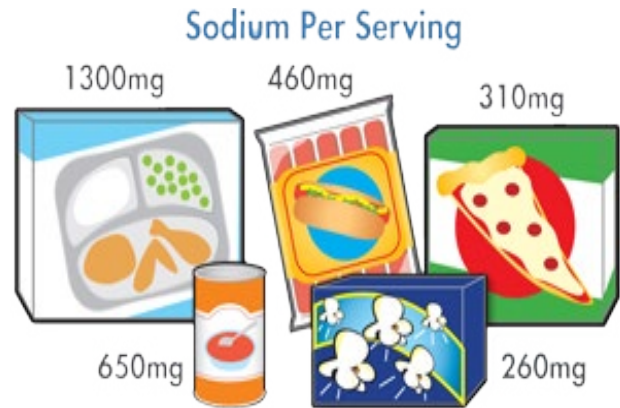
- 5% Daily Value or less of sodium per serving is low
- 20% Daily Value or more of sodium per serving is high

This product is high in sodium.

## What sodium labels mean

Look for these labels when shopping or eating out:

- **Sodium free:** It has less than 5 mg per serving.
- **Very low sodium:** It has 35 mg or less per serving.
- **Low sodium:** It has 140 mg or less per serving
- **Reduced sodium:** It has 25% less sodium than the regular product, but it may still be high in sodium.
- **Light in sodium or lightly salted:** It has at least 50% less sodium than the regular product.
- **Unsalted, no salt added, or without salt added:** It is made without added salt, but there may be natural salt or sodium in the product.



### Be careful with salt substitutes

Many salt substitutes have high amounts of potassium. Ask your provider if you can use a salt substitute or if you need to be “salt free.” Many products called “lite salts” still have too much sodium for a low sodium diet.

## Finding hidden salt

Nutrition labels may have other names for salt. Look for these terms for salt:

- Any term with the word salt or sodium, such as regular table salt, sea salt, or kosher salt.
- Natural types of salt, such as Himalayan pink, Celtic, or refined salts. They may have a different taste and texture, but are still salt.
- Products with salt in them, such as garlic salt, onion salt, or celery salt.
- Meat tenderizers or seasoning salts, including monosodium glutamate or MSG.



More terms for salt on food labels:

- sodium alginate
- sodium ascorbate
- disodium phosphate
- sodium benzoate
- sodium bicarbonate (baking powder or baking soda)
- sodium citrate
- sodium sulfite
- potassium bicarbonate
- potassium citrate
- trisodium phosphate

## Sodium content can vary within food categories

Compare the amount of sodium in different products, then choose the options with the lowest amounts of sodium.

### Higher Sodium Choices

Top slice of bread  
**200 mg**

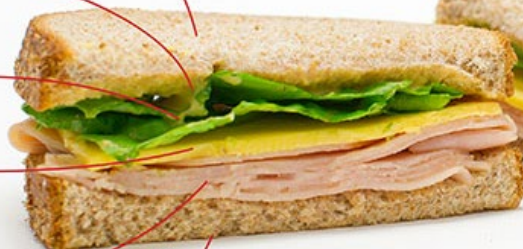
1 teaspoon mustard  
**120 mg**

1 leaf of lettuce  
**2 mg**

1 slice of cheese  
**310 mg**

6 thin slices of turkey  
**690 mg**

Bottom slice of bread  
**200 mg**



### Lower Sodium Choices

Top slice of bread  
**110 mg**

1 teaspoon mustard  
**120 mg**

1 leaf of lettuce  
**2 mg**

1 slice of cheese  
**135 mg**

6 thin slices of turkey  
**440 mg**

Bottom slice of bread  
**110 mg**



**Total = 1,522 mg**  
per whole sandwich

**Total = 917 mg**  
per whole sandwich

Image by Centers for Disease Control and Prevention  
at [https://www.cdc.gov/salt/reduce\\_sodium\\_tips.htm](https://www.cdc.gov/salt/reduce_sodium_tips.htm)

## Low sodium food swaps

Sodium can sneak up on you. Here are some ideas for switching to lower sodium food products as an easy way to reduce sodium in your diet.

- **Peanut butter:** Choose a natural or no salt added peanut butter and save about 250 mg of sodium per serving
- **Spaghetti and pasta sauce:** Choose a low sodium sauce and save about 500 mg of sodium per serving
- **Cheese:** Choose a low sodium cheese, such as Swiss or mozzarella, and save about 275 mg per serving
- **Oats:** Choose quick 1-minute, rolled oats, or steel cut oats and save about 270 mg of sodium per serving
- **French fries:** Choose baked over deep fried and salted and save about 310 mg of sodium per serving
- **Vegetable juice:** Choose a low sodium vegetable juice and save about 445 mg of sodium per serving

- **Bagels:** Choose mini whole wheat bagels and save about 320 mg of sodium per serving
- **Popcorn:** Choose a no salt added popcorn and save about 360 mg of sodium per serving
- **Canned beans:** Choose a no salt added can and save about 465 mg of sodium per serving
- **Ketchup:** Choose no salt added and save about 190 mg of sodium per serving

## Eating well on a low sodium diet

Planning meals and portions may take a little time at first, but you can eat most foods and reduce your sodium to healthy levels.

## Low sodium diet menus

Sodium by meal	1,500 mg sodium menu
<b>Breakfast</b> (453 mg)	1 cup (8 oz) milk – 110 mg 4 ounces (oz) orange juice – 2 mg 1 hard boiled or 1 fried egg in 1 teaspoon (tsp) canola/olive oil – 70 mg 2 slices (2 oz) whole grain toast – 235 mg 1 tsp margarine and jelly – 35 mg 1 medium banana – 1 mg
<b>Lunch</b> (596 mg)	1 cup (8 oz) water 1 grilled chicken sandwich with 4 ounces grilled chicken with 1 tablespoon (Tbsp) of mayonnaise, lettuce and tomato – 150 mg 1 whole wheat roll – 250 mg ½ cup carrot sticks with 2 Tbsp ranch dressing – 195 mg 1 medium apple – 1 mg
<b>Snack</b> (70 mg)	1 cup (8 oz) water 4 cups unsalted popcorn – 60 mg 1 cup fruit cocktail – 10 mg
<b>Dinner</b> (270 mg)	1 cup (8 oz) milk – 110 mg 5 ounces lean beef – 105 mg 1 medium baked potato – 5 mg 1 cup steamed broccoli (fresh or frozen) with 2 tsp olive oil, lemon juice, and salt free herbs – 40 mg ½ cup fresh peaches – 10 mg
<b>Snack</b> (105 mg)	1 cup (8 oz) tea – 5 mg 1 cup (8 oz) ice cream – 100 mg
<b>Sodium total</b>	<b>1,494 mg</b>

<b>Sodium by meal</b>	<b>2,000 mg sodium menu</b>
<b>Breakfast</b> (501 mg)	1 cup (8 oz) coffee/tea – 5 mg 1 cup (8 oz) milk – 110 mg 1 cup frosted shredded wheat squares cereal – 10 mg 1 poached egg – 70 mg 2 pieces of whole grain toast – 235 mg 2 teaspoon butter and jelly – 70 mg 1 medium banana – 1 mg
<b>Lunch</b> (701 mg)	12 oz can lemon/lime soda – 40 mg 2 slices (2 oz) whole grain bread – 235 mg 3 ounces low sodium turkey and ½ cup avocado – 425 mg 1 medium apple – 1 mg
<b>Snack</b> (50 mg)	1 cup (8 oz) iced tea, unsweetened with lemon – 6 mg 8 unsalted crackers – 40 mg 1 stick low sodium mozzarella cheese – 4 mg
<b>Dinner</b> (583 mg)	1 cup (8 oz) water 1 cup low sodium condensed tomato soup and 1 cup low fat milk – 170 mg 5 oz pork chop with 2 tsp olive oil and salt free herbs – 235 mg 1 cup mashed potatoes, dehydrated with milk – 164 mg ½ cup steamed corn, ½ cup steamed green beans (fresh or frozen), and salt free herbs – 7 mg ½ cup fresh peaches – 7 mg
<b>Snack</b> (145 mg)	1 cup (8 oz) water 1 apple – 2 mg 2 Tbsp caramel – 143 mg
<b>Sodium total</b>	<b>1,980 mg</b>



For more information, view the video “Following a Low Sodium Diet” at <https://youtu.be/OKo00OdtXnk>.

# 10 Ways to Lower Salt in Your Diet

## How to make a low salt diet work for you

- 1. Limit processed foods.** Most processed foods, such as chips, cookies, canned soups, tomato sauces, lunch meat, and frozen meals have a lot of added salt and sugar. Choose fresh or canned (no salt added) fruits and vegetables, low sodium whole grains, and low sodium cheeses as snacks.
- 2. Plan for salt across your daily meals and snacks.** Plan for 3 meals and 2 snacks a day. Start with eggs prepared without salt, a low salt commercial cereal, or no salt cooked cereal at breakfast. Choose low salt bread or crackers at lunch. Instead of processed meat, cook your own meat at home and use it for a sandwich. Add lettuce and tomato for flavor, instead of condiments. Use herbs and grilled vegetables with chicken for dinner.
- 3. Read nutrition labels to guide your food choices.** Choose sodium free, very low sodium, or low sodium products. Make healthy choices when food shopping, such as:
  - Cheese with less than 80 mg sodium per ounce
  - Breads with less than 100 mg sodium per slice
  - Soups with less than 100 mg sodium per ounce
- 4. Buy fresh or frozen foods instead of canned.** Choose fresh foods when you can or go for frozen without any added sauces. If sodium free or lower sodium canned options are not available, rinse beans, tuna, and canned vegetables before using them. This removes some but not all of the salt. **Avoid canned, smoked, or processed meats**, such as bacon, sausage, packaged lunch meat, or products where salt or saline is added.
- 5. Eat more fruits and vegetables.** Add them to salads, main dishes, or side dishes or eat them plain. Fruits and vegetables help your body to remove water and avoid fluid build up. They are also low calorie and naturally low in salt.
- 6. Learn to enjoy the natural taste of food.** Many foods are so processed that we have to learn to get used to foods with less salt. It is about changing how food is prepared and learning to enjoy the taste of food made with spices other than salt. Try to cook meat at home and add unsalted nuts or seeds, lentils, unsalted or low sodium broth, and herbs or spices such as Mrs. Dash. Use the cooking process, such as grilling, poaching, and baking, to add taste and flavor. Taste food as you cook to know what each food item adds to a dish.



**7. Create low sodium condiments.** Make your own low salt salad dressing, dip, gravy, or sauce. Most commercial or packaged products are high in sodium. If you choose the low salt or no salt options, you may be able to have more. Otherwise, limit these ingredients:

- Salted butter or margarine – no more than 1 teaspoon a day
- Mayonnaise – no more than 1 tablespoon a day
- Sour cream – no more than 2 tablespoons a day
- Ketchup or mustard – no more than 1 tablespoon a day
- Regular salad dressing – no more than 2 teaspoons a day
- Canned tomato paste – no more than ¼ cup a day
- Regular tomato sauce – no more than ½ cup a day

It is not recommended to eat all of these foods in the same day, as this could still make your overall daily sodium intake too high.

**8. Choose salt free beverages. Save salt for the food you eat.** Water, coffee, tea, carbonated seltzer water, and fruit juices have very low or no salt in them. Limit milk to 2 cups of low fat milk a day. Avoid energy and sport drinks, commercially made milkshakes, and instant cocoa that have added salt.

**9. Ask restaurants for low salt substitutions.** Ask wait staff or the chef how food is prepared. Choose foods made to order or that are prepared with low salt. Order sauces, dressings, salsa, condiments, croutons, cheese, and nuts on the side and control the amount you use. Skip the bread basket and tortilla chips if available at the table. Plan to only eat half of your meal as a way to control both calories and sodium. Choose grilled, broiled, baked, boiled, or steamed foods instead of fried. Avoid casseroles where there may be hidden salt, based on the ingredients used.

**10. Check over the counter medicines, products, and supplements for salt.** Many antacids, laxatives, aspirin, and cough medicines have salt or sodium. Many mouthwashes also have sodium. Ask your health care provider or pharmacist for help before you buy these products and check product labels.



Learn more about limiting salt in your diet at [go.osu.edu/limit\\_salt](https://go.osu.edu/limit_salt).

# Food Lists for a Low Sodium Diet

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## Foods to choose

### Breads and cereals:

- ✓ Up to 4 pieces of low sodium bread, choose whole grain or enriched white, wheat, rye or Italian breads, English muffins, corn or low sodium flour tortilla, or low salt muffin
- ✓ Plain rolls, hamburger, or hot dog buns can substitute for a slice of bread
- ✓ Dry cereals with less than 100 mg/serving, such as shredded wheat, puffed wheat, or puffed rice
- ✓ Cooked cereals, like oatmeal (no salt)

### Meats, fish, eggs, and poultry:

- ✓ 6 ounces of lean beef, chicken, Cornish hen, duck, goose, lamb, turkey, veal, fish, or pork
- ✓ All eggs or egg substitutes
- ✓ Low sodium canned tuna or salmon
- ✓ Processed meats, such as lunch meat, less than 100 mg/ounce

### Fruits:

- ✓ All fruits, fresh, frozen, or canned

### Vegetables:

- ✓ All vegetables, fresh, frozen, or canned, **EXCEPT pickles, sauerkraut, or vegetables prepared in salt water, vegetables in sauces and gravies, or regular salt vegetable juices**
- ✓ If canned, choose low salt, drain well, and rinse
- ✓ Choose low sodium tomato sauce or tomato juice

### Potatoes, pasta, rice and starch:

- ✓ Any type of potatoes, pasta, white or brown rice, or other starch cooked in unsalted water

### Legumes, including dried peas and beans, peanut butter:

- ✓ All legumes, cooked in unsalted water or low salt broth.
- ✓ If canned, rinse with water and drain
- ✓ If prepackaged, cook without the seasoning packet and season separately
- ✓ Unsalted peanut butter or other unsalted nut butter, such as almond

### Milk, yogurt, cheese:

- ✓ Up to 2 cups of low fat milk (2%, 1%, or fat free skim) a day
- ✓ Most yogurt, regular, Greek or low fat
- ✓ Low sodium cheese, less than 80 mg/ounce
- ✓ Limit cream or sour cream to 2 ounces or ¼ cup/day
- ✓ Low sodium ice cream, frozen yogurt, sherbet, fruit bars, or non-dairy alternatives (soy or rice milk)

### Frozen dinners:

- ✓ Choose only those with less than 600 mg per serving and only have 1 frozen meal per day

### Soups:

- ✓ Unsalted homemade soups
- ✓ Low sodium or no salt added soups

### Snack foods:

- ✓ Unsalted snack chips, such as corn chips, tortilla chips, pretzels, potato chips, or popcorn
- ✓ Unsalted nuts, such as almonds, pecans, or walnuts
- ✓ Unsalted peanut butter/nut butter
- ✓ Salsa made with low salt or no salt added tomatoes

**Fats:**

- ✓ Vegetable oils, shortening, or unsalted butter/margarine
- ✓ Homemade salad dressings, gravy, or sauce with no added salt and allowed ingredients
- ✓ Limit regular salted butter/margarine to 4 teaspoons/day
- ✓ Limit regular mayonnaise to 2 tablespoons/day

**Desserts and sweets:**

- ✓ One serving of dessert per day unless told differently by provider
- ✓ Salt free desserts, such as cake cookies, donuts, or brownies made with allowed ingredients
- ✓ Ice cream, sherbet, pudding, gelatin, foods made with honey, jam, preserves, marshmallows, corn/maple syrup, or plain hard or soft candies, such as jelly beans, lemon drops and mints

## Foods to avoid

**Bread/cereal:**

- × Instant cooked cereals
- × Cereals with more than 100 mg/serving
- × Commercial bread mixes, for biscuits, corn bread, or muffins
- × Regular or frozen pastries, muffins, waffles, or biscuits with high sodium
- × Products with self-rising flour

**Meats/fish/eggs/poultry:**

- × Most salted, smoked, canned or cured meats, such as ham, bacon, sausage, hot dogs, or packaged lunch meats
- × Commercial breaded meats, fish, or poultry
- × Shellfish, such as clam, crab, lobster, oyster, and scallops
- × Soybean extenders

**Legumes/dried beans/peanut butter:**

- × Beans or peas with bacon, ham, or salted pork
- × Regular peanut butter

**Potatoes/pasta/rice:**

- × Macaroni/cheese mix
- × Instant potatoes
- × Rice/noodle mixes

**Milk/yogurt/cheese:**

- × Regular cottage cheese, ricotta
- × Buttermilk
- × Processed cheese or cheese spread
- × Aged cheese, such as Parmesan, blue cheese, cheddar, Edam, Colby, or Romano

**Frozen dinners:**

- × Most frozen meals

**Soups:**

- × Regular canned soups, dried, instant mixes
- × Frozen soups
- × Regular broth, bouillon, or consommé
- × Homemade soups with ham or ham bones, bacon, salt fish, or salted meat

**Snack foods:**

- × Regular salted snack chips
- × Prepared dips, spreads

**Fats:**

- × Commercial salad dressings, mixes, sauces, or gravies

**Desserts:**

- × Molasses, regular salted nuts, peanut butter, or licorice

# Seasoning Food without Salt

To reduce sodium in your diet, buy ingredients that are low in sodium and prepare food at home, using seasonings other than salt.

## Prepare food with herbs and spices for flavorful meals

- Use herbs and spices to replace or reduce the amount of salt that you use. See the table below for ideas.
- Avoid most salt substitutes unless it is Mrs. Dash or approved by your provider. Avoid most “lite” salts as they have too much sodium for a low sodium diet. Many salt substitutes have potassium chloride instead of sodium, which may cause medical problems in some people.

### Herbs and spices to try

Herb or spice	Taste	Use
Allspice	Clove, nutmeg, and cinnamon all in one – pungent and deeply flavored	Marinades, meats, and desserts
Basil	Sweet and pungent	Italian dishes, soups, vegetables, and marinades
Bay leaves	Mild, bitter, and woody	Seafood, stews, most meats, and vegetables
Cayenne pepper or red pepper flakes	Spicy and hot	Chili, vegetable dishes, dips, and spicy dishes
Celery seeds	Mild and nutty	Fish, salads, dressings, and vegetables
Chili powder	Spicy and smoky	Soups, chili, vegetables, and other spicy dishes
Cilantro	Tangy, citrus	Fish, rice, salads, and dressings
Cinnamon	Sweet and earthy	Salads, vegetables, fruits, oatmeal, breads, and snacks
Cloves	Bittersweet	Fruits, stews, and spicy foods
Cumin	Smoky and earthy	Meats and poultry
Curry	Spicy	Vegetables, meats, and shellfish
Dill	Mild and slightly sour	Most meats, fish, vegetables, and dips
Garlic	Pungent	Soups, stews, vegetables, salads, meats, fish, poultry, and sauces
Ginger	Pungent and spicy bite	Soups, salads, meats, vegetables and Asian cuisines

Herb or spice	Taste	Use
Lemon or lime juice or zest	Pungent and fresh	Vegetables, salads, dressings
Lemongrass	Pungent	Soups, stews, meats, poultry, fish, and sauces
Marjoram	Bitter, spicy, and pungent	Soups, stews, beef, poultry, fish, and vegetables
Mint or mint jelly	Sweet, clean and refreshing	Fruit salads, rice, marinades, or in place of basil for pesto
Nutmeg	Sweet	Vegetables and meats
Onion powder	Pungent	Meats, poultry, seafood, soups, and salads
Oregano	Earthy and lemony	Soups, salads, pizza or pasta sauce, vegetables, meats, and poultry
Paprika	Sweet but can be spicy	Meats, fish, poultry, and vegetables
Parsley	Mild pepper	Garnish soups, salads, and sauces
Pepper – white, black, lemon pepper	Pungent and spicy	Any dish to add more spice
Rosemary	Pungent and piney	Salads, vegetables, meats, poultry, and fish
Sage	Strong	Soups, salads, vegetables, meats, and poultry
Thyme	Pungent and lemony	Salads, vegetables, fish, and poultry
Turmeric	Earthy, bitter, peppery, spice	Rice, chili, roasted vegetables, and soups
Vinegar	Acidic and spicy	Soups, salads, vegetables, meats, and poultry

## Avoid or limit these products high in sodium

- Alfredo sauce and mixes
- Barbecue mixes and sauces
- Bouillon cubes, canned stock, or canned broth – Choose no salt or low salt stock or broth
- Baking soda and baking powder
- Celery salt, garlic salt, onion salt, sea salt, Kosher salt, lite salt, other seasonings with salt, and most salt substitutes
- Cooking wine or cooking sherry
- Dry meat marinades or marinade mixes
- Salad dressing mixes or packets

- Dry instant soup mixes
- Fish sauce or plum sauce
- Gravy mixes
- Meat tenderizer
- Monosodium glutamate (MSG)
- Mustard – Limit to 1 teaspoon a day
- Pickle relish and pickles
- Packaged pickling mixes
- Packaged “instant” products, such as flavored rice and ready made pasta
- Poultry seasoning
- Ketchup – Use low salt ketchup and limit to 1 to 2 tablespoons a day
- Soy sauce, steak sauce, stir fry sauces, taco sauce, teriyaki sauce, or Worcestershire sauce
- Tomato sauce – Use low salt or no salt varieties
- Vegetable juices – Use low salt or no salt varieties with less than 150 mg of sodium per serving



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