



MedStar Health

## Nutrition Guidelines for **Liver Disease**



**MedStar Georgetown Transplant Institute**

Contact MedStar Georgetown Transplant Institute Clinical Transplant Dietitians at **202-444-9847**.

**It's how we treat people.**

The liver helps your body to digest and store nutrients from food. When you have liver disease, your body may not process nutrients normally. Symptoms of liver disease interfere with your appetite and ability to eat. Monitoring your diet may help control symptoms of liver disease.

Signs and symptoms of cirrhosis are different from person to person. Therefore, your nutrition therapy must be tailored to your particular needs. Here are some key points to keep in mind:

- It is recommended that patients with cirrhosis add an early morning snack and a late evening snack to their daily meal plan, such as protein bars, low-fat cheese sticks, Greek yogurt, crackers with nut butter, or protein shakes.
- Avoid fasting, with a maximum interval of 3-4 hours between eating while awake
- Your doctor or registered dietitian may tell you to take a multivitamin and mineral supplement. Vitamin A and iron can be toxic to the liver if taken without a doctor's supervision.
- The amount of protein you should eat will depend on your symptoms.
- You may feel better, be more comfortable, and stay stronger if you eat 4 to 6 small meals per day, instead of 3 larger ones.
- If you can't eat enough food, you may want to drink nutritional supplements to get more calories.
- If you have ascites (fluid in the abdomen) or edema (swelling in the lower legs), you may need to cut back on your sodium intake. Patients with edema and ascites are at very high risk of developing infections that, in turn, carry a very high risk of death. To avoid formation of ascites and edema, the most important factor is to avoid sodium in your diet.
- Try to stay as active as possible. Even when you are tired, walking or exercise may help you feel better.
- Ask your doctor or registered dietitian for more specific guidelines if you need more information or help understanding what to do.

## Meal Planning Tips:

- Plan to eat small amounts of food more often. You may find it easier to eat more if you have several small meals.
- If you get full quickly or have no appetite, choose foods that are high in calories (such as whole milk and canned fruit packed with heavy syrup).
- If your food tastes have changed, you may need to try new foods or foods that you did not like before.
- To cut down the amount of sodium in your favorite foods, try these approaches:
  - Don't salt food at the table or when you are cooking. One teaspoon of salt has 2,000 mg sodium.

- Avoid convenience foods, such as canned soups and pastas, boxed meals (like macaroni and cheese), and frozen ready-to-eat meals.
- Try fresh or dried herbs, spices, oils, vinegar, or juices to add flavor and replace the taste of salt. Avoid seasoning salts, garlic salt, onion salt, celery salt, meat tenderizer, and high-sodium sauces, such as soy, teriyaki, oyster, barbeque, and steak sauces.
- Look for no-sodium or low-sodium versions of foods you like to eat, such as crackers, cheese, or soups.
- Talk with your doctor before using salt substitutes.

## Foods Not Recommended:

- Avoid foods that are high in sodium, such as canned soups, many canned vegetables, processed meats and cheeses, condiments, and many snack foods. You can find out how much sodium is in a food by reading the food label. Look at the Nutrition Facts label. If a food has more than 300 milligrams (mg) of sodium in a serving, then it is considered a high sodium food. If you have ascites or edema, you may need to limit your sodium intake to less than 2,000 mg a day.
- Avoid foods that may cause foodborne illnesses. For example, you should not eat:
  - Unpasteurized or raw milk, cheese, yogurt, and all other milk products.
  - Raw or undercooked meat, poultry, fish, game, seafood, and raw tofu.
  - Raw or undercooked eggs and foods that might contain them.
  - Unwashed fresh fruits and vegetables.
  - Unpasteurized fruit and vegetable juices and cider.

1-Day Sample Menu	
Breakfast	½ cup oatmeal with cinnamon, raisins, and 1 teaspoon brown sugar, 1 cup low-fat milk, 1 slice whole wheat toast with 1 tablespoon nut butter, 1 cup of coffee
Morning Snack	2 tablespoons granola, 6oz Greek yogurt
Lunch	1 cup low-sodium chicken noodle soup, ½ turkey sandwich, 3-4 baby carrots, 1 banana, 1 cup low-fat milk
Afternoon Snack	5 whole wheat crackers with low-sodium cheese, 1 cup protein shake
Evening Meal	4oz grilled chicken breast, 1 small baked sweet potato, 1 teaspoon margarine, ½ cup stir-fried broccoli, mushrooms, pea pods, and onions, ½ cup grapes, apple slices
Evening Snack	1 oz almonds, low-fat cheese stick

## Follow Low Sodium Diet (<2,000 mg per day)

1 teaspoon of salt per day

Top 6 sodium sources:

- Breads and rolls
- Cold cuts and cured meats
- Pizza
- Soup
- Sandwiches
- Poultry
- Condiments, pasta sauces, frozen dinners, rice mixes, cheese, salad dressings, and fast foods.

### Is sea salt better for you?

- The truth is that table salt, kosher salt, and most sea salts all contain about 40% sodium by weight. Check the Nutrition Facts label to compare how a given sea salt compares to table salt, which has about 575 mg sodium per ¼ teaspoon.

### Processing increases the sodium content of food.

Unprocessed food	Sodium (mg)	Processed food	Sodium (mg)
Plain Pasta	5	Packaged pasta with sauce	800
Fresh tomato	11	Canned tomato soup	695
Cucumber	2	Dill pickle	385
Fresh Salmon	56	Canned Salmon	457
Quick cook oatmeal	2	Instant Oatmeal	377
Cheddar cheese	176	Processed cheese	405

Portion sizes are identical for the matched foods and represent usual serving sizes.

## Sodium (Salt) Content of Foods

- Eating more than the serving size for a moderate or low sodium food will make it a high-sodium food.
- Foods made with high-sodium foods will also be high in sodium.
- Unless otherwise noted, all foods are cooked: meat is roasted, fish is cooked with dry heat, and vegetables are cooked from fresh. Fruit is raw.
- This is a guide. Actual values may vary depending on product and/or processing. Canned and processed foods may have a higher sodium content.
- Values are rounded to the nearest 5-milligram (mg) increment and may be averaged with similar foods in the group.

High Sodium (more than 300 mg)		
Food	Serving	Milligrams (mg) of Sodium
Bacon	2 slices	300
Bagel, 4" egg	1 each	450
Bagel, 4" plain, onion, or seeded	1 each	400
Barbecue Sauce	2 Tbsp	350
Beans, baked, plain	1/2 cup	435
Beans, garbanzo	1/2 cup	360
Beans, kidney, canned	1/2 cup	440
Beans, lima, canned	1/2 cup	405
Beef, dried	1 oz.	790
Biscuit, 2½"	1 each	350
Cheese, American	1 oz.	400
Cheese, cottage	1/2 cup	460
Cheese, feta	1 oz.	315
Corn, creamed, canned	1/2 cup	365
Croissant	2 oz.	425
Fish, salmon, canned	3 oz.	470
Fish, salmon, smoked	3 oz.	670
Fish, sardines, canned	3 oz.	430
Frankfurter, beef or pork	1 each	510
Ham	3 oz.	1,125
Ketchup	2 Tbsp	335
Lobster	3 oz.	325
Miso	1/2 cup	1,280
Mushrooms, canned	1/2 cup	330
Pickle, dill	1 large	570
Potatoes, au gratin or scalloped	1/2 cup	500
Pretzels	1 oz.	400
Pudding, instant, chocolate, prepared with milk	1/2 cup	420
Salad dressing, Italian, commercial	2 Tbsp	485
Salami, dry or hard	1 oz.	600
Salt, table	1 tsp	2,325
Sauerkraut, canned	1/2 cup	780
Soup, canned	1 cup	700 - 1,000
Soy sauce	1 Tbsp	900
Teriyaki sauce	1 Tbsp	690
Tomato or vegetable juice, canned	1/2 cup	325
Tomato sauce, canned	1/2 cup	640
Tomato sauce, spaghetti or marinara	1/2 cup	510
Vegetable or soy patty	1 each	380

Moderate Sodium (140 - 300 mg)		
Food	Serving	Milligrams (mg) of Sodium
Asparagus, canned	4 spears	205
Beans, green or yellow, canned	1/2 cup	175
Bologna, pork and beef	1 oz.	210
Bread, pita, 4"	1 each	150
Bread, pumpernickel or rye	1 slice	215
Bread, white	1 slice	170
Carrots, canned	1/2 cup	175
Cereal, raisin bran	1/2 cup	175
Cheese: muenster, mozzarella, cheddar	1 oz.	175
Cheese, Parmesan	2 Tbsp	150
Cheese, provolone, part-skim	1 oz.	250
Cheese, ricotta	1/2 cup	155
Corn, canned	1/2 cup	285
Crab, canned	3 oz.	240
English muffin	1 each	250
French fries	10 fries	200
Greens, beet	1/2 cup	175
Milk, buttermilk	1 cup	260
Milk, chocolate	1 cup	165
Milkshake	8 oz.	240
Muffin	2 oz.	250
Nuts, mixed, salted	1 oz.	190
Olives, ripe, canned	5 large	190
Pancake or waffle, 4"	1 each	240
Peanuts, salted	1 oz.	230
Peas, green, canned	1/2 cup	215
Potato chips	1 oz.	190
Potatoes, mashed, prepared from dry mix	1/2 cup	170
Pudding, ready-to-eat	1/2 cup	160
Pudding, vanilla from mix	1/2 cup.	225
Roll, hot dog or hamburger	1 each	205
Salad dressing	2 Tbsp	200 - 300
Salsa	2 Tbsp	195
Sausage, pork	1 oz.	200
Tomatoes, canned	1/2 cup	170
Tomatoes, stewed, canned	1/2 cup	280
Tortilla, flour, 6"	1 each	205
Tuna, canned in water	3 oz.	290
Yogurt, plain or fruited	8 oz.	100 - 175

Very Low Sodium (less than 35 mg)		
Food	Serving	Milligrams (mg) of Sodium
Apricots, canned	1/2 cup	5
Beans, white, canned	1/2 cup	10
Beef, ground	1 oz.	20
Broccoli	1/2 cup	30
Broccoli, raw	1/2 cup	15
Brussels sprouts	1/2 cup	15
Cabbage, raw or cooked	1/2 cup	5
Carbonated beverages	12 oz.	20-40
Cauliflower	1/2 cup	10
Cauliflower, raw	1/2 cup	15
Dried beans and peas	1/2 cup	5-20
Greens, beet, collard, mustard	1/2 cup	10-20
Honeydew	1/2 cup	30
Lettuce, leaf	1 cup	15
Noodles	1/2 cup	10
Oatmeal	1/2 cup	5
Peaches, canned	1/2 cup	5
Pears, canned	1/2 cup	5
Pork	1 oz.	25
Potato, baked with skin	1 medium	20
Rice, brown or wild	1/2 cup.	5
Sherbet	1/2 cup	35
Soybeans	1/2 cup	15
Spinach, canned, drained	1/2 cup	30
Spinach, raw	1 cup	25
Tofu, firm	1/4 cup	10
Sodium Free (less than 5 mg)		
Food	Serving	
Avocado	1 oz.	
Beans: navy, black, pinto	1/2 cup	
Nuts, almonds, pecans, or walnuts, unsalted	1 oz.	
Oil, all types	1 Tbsp	
Popcorn, air popped	1 cup	
Raisins, seedless	1/4 cup	
Rice, white	1/2 cup	
Tomato, raw	1 medium	
Fruit and juices not previously listed	1 piece or 1/2 cup	
Vegetables not previously listed	1/2 cup	

### Why do patients with cirrhosis need more protein?

Patients with liver cirrhosis are more often in danger of losing body protein than are healthy persons. Because of their reduced glycogen reserves, patients with cirrhosis have reached a state of hunger after only 16 hours of fasting, compared to that in healthy persons, which occurs after 36 hours of fasting. Hence, after only a short period of fasting, the body turns to its own protein for energy production. Patients with cirrhosis also require normal amounts of protein but may poorly tolerate excessive amounts. We recommend that your protein intake be around 1.2 g per kilogram of body weight but divided into meals taken throughout the day and not eaten in a single sitting.

Food	Serving	Grams (g) of Protein
Fish (Tuna, Salmon, Halibut, Snapper)	3 oz.	22
Perch, Flounder, Sole	3 oz.	21
Cod	3 oz.	20
Tilapia	3 oz.	17
Lean Chicken	3 oz.	16
Cheese (low-fat mozzarella)	1 oz.	9
Lean beef and veal (low fat)	3 oz.	31
Pork loin (chops)	1 chop	41
Tofu	3 oz.	6
Yogurt, milk, and soymilk	1 cup	14
Beans	1 cup	29
Eggs (especially egg whites)	1 large egg	6
Nuts & seeds	1 oz.	9
Turkey	3 oz.	24
Lentils	1 cup	18
Peanut Butter	2 Tbsp	8