



Metabolic Dysfunction-Associated Steatotic Liver Disease (MASLD): Recommendations for Healthy Eating

Note: These recommendations are for patients with **metabolic dysfunction-associated steatotic liver disease (MASLD)**, a condition which used to be called **non-alcoholic fatty liver disease (NAFLD)**.

A healthy diet includes eating many different foods, including fruits and vegetables, while limiting saturated fat, cholesterol, sugary foods, and sodium. Healthy food habits can help reduce extra body weight. Studies have shown that, for people with MASLD, reducing your body weight by 10% leads to significant decrease in the amount of fat and scarring in the liver. This can decrease your future risk of getting advanced liver disease.

You don't need to make huge changes to eat healthier, and you don't have to change your habits all at the same time. It's best to set small goals and change your habits a little bit at a time. Over time, small changes can make a big difference in your health.

What are the main recommendations for healthy eating with MASLD?

- You can reduce the amount of fat in your liver by **decreasing your total calorie intake (eating less)** and **increasing your physical activity (exercising more)**.
- There's no single diet that is best for healthy eating. In this handout, we give you overall recommendations for healthier eating habits. Focus first on identifying a few areas you might be able to improve on (rather than trying to make all these changes at once).

- Reducing the amount of high fructose corn syrup and sugar you eat and drink may be a good place to start, depending on your current eating habits.
- Healthier eating has many overall health benefits, including decreasing the amount of fat in your liver.
- You can meet with a nutritionist or dietitian, and they will give you more specific information and personalized recommendations for healthy eating.

How can I get started on a healthy diet?

Watch your portion size

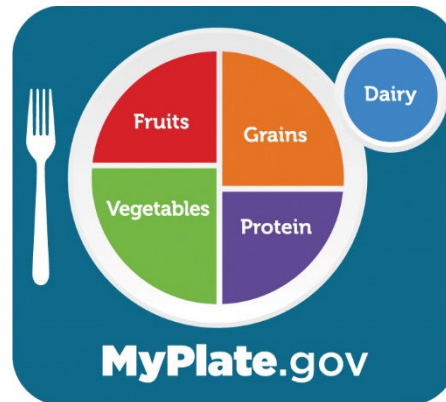
Did you know portion size and serving size are not the same thing? The National Institutes of Health (NIH) provides helpful definitions of each:

- **Portion size** is how much food you choose to eat at one time. You control your portion size whenever you eat.
- **Serving size** is the amount of food listed on a product's Nutrition Facts label. All of the nutritional values you see on the label are for the serving size the manufacturer suggests on the package. If you eat more than 1 serving (a bigger portion), you get more calories and nutrients. Being aware of the serving size can help you decide how much you want to eat of that food.

How to watch your portions:

- Use tools! Measuring cups and spoons let you measure out exact portions of food at meals until you can estimate (guess) the right amount of food to serve yourself.

- You can also use a visual approach (learn what a good portion size for you looks like) by dividing your plate into sections:
 - Fill half of your plate with fruits and vegetables
 - Fill one quarter of your plate with a grain (preferably a whole grain like brown rice or whole wheat pasta)
 - Fill one quarter of your plate with a protein (like lean meats, beans, or tofu).
 - If you can tolerate dairy products, eat or drink low-fat dairy foods as part of your meals or snacks, such as fat-free yogurt or skim milk.
- To keep your energy level up and keep you from feeling hungry, avoid skipping meals (which usually leads to eating too much at the next meal). It is best to eat at regular times throughout the day (such as having 3 meals and 1- 2 healthy snacks during your day).
- Eat only the number of calories you need to stay at a healthy weight. If you need to lose weight, eat fewer calories than your body uses through exercise and other physical activity.
- Try keeping a food log or diary to see how many calories you are eating. The quality of calories is just as important as how many you eat. A dietitian can advise you on a good calorie goal. Focus on foods with good nutrients (fruits, vegetables, fish, foods high in fiber) instead of highly processed snack foods, sugar-sweetened drinks, refined (white) grains, refined sugar, fried foods, and foods that are high in saturated and trans fats.



Eat more fruits and vegetables

- Eat lots of different fruits and vegetables every day. Dark green, orange, red, or yellow fruits and vegetables are especially good for you. Examples include spinach, carrots, peaches, and berries.
- Try to eat at least 5 servings (1/2 cup) of fruits and vegetables every day.
- Keep fruits and vegetables around for snacks. Store them where you can see it so that you will be more likely to eat them.
- Cook dishes that have a lot of vegetables in them, such as stir-fries and soups.



Limit sugar and extra carbohydrates

- Limit or avoid drinks and foods with added sugar. These include candy, desserts, and soda pop.
- It's particularly important to limit how much high-fructose corn syrup you're eating and drinking to help with weight loss and healthy eating.
- Although 100% fruit juices may not contain added sugar, fruit juice gives your body a large amount of sugar to process at one time, and liquid calories are not as filling as whole foods. Choose a piece of fruit over juice. If you decide to drink juice, choose 100% juice, and limit the amount to 4 ounces per day.
- Limiting the total amount of carbohydrates (carbs) may help with MASLD. High carbohydrate foods include bread, cereal, rice, pasta, beans and starchy vegetables. Sweets (like desserts and pastries) tend to be high carbohydrate foods.



Significantly limit or completely avoid alcohol

For your liver health, we recommend completely avoiding alcohol. If you do not feel that you can completely avoid alcohol, it is very important not to drink in excess (**excess** is drinking more than 2 drinks a day for men and more than 1 drink a day for women). Too much alcohol can cause many different health problems, and it can add extra calories to your diet that may cause you to gain weight.



Limit saturated and trans fat

Diets high in saturated fat increase your bad cholesterol levels (LDL) and total cholesterol levels. Trans fats also raise your LDL cholesterol.

Try to avoid these foods that are high in saturated or trans fat:

Foods high in saturated fat:	Foods high in trans fat:
<ul style="list-style-type: none">• Fatty cuts of meat (beef, lamb, pork)• Poultry (chicken or turkey) with skin• Whole and 2% milk• Butter• Cheese• Lard• Palm kernel oil• Palm oil• Coconut oil• Cocoa butter	<ul style="list-style-type: none">• Baked goods (crackers, cookies, cakes, donuts)• Margarine sticks• Commercially-produced white breads• French fries and other fried foods• Processed foods that use partially hydrogenated oils (check the nutrition labels on products)

How to reduce saturated and trans fat:

- Use olive oil or canola oil when you cook.
- Use Smart Balance® or Earth Balance® spreads instead of butter or margarine.
- Bake, broil, grill, or steam foods instead of frying them.
- Choose lean meats such as chicken or turkey breast, fish, eggs, and lean cuts of beef and pork like tenderloin or sirloin. When buying ground beef or turkey, choose meats that are labeled at least 90% lean (10% or less fat). Ground turkey can contain dark meat and skin so it's important to look for 90% or more lean turkey or ground turkey breast.
- Drain off any extra fat after cooking meats.
- Cut off all fat you can see when you prepare meat, and remove skin from chicken and turkey.
- Avoid high-fat meats such as hot dogs, salami, bologna, and sausages.
- Eat more plant-based proteins such as beans, lentils, or soy. These have no saturated or trans fats. Soy products such as tofu, edamame, and tempeh may be especially good for you.
- Choose low-fat or fat-free milk and dairy products instead of whole-fat dairy, or try unsweetened almond, soy, or cashew milk.

Limit sodium

Almost all foods naturally contain sodium (salt). Salt that is added in during food preparation and food processing are the major sources of salt in our diet. Healthy adults only need 2400 milligrams (mg) of sodium per day, yet the average person eats around 6000-8000 mg sodium. Limit how much salt and sodium you eat to help lower your blood pressure and reduce water retention (how much water your body holds in).



Foods high in salt and sodium:

- Cured meats, sausages, and lunch meats
- Canned vegetables, soups, beans, and fish
- Soy sauce and miso
- Commercially prepared main-course meals
- Box dinners (including anything with seasoning packets)
- Frozen meals
- Cheeses (especially processed cheese)
- Condiments and other dressings like mayonnaise, salad dressings, ketchup, and sauces (barbecue, steak, Worcestershire sauce)

How to reduce salt and sodium:

- Taste your food before salting it. Add only a little salt when you think you need it. With time, your taste buds will adjust to having less salt.
- Eat fewer snack items, fast foods, and other highly salted and processed foods.
- Check packaged food labels for the amount of sodium. Don't eat more than 2400 mg of sodium a day (or follow your doctor's instructions on sodium amounts).
- Choose low sodium types of canned goods (such as soups, vegetables, and beans).
- Use herbs and spices such as garlic, oregano, basil, onion, and pepper instead of salt.
- Use low sodium condiments whenever available, such as ketchup, mustard, and salad dressings.

Eat fish

Eat at least 2 servings of fish (about 1 pound of fish) every week. Certain kinds of fish, such as salmon and tuna, contain omega-3 fatty acids which may have health benefits.



Eat foods high in fiber

Foods with fiber, along with lean protein, helps you feel fuller longer and may allow you to eat less calories each day.



- Choose whole-grain products. Examples include oats, whole wheat bread, quinoa, and brown rice.
- Buy whole-grain breads and cereals instead of white bread or pastries.
- Fruits, vegetables, beans, nuts and seeds are all good sources of fiber. Add walnuts or chia seeds to oatmeal or have almonds with a piece of fruit for an afternoon snack.

What are other strategies for healthy eating?

- Keep more fruits, low-fat dairy products (low-fat milk and low-fat yogurt), vegetables, and whole-grain foods at home and at work. Focus on adding healthy food to your diet, rather than just taking unhealthy foods away.
- Buy a healthy recipe book and cook more meals at home. Chew gum when you cook so you won't be tempted to snack on the ingredients.
- Pack a healthy lunch and snacks for work. This lets you have more control over what you eat.
- Limit eating out as much as possible. When you do eat out, follow the suggestions above. You can also split your meal or pack half of it to take home for another meal.

- Put your snacks on a plate instead of eating from the package. This helps you control how much you eat.
- Don't skip or delay meals, and be sure to schedule your snacks. If you ignore your feelings of hunger, you may end up eating too much or choosing an unhealthy snack. If you often feel too hungry, it can cause you to focus a lot on food.
- Eat your meals with others when you can. Relax and enjoy your meals, and don't eat too fast. Try to make healthy eating a pleasure, not a chore.
- Drink water instead of sugary drinks (including high-sugar juice drinks). Sometimes your body might think it's hungry when it's just dehydration (not getting enough water). Try to drink at least 6-8 cups of water every day.
- Try to swap meatless main dishes for meat 2-3 times per week. For example, you can use dried beans, split peas, lentils, soy, and meat substitutes in place of meat in dishes.
- Use low-fat frozen yogurt, sorbets, etc. as a dessert in place of ice cream.
- Bake, broil, and steam foods instead of frying them.

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