

# Managing Non-Alcoholic Fatty Liver Disease (NAFLD)

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## What is Non-Alcoholic Fatty Liver Disease (NAFLD)?

NAFLD is the build-up of fat in the liver in people who drink little or no alcohol. There are 2 types of NAFLD:

- Isolated Fatty Liver – does not progress to liver disease
- Non-Alcoholic SteatoHepatitis (NASH) in which there is fat, inflammation and damage to liver cells. NASH can progress to cirrhosis (hardening and scarring of the liver).

A few common symptoms with NAFLD are abdomen discomfort (in the liver area), tiredness, and a general unwell feeling. A mild increase in blood liver enzyme tests is also common.

The most common cause of NAFLD is metabolic syndrome which includes obesity, diabetes and hyperlipidemia (high amount of fat in the blood). Fatty liver occurs more often and is more severe as the level of obesity increases.

There is no medication known to treat NAFLD. The treatment of NAFLD relates to the cause. If obesity is the cause of NAFLD, then the treatment is weight loss, along with eating healthy and exercise. If an individual has diabetes or hyperlipidemia, healthy types of fat and low calorie diet can improve blood sugar control and lower lipid levels.

Avoid alcohol as it can also cause fatty liver disease.

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## Treatment for NAFLD

Changing your lifestyle and diet can help improve your liver function. Here are things you can do to help improve NAFLD:

- ✓ lose weight
- ✓ decrease intake of saturated fats and avoid trans fats
- ✓ eat healthy fats, especially Omega-3 fats
- ✓ increase fibre intake
- ✓ decrease your intake of sugar and high fructose or high glucose containing beverages (see page 8 for more information)
- ✓ increase activity

**Weight loss is the most important change you can make to reduce fat in the liver.**

## My weight loss plan

Weight loss and exercise are the most effective treatments for NAFLD. It does not take a large amount of weight loss. Studies have shown that losing up to 10% of your weight (\_\_\_\_\_) can improve your liver enzyme levels and decrease the amount of liver fat.

A healthy weight loss is 1 to 2 pounds per week. Rapid weight loss can worsen the fatty liver. To lose the 1 to 2 pounds of weight you need to “burn” 3,500 calories. To do this in one week you need to “burn” (see page 12 for more information) or decrease your caloric intake by 500 calories per day.

Here are 2 key points to include in your weight loss plan:

**1. Eating a well-balanced and healthy diet.**

- The kind of foods you eat and how much you eat can affect your weight.

**2. Move your body.**

- Being physically active is also important.
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**Weight loss tips:****1. Keep track of your eating, activity and your mood.**

- Use the diary in this handout to keep track of the food you eat, your level of activity and the mood you are in. This can help you spot patterns that need change. Review your diary once a week to help you see patterns that could be changed and tackle them one at a time.

**2. Do not skip meals.**

- Skipping meals may lead to unplanned snacking. These snacks are often high in calories. Try to eat at the same time every day, and choose nutritious snack foods like fresh fruit.

**3. Always make a list before you go shopping.**

- Stick to your list and shop on a full stomach so you will be less tempted to buy high-fat, high-calorie foods.

**4. Plan to eat “treat foods” in moderation.**

- Choose high-fat or high-calorie foods less often and in smaller portions. For example, try one scoop of ice cream instead of two.

**5. Put less nutritious foods in hard-to-reach places.**

- Store high-fat and high-calories foods in dark containers and put them out of reach. You will be less likely to eat these foods if they are hard to get.

**6. Never eat from a package.**

- Always put food into another dish. This will help you to see how much food you are eating and help you manage portion sizes. Also use smaller spoons, plates or bowls and tall, thin glasses.

**7. Focus on what you are eating.**

- Do not eat in front of the television, computer screen, or while reading or working. When you are distracted, you may not notice how much food you are eating. Try to eat in one place, like your kitchen or dining room and focus on enjoying your meal.
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## **Eat a well balanced and healthy diet**

Use Eating Well with Canada's Food Guide to help you choose what and how much to eat.

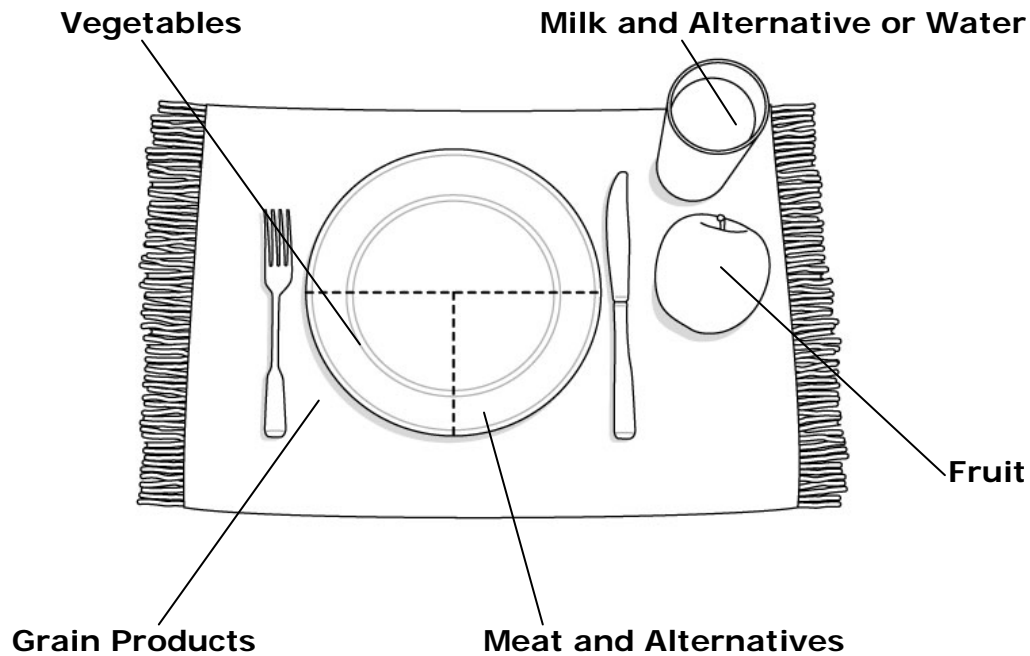
- Include foods from at least 3 of the 4 food groups to make sure you are preparing a balanced meal. This will help you to get all the vitamins, minerals and other nutrients you need to keep your body healthy.
- Choose the lower number of servings a day for each food group to decrease the amount of calories you are eating. Examples of one serving are listed under each food group.(see NAFLD eating plan).
- Include foods high in fibre (such as vegetables and legumes) and healthy fat choices (such as fish, poultry, lean meat, eggs, low fat dairy products) in your meals and snacks to help you feel full longer.

## **How to build a healthy meal**

A healthy eating means enjoying a variety of foods from all 4 food groups in Eating Well with Canada's Food Guide:

- Vegetables and Fruit – Fill  $\frac{1}{2}$  of your plate with a variety of vegetables. Have a piece of fruit for dessert.
  - Grain Products – Fill  $\frac{1}{4}$  of your plate with whole grain products.
  - Meat and Alternatives – Fill  $\frac{1}{4}$  of your plate with meat and alternatives.
  - Milk and Alternatives – Have a glass of low fat milk or a small container of yogurt to complete your meal.
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## A healthy meal



### Healthy fats

Healthy fats are the unsaturated fats in your diet. They include:

- Monounsaturated fat
- Polyunsaturated fat
- Omega-3 fat

Include foods that have unsaturated fat more often. Foods that have unsaturated fats include:

- olive, canola, soybean, peanut and other vegetable oils
- soft non-hydrogenated margarines
- nuts and seeds
- avocados
- fatty fish such as mackerel, herring, trout, salmon and sardines

Recommended low fat cooking methods:

- bake
- broil
- grill
- steam
- barbeque
- poach
- microwave
- use a non-stick pan

**Limit your intake of unhealthy fats, such as saturated fats and avoid trans fats.**

Saturated fat is found in:

- high fat processed meats such as sausage, bologna, salami and hot dogs
- fatty meats such as prime rib and regular ground beef
- full fat dairy products such as whole milk, high fat cheese, cream, butter and lard
- coconut, palm and palm kernel oil

Trans fat is found in:

- shortening
  - commercial baked goods
  - fast foods, deep fried foods and foods made with shortening or
  - partially hydrogenated oils
  - margarines made with partially hydrogenated oils
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**Increase your intake of Omega-3 fats**

Omega-3 fats are a type of polyunsaturated fat. Everyone needs Omega-3 fats in their diet for good heart health. You can get Omega-3 fats from fish and plant foods.

**How much Omega-3 fat do I need and how do I get it?**

- Eat a 3 to 4 ounce portion of various fish, especially fatty fish, at least 2 times a week.
- Include a variety of foods that contain the plant type of Omega-3 fats.
- See page 11 for food sources.

**Increase your intake of fibre**

Fibre is part of all plant foods that our bodies cannot digest. There are two types of fibre: insoluble and soluble.

Some foods have more of one type of fibre than another. Recommended amount of fibre for adults:

- females – 21 to 25 grams a day
- males – 30 to 38 grams a day

Fibre can:

- give you a feeling of fullness which may help control your appetite when you are trying to lose weight.
- delay stomach emptying, leading to slower digestion of food.

Tips to increase fibre intake:

- Increase whole grains and bran products in your diet, such as cereal, breads and pasta.
  - Eat whole fruits more often than juice.
  - Eat at least 5 vegetables and fruits every day.
  - Increase intake of legumes, nuts and seeds.
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## Reading food labels

It is important to read the nutrition labels on all foods. Learn to make healthier food choices by using the Nutrition Facts table on prepackaged foods.

Nutrition Facts	
PC Blue Menu Omega 3 Granola Cereal Per 2/3 cup (55 g)	
Amount	% Daily Value
Calories 240	
Fat 7 g	5%
Saturated 1 g + Trans 0 g	
Omega-3 500 mg	
Cholesterol 0 mg	0%
Sodium 65 mg	3%
Carbohydrate 39 g	13%
Fibre 5 g	20%
Sugars 9 g	
Protein 6 g	

Amount of food in one serving. The serving size is the amount most often eaten. All of the information in the Nutrition Facts table is based on an amount of food. **This may or may not be the serving size you would have.**

The amount of fat in the serving. Including amount of saturated and trans fats and Omega-3.

Amount of fibre in one serving.

## Limit added sugar

We recommend that you limit the amount of foods with added sugars and fructose and/or glucose beverages (pop and sweetened drinks) as your body will change excess sugars to fat and store it in your liver.

Foods high in added sugars are usually high in calories and low in protein, vitamins and minerals. Eating high calorie foods and drinks can lead to weight gain and obesity.

Also, foods with a lot of added sugars such as pop, often replace healthy foods such as milk.



**Key points to limit sugar:**

- Substitute beverages like cola, fruit drinks, iced tea, lemonade, Kool-Aid with artificially sweetened beverages labelled “sugar free” or “diet”, Perrier or soda water.
- Limit hard candies, chocolate, candy bars and gummy candies.
- Avoid adding table sugar and brown sugar to hot and cold cereals.
- Snack on whole fruit instead of cookies, cakes, donuts, pies or fruit-flavoured treats.
- When selecting cereals, limit the sugar to no more than 8 grams per serving.
- Reduce your intake of ice cream, frozen yogurt, sherbet, gelato and flavoured ices.

**NAFLD Eating Plan**

Use the following chart to help you follow the NAFLD eating plan.

If you normally eat more or less than this, then the number of servings may increase or decrease. Your dietitian will show you how many servings to have each day.

<b>Grains and Grain Products – 6 to 8 servings a day</b>			
<b>Foods group guidelines</b>	<b>How much is one serving?</b>	<b>Say YES to</b>	<b>Say NO to</b>
Make at least half of your grain products whole grain each day.	1 slice bread 1/2 bagel, bun or pita 30 g cold cereal or 3/4 cup hot cereal	Whole grain breads, hot and cold cereals, pasta, brown rice, couscous or bulgur.	Commercial baked goods, such as cakes, pies, donuts and croissants.
Choose grain products that are low in fat, sugar or salt.	1/2 cup cooked rice, pasta, cereal, couscous or bulgur	Low fat snack foods such as air popped popcorn and low sodium pretzels.	High fat snack foods such as potato chips and cheesies.

<b>Vegetables and Fruits – 7 to 10 servings a day</b>			
<b>Foods group guidelines</b>	<b>How much is one serving?</b>	<b>Say YES to</b>	<b>Say NO to</b>
<p>Eat at least one dark green and one orange vegetable each day.</p> <p>Enjoy vegetables and fruit prepared with little or no added fat, sugar or salt.</p> <p>Have vegetables and fruit more often than juice.</p>	<p>1 cup raw, leafy vegetable such as spinach</p> <p>1/2 cup fresh, frozen, or canned vegetables or fruit</p> <p>1/2 cup vegetable or fruit juice</p> <p>1 medium sized piece of fruit</p>	<p>All, except coconut and battered or deep fried vegetables.</p>	<p>Coconut</p> <p>Battered or deep fried vegetables.</p>
<b>Milk and Alternatives– 2 to 3 servings a day</b>			
<b>Foods group guidelines</b>	<b>How much is one serving?</b>	<b>Say YES to</b>	<b>Say NO to</b>
<p>Drink skim, 1% or 2% milk each day.</p> <p>Select lower fat milk alternatives, such as 20% MF or less cheese, and 0% MF yogurt.</p>	<p>1 cup milk or fortified soy beverage</p> <p>3/4 cup yogurt</p> <p>1 ½ oz low fat cheese</p>	<p>Skim or 1% milk, yogurt, cottage cheese</p> <p>Lower fat cheese (less than 20% MF)</p> <p>Low fat ice cream (1% MF), frozen yogurt (2% MF), sherbet</p> <p>Fortified soy beverages</p>	<p>Full fat milk and dairy products</p>

<b>Meat and Alternatives – 2 to 3 servings a day</b>			
<b>Foods group guidelines</b>	<b>How much is one serving?</b>	<b>Say YES to</b>	<b>Say NO to</b>
<p>Eat at least 2 Food Guide servings of fish (with Omega 3 fat) each week.</p> <p>Select lean meat and alternatives prepared with little or no added fat or salt.</p> <p>Have meat alternatives such as beans, lentils and tofu often.</p>	<p>2 ½ oz cooked meat, poultry or fish.</p> <p>2 eggs.</p> <p>1/4 cup nuts or seeds</p> <p>3/4 cup cooked legumes</p> <p>2 tbsp peanut butter</p>	<p>Lean cuts of meat with visible fat trimmed off such as strip loin or round.</p> <p>Skinless chicken or turkey.</p> <p>Egg whites or substitutes.</p> <p>Omega 3 fish, especially fatty fish such as salmon, sardines, trout, whitefish, herring, and mackerel</p> <p>Peas, beans and lentils</p> <p>Soy based meat alternatives such as tofu and textured vegetable protein (TVP)</p> <p>Omega 3: flaxseeds, walnuts, soybeans and tofu</p>	<p>Deep fried chicken wings or battered fish.</p> <p>Meat with visible fat.</p> <p>Chicken or turkey with skin.</p> <p>Organ meats, liver, kidney.</p> <p>Regular luncheon meat, bacon, sausage or hot dogs.</p> <p>More than 3 egg yolks each week.</p>
<b>Fats and Oils - 2 servings a day</b>			
<b>Foods group guidelines</b>	<b>How much is one serving?</b>	<b>Say YES to</b>	<b>Say NO to</b>
<p>Healthy fats.</p> <p>Use unsaturated fats, such as olive oil, canola and vegetable. Limit intake of processed foods.</p>	<p>30 to 45 ml (2 to 3 tbsp) total amount of unsaturated fats and oils a day.</p>	<p>Omega 3: canola oil and soybean oil or margarines made with these oils:</p> <ul style="list-style-type: none"> <li>• soft, non-hydrogenated margarine</li> <li>• olive, canola, soybean, peanut and other vegetable oils</li> </ul> <p>Salad dressings such as oil and vinegar or low fat</p>	<p>Regular sauces and gravies.</p> <p>Cream cheese, creamy salad dressings and full fat mayo.</p> <p>Butter, cream, lard and shortening.</p> <p>Coconut or palm oil.</p>

## Move your body

### How much exercise do I need?

Studies show that exercise can decrease liver fat. This includes both aerobic exercise (4 to 5 times a week) and resistance training (2 or more times a week). Health Canada recommends 30 to 60 minutes of exercise every day.

To burn 150 calories, try one of these activities for 30 minutes:

- walk 2 miles (3.2 km)
- cycle 3 miles (4.8 km)
- water aerobics
- dance
- garden or rake the leaves



### Tips to be active:

1. Try different activities until you find the ones that are right for you.
2. Get into a routine with a friend
  - Go to the pool, hit the gym, join a spin class or set a regular run and do some planned exercise. Find a workout partner to encourage you and help keep you in a routine.
3. Limit the time you spend watching TV or sitting in front of a computer.
4. Just move
  - Whenever you can, walk (like you are “running late”), run or bike, instead of taking the car.
5. Spread your sessions of moderate to vigorous aerobic exercise throughout the week.
  - Do at least 10 minutes of exercise at one time.
6. Join a team or group
  - Take part in sports and recreation activities in groups. You will make new friends and get active at the same time.