



## Top 10 Tips, continued

**4. INCREASE YOUR VEGGIES AT LUNCH AND DINNER:** It is advisable to aim for 5+ portions of vegetables every day, so begin by increasing your vegetable intake at both lunchtime and dinnertime. Homemade soups and stews are an easy way to get your veggies in, and opt for more leafy salad and vegetable options in wraps and sandwiches (coleslaw and potato salad don't count).

**5. INCREASE YOUR FRUIT INTAKE AT BREAKFAST AND SNACKTIME:** It is advisable to aim for 3+ portions of fruit a day, so topping your oats or muesli with 1-2 portions of berries, and then snacking on apples, plums, pears, oranges, mid-morning or mid-afternoon will see you hit your target. In total, that means 8+ portions of fruit and veg a day, 5+ from veg, 3+ from fruit.

**6. INCREASE BEANS AND LENTILS:** Protein doesn't always have to come from animal-based sources, and beans and lentils provide an excellent source of plant-based protein. They also provide additional nutrients that will help lower your cholesterol and improve your digestive health through additional fibre.

**7. OILY FISH:** Aim to substitute 2-3 portions of meat with 2-3 portions of small oily fish every week. They are high in omega 3 polyunsaturated fat. Examples include mackerel, sardines, herring, trout and anchovies.

**8. REDUCE/REMOVE ADDED SUGAR:** Too much sugar in the diet can cause a build up of fat in the liver. Also, sugar is one of the primary drivers of weight gain, and one of the main stumbling blocks to weight loss. If you drink soft drinks/fizzy drinks it must be a priority to reduce and eventually remove these sugar-sweetened beverages completely from your diet.

## Top 10 Tips, continued

If you add sugar to your tea or coffee, or sprinkle it on your cereal, this must also be reduced and eventually removed.

**9. REDUCE ALCOHOL:** Although your liver disease is not predominantly driven by excess alcohol intake, consumption of alcohol leads to drinking empty calories (on average 100-250kcal per standard drink) and can impede weight loss.

**10. ENJOY CAFFEINE:** Moderate caffeine intake (2-3 cups per day) has been shown to be protective in NAFLD. Sources include coffee, tea, and green tea. Caffeinated fizzy drinks are not included in this recommendation. Coffees can often be a source of extra calories in the form of cappuccinos and mochas, so choose plain coffees and tea only, and avoid added sugar.

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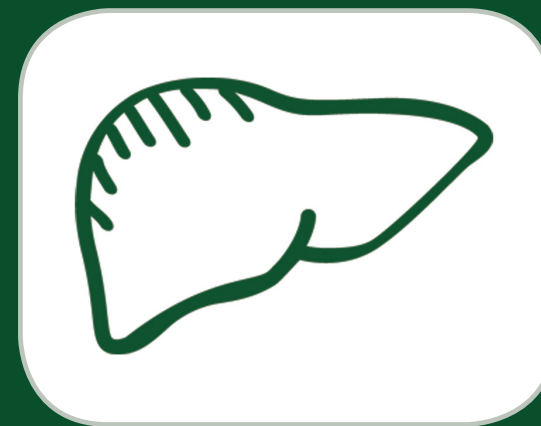
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# Non-Alcoholic Fatty Liver Disease

A diet and lifestyle guide for patients with NAFLD





## The Liver

The liver is one of the busiest organs in the body, with some of the most important jobs for keeping the body working optimally. It can be likened to a factory, or a processing plant, as most of what goes inside the body goes into and out of the liver for processing. Hundreds of actions and functions take place every day, including metabolising drugs and medications; creation of bile for digestion; storing glycogen as a back-up energy source; filtering the blood; creation of blood clotting proteins; regulating the digestion of fat from the diet; storing vitamins and minerals, like iron or vitamin A; producing hormones and cholesterol; repairing damage of its own tissue.

## Fatty Infiltration of the Liver

Most healthy livers have little to no fatty infiltration. When fat begins to build up in the liver, it is referred to as simple steatosis. For some people, simple steatosis will not progress to a more serious liver disease, but may have an impact on other areas of their health potentially leading to insulin resistance, type 2 diabetes, high cholesterol, hypertension, and metabolic syndrome, which is a significant risk factor for cardiovascular disease. The next stage of fatty infiltration of the liver is called nonalcoholic steatohepatitis (NASH).

NASH is a more serious advancement of disease, as inflammation or ballooning can occur, causing fibrosis. This is a type of scar tissue that develops on the liver, hardening it, and making it function poorly. Fibrosis can then progress to cirrhosis, the most serious of liver complications, which is irreversible, and causes increased mortality.

### Stages of NAFLD Progression:

1. Non alcoholic fatty liver, also known as steatosis or simple steatosis
2. Non alcoholic steatohepatitis (NASH)
3. NASH with fibrosis
4. Cirrhosis

### How Common is NAFLD?

- In Europe it is estimated that 17%-46% of the adult population has NAFLD.
- Incidence is increasing alongside rising obesity and type 2 diabetes rates. In Ireland, over 60% of the population are overweight or obese and 6.5% of the population have type 2 diabetes. These numbers are predicted to continue to rise and so too will incidence of NAFLD.

## What causes NAFLD?

Risk factors for development of non-alcoholic fatty liver disease include the following:

- overweight/obesity
- poor diet - processed foods, sugary drinks and snacks, junk food, ready-made meals
- sedentary lifestyle - little or no exercise
- smoking
- metabolic syndrome - this is a term for the clustering of conditions such as high cholesterol, insulin resistance, type 2 diabetes, hypertension, overweight
- drug treatments, total parenteral nutrition, hepatitis b, hepatitis c, genetics

## Treatment for NAFLD

At present, there are no pharmaceutical treatments for fatty infiltration of the liver, and nothing your doctor can prescribe in a way that would be similar if it were high cholesterol, or eczema, or tonsillitis, for example. As the majority of cases of NAFLD development are diet and lifestyle related, then this is where the modifications need to be made. Weight loss is the primary method for managing and reversing NAFLD.

## Top 10 Tips

**1. EAT REGULAR MEALS:** Spacing out your meals, and not skipping meals, can ensure you feel satisfied and don't get too hungry at any point in the day. Eat breakfast, lunch, and dinner, and include a small mid-morning or mid-afternoon snack to manage your appetite between meals and help you avoid overeating at mealtimes.

**2. CHANGE YOUR FAT INTAKE:** Fat should predominantly come from whole, unprocessed forms such as seeds, nuts, avocados, and oily fish. Refined fats should be limited to small amounts of olive oil, rapeseed oil, or coconut oil in cooking. All other fats need to be reduced or removed, particularly synthetic fats such as trans and hydrogenated fats, as well as saturated fats found in meat and dairy. Because fat, even natural fat, is very high in calories, the quantities need to be limited. For example, snacking on nuts must be limited to 4-6 nuts as one portion. Anything over this will impede weight loss. Aim to grill, bake, boil, or steam your food instead of frying it, and trim all noticeable fats off meats.

**3. COMPLEX CARBOHYDRATES ONLY:** Carbohydrates are a great source of energy, but often we depend on refined carbohydrates such as white flour and sugar, instead of complex carbohydrates, such as wholegrains, and vegetables. High fibre, complex carbohydrates can help you feel fuller for longer, when compared with refined carbohydrates. Choose foods such as oats, brown rice, brown pasta, wholemeal bread and pittas.

