

Nutrition in non-alcoholic fatty liver disease

What is NAFLD (non-alcoholic fatty liver disease)?

NAFLD is a condition where excess fat builds up in the liver. Risk factors for the disease include being obese or overweight, having diabetes, or high blood cholesterol and triglyceride (a type of blood fat) levels.

NAFLD does not always cause harm to the liver, but it can:

- Progress to more severe liver disease
- Increase risk of diabetes, heart attack or stroke

What is NASH (non-alcoholic steatohepatitis)?

In this condition, the excess fat in the liver may cause inflammation of the liver. 'Steato' means fat, and 'hepatitis' means inflammation of the liver. Ongoing inflammation may scar the liver, causing cirrhosis, which can lead to liver failure.

What should you do if you have NAFLD or NASH?

There is good evidence that gradual weight loss and regular exercise can reduce the amount of fat in your liver,

reducing your risk of developing cirrhosis and possibly reversing NAFLD or NASH.

As NAFLD increases your risk of developing cardiovascular disease and diabetes, it is important to:

- Avoid smoking and alcohol
- Keep your weight in check
- Participate in regular exercise
- Eat a healthy balanced diet
- Treat high blood pressure, high cholesterol and have good blood sugar control (if you have diabetes)

Nutrition and fatty liver disease

Changing the way you eat is a gradual process. To help maintain weight loss and keep your liver healthy, it is important that you make changes slowly to continue them long-term.

3 key areas to focus on to reduce the risk factors of NALFD or NASH are:

- Healthy eating
- Healthy weight
- Increasing exercise

1. Healthy eating

Eat regular meals

Eating regularly helps appetite control, reduces cravings and helps you plan healthy meals. Start with breakfast daily and aim to include 3 meals a day.

Base your meals on whole foods from the Mediterranean diet

- Wholegrain breads, cereals, nuts, seeds, legumes, fruits & vegetables (base every meal on these foods)
- Lean protein particularly fish (at least twice weekly), chicken or eggs
- Low fat dairy

When your body gets the nutrients it needs from these main food groups, it reduces cravings for high fat or high sugar foods. Use the *Mediterranean Diet* on page 5 and *Dietary Guidelines for Australian Adults* as a reference.

Switch to healthier drinks

Avoid sugar sweetened drinks including soft drinks, cordials, sports drinks and juices. Consider replacing with diet alternatives or better still, choose water. It is also best to avoid alcohol, as even small amounts may make NAFLD worse.

Reduce your portion sizes

Use smaller plates and bowls to lower your energy (kilojoule) intake.

Fill up on better choices

Using high fibre breads and cereals, vegetables, legumes and fruit will fill you up. With better choices, you may find you eat a larger volume of food but with fewer kilojoules.

Examples of better choices with more food and less kilojoules are as follows:

- 2/3 bowl of rolled oats instead of 1/3 bowl of toasted muesli
- 2 pieces of fruit instead of 1 glass of fruit drink
- 2 slices of multigrain bread instead of 40g of chocolate
- 1 medium jacket potato instead of ½ bucket of hot chips

Plan your meals ahead of time

This will help to limit making spur-of-the-moment decisions, reduce the temptation to grab a takeaway, and can reduce impulse eating, which can lead to over-eating.

Try to balance your plate (see page 4) to include a large serve of vegetables (1/2 the plate), a palm sized protein portion (1/4 the plate), and a small serve of carbohydrate (1/4 the plate).

Not all fats are equal

When trying to lose weight it is important to remember that all fats are rich in kilojoules. Unsaturated fats ("good fat") eaten instead of saturated fats ("bad fat") may improve cardiovascular risk.

- Increase monounsaturated fat: extra virgin olive oil, avocados, olives, and nuts (almonds & cashews)
- Increase polyunsaturated fat: sunflower seeds & oil, canola oil, soybeans & soymilk, nuts (walnuts, hazel, Brazil) & seeds (chia, flaxseed, sunflower), oily fish & seafood (salmon, sardines, tuna, mussels)
- Decrease saturated fat: animal fat (butter, lard, ghee), coconut oil, full fat dairy, deep fried foods & pastries, fat on meat, cream & sour cream, and deli meats

Limit added sugars

Added sugars can increase the kilojoule content of your diet and, when eaten in place of nutritious foods, reduces your intake of important nutrients. To reduce your intake of added sugar:

- Use less/no sugar in your tea/coffee
- Try fruit instead of sugar on cereal
- Use sugar free spreads instead of jam and honey
- Replace fruit juice with fresh fruit
- Eat tinned fruit in water/natural juice instead of syrup

- Use sugar free (natural/greek yoghurt) instead of high sugar yoghurt
- Eat fewer biscuits and cakes
- Remove added sugars in stewed fruits and desserts

2. Healthy weight

A weight loss of 5-10% of your current body weight can:

- Improve liver function tests
- Decrease fatty liver
- Improve blood sugar control

Healthy weight loss aims for a loss of 0.5-1kg per week.

Your current weight: _____

Your goal weight: _____

Your waist circumference: _____

Desirable waist circumferences:

Females: Initially <88cm

Long term <80cm

Males: Initially <102cm

Long term <94cm

3. Increasing exercise

Increasing your activity helps burn more kilojoules and is important for improving weight control and diabetes risk/blood sugar control.

Recommendations are to do at least 150 minutes of moderate intensity exercise per week (30 mins of activity 5 times per

week), increasing to 30-45 minutes daily.

Talk to your doctor before starting any physical activity if you have existing medical conditions, as you may benefit from a referral to an exercise physiologist. It's also important to keep in touch with your diabetic educator and manage your blood sugar levels well if you have diabetes.

- Aim to be active every day in as many ways as you can (e.g. join a dance class or walking group)

- Think of movement as an opportunity, not an inconvenience (e.g. go for a bike ride or play tennis with friends)
- Increase your incidental exercise (e.g. walk briskly, clean the house, sit less)
- Choose activities that you can do often and find easy and enjoyable, such as walking
- Find an activity that best matches your current level of fitness (e.g. break exercise up into 2-3 x 15 min blocks)
- Consider including resistance training to maintain muscle mass

Healthy plate model

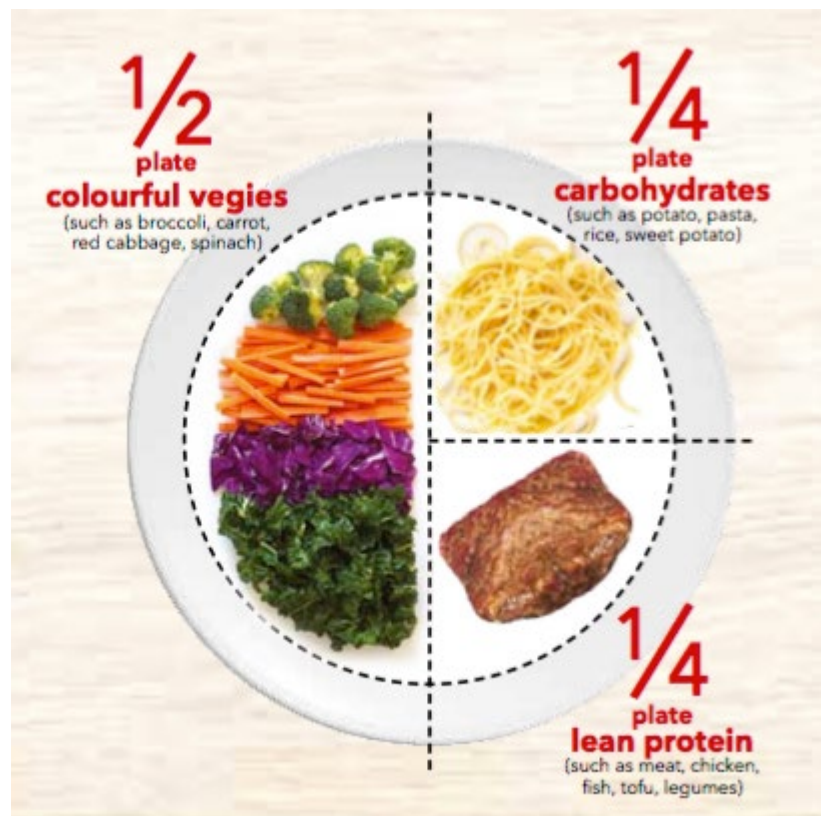


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Mediterranean Diet Pyramid

A contemporary approach to delicious, healthy eating

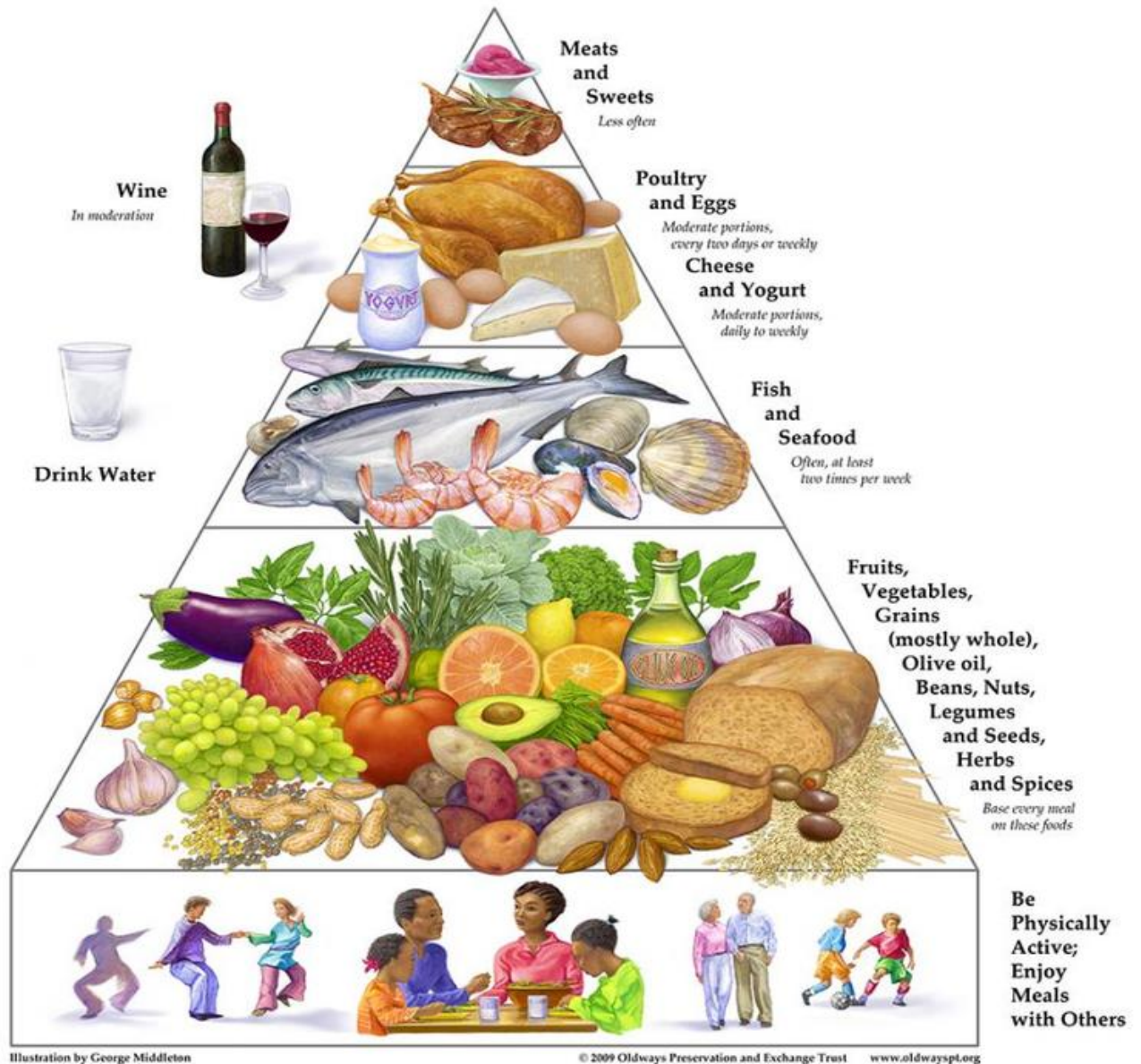


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Suggested meal plan

BREAKFAST

1 cup cooked oats (1/2 cup raw oats) or ½ - 1 cup high fibre cereal with low fat milk

OR

2 slices of multigrain bread with baked beans (no added salt) / tomato / mushrooms / peanut butter (no added sugar/salt) / cottage cheese

AND

1 piece of fruit

Water to drink

MORNING TEA

See snack ideas

LUNCH

2 slices multigrain bread OR 1 bread roll / wrap

AND / OR

Salad with tuna (in spring water) / salmon / chicken / low fat cheese

Water to drink

AFTERNOON TEA

See snack ideas

DINNER

100 – 120g lean chicken (no skin) / fish / eggs / legumes

AND

Large serve of vegetables (e.g. beans, broccoli, cabbage, carrots, cauliflower, peas, spinach, zucchini)

AND

1 cup pasta / 2/3 cup rice / 1/2 cup sweet potato / 1 medium potato

Water to drink

SNACK IDEAS:

Fruit

Low fat natural / greek / diet yoghurt (100-200g)

2 oatmeal biscuits

2-3 grainy crackers with cottage cheese and tomato

1 thin slice of fruit bread

Raw, unsalted nuts (5-6)

*This meal plan is an example only and may need to be changed depending on your weight loss goals or physical activity

Individual meal plan

BREAKFAST
MORNING TEA
LUNCH
AFTERNOON TEA
DINNER
SUPPER