



Nutrition Support in Liver Disease

Liver
NORTH
LIVER PATIENT SUPPORT

IMPORTANT: DIABETES

It is fairly common for some people with liver disease to also have diabetes, which means the body is unable to produce enough insulin to control and maintain blood sugar levels in the recommended range. It is important to follow a well-balanced diet, avoiding foods containing a lot of sugar such as jams, sweets and full sugar drinks. If you have diabetes. Some of the recommendations in this booklet may need altering to suit your individual needs. Individual advice can be requested from a dietitian. In addition to this leaflet, more tailored, specific dietary advice may be required to meet your individual nutritional needs, please ask your clinician for a referral to the dietitian.

WHY IS THE LIVER SO IMPORTANT IN NUTRITION?

NUTRITION is defined as the process of taking food into the body and absorbing the nutrients in those foods.

NUTRIENTS are chemical compounds in food that are used by the body to function properly and maintain health. Examples include proteins, fats, carbohydrates, vitamins and minerals.

One of the most important functions of the liver is to break down food and convert it to energy when it is needed (metabolism). Some of this excess energy is stored in the liver as glycogen. The liver releases glycogen to ensure the body has a constant supply of energy, especially in between meals. The liver produces bile to break down fat into tiny droplets that the body can absorb; proteins to provide building blocks for cell and tissue growth and repair as well as storing vitamins. Given the vital role of nutrition in the liver, if the liver is damaged, metabolism can be affected and patients can quickly become malnourished. Malnutrition is a lack of nutrients which causes an adverse effect on your body's functions and your health. Not all patients will become malnourished, this can depend on the type and severity of your condition and the treatment you are receiving.

Signs of malnutrition:

- Unexpected weight loss.
- Loss of appetite (and a corresponding decrease in food intake).

- Loss of muscle bulk (especially in the face, upper arms, chest).
- Reduced muscle strength.

If you are carrying excess fluid in your stomach (ascites) or fluid in your feet/lower limbs (oedema) your weight may be raised. This can mask malnutrition. It is important to look for other signs of weight loss, e.g. loss of muscle and fat in your arms, face and chest and loose fitting rings or dentures.

The aims of good nutrition are to:

- Provide nutrients in balance to maintain a good nutritional status and prevent malnutrition.
- Avoid unplanned weight loss.
- Maintain your muscle, strength and mobility.
- Provide you with energy for daily activities and socialising.
- Support you through your treatment, reduce hospital admissions and maximise your quality of life.

Combining good nutrition with exercise (if you are able) is key to maximising your health, wellbeing and muscle function.

How can liver disease cause malnutrition?

Your body's nutritional and energy needs will vary depending on the type and severity of your liver condition. Often liver disease can increase your energy needs and you must eat more than you normally would to prevent weight loss. The side effects of liver disease or the treatments you are receiving may make you feel unwell and unable to eat normally. If this is happening, healthy eating recommendations would need to be relaxed in favour of eating foods high in energy, fat and protein to maintain your weight rather than eating lots of fruit and vegetables which provide little energy and can fill you up.

Cirrhosis and malnutrition

Cirrhosis is the scarring (fibrosis) of the liver which causes the liver to become firm and knobbly. This scarring leads to loss of liver cells, which can result in reduced liver function. The cirrhotic liver may be unable to store as much glycogen (energy) as a normal healthy liver. If you are not having regular meals and snacks, the glycogen store disappears very quickly. If there are no

energy stores, the body will look for another source of energy and will break down muscle to fuel the body to keep going. This results in a loss of muscle and you may notice that you are becoming weaker and losing weight. This can occur rapidly.

The aim is to avoid prolonged periods of fasting to reduce muscle wasting. You should try to:

- **Eat regular meals and snacks containing carbohydrate every 2–3 hours.**
 - Aim to have 3 meals a day. These may be smaller than you would normally manage. All meals should be based on a source of carbohydrate, such as bread, potato, cereal, pasta, rice, noodles or couscous. Glucose is made when carbohydrate is broken down in the liver.
 - Suitable snacks suggestions include: yoghurt, tea cake, scone, toast, cheese and crackers, chocolate bar, cake, or a small sandwich. If you are away from home, try to take snacks with you to avoid longer gaps in food intake.
- **Have a bed time snack** to reduce muscle wasting overnight. You should aim to have 50g of carbohydrate, examples of suitable snacks include:
 - Bowl of cereal and banana
 - 2 slices of toast with jam and a glass of milk
 - Slice of fruit cake and a glass of milk
 - 4 biscuits and a glass of milk
 - 2 crumpets and a banana.

What if I am finding it difficult to eat?

If you are struggling with your appetite and food intake, try some of the suggestions below:

- Try to eat small but frequent meals.
- Avoid skipping meals and snacks, however small, every little helps.
- Make the most of the times you want to eat and try to enjoy your food.
- Avoid drinking with meals as this may fill you up and spoil your appetite.
- Keep snacks by your bed.
- If you don't feel like solid food try a nourishing drink, e.g. full fat milk, Horlicks, smoothie or milkshake.
- Prepare meals in advance when you have more

- energy and make extra for the freezer.
- If the smell of food is unappetising, consider cold foods.
- Accept offers from friends and family to help with cooking and shopping.
- A short walk or fresh air before a meal, may increase your appetite.
- Consider ready meals, these can be just as nutritious (select the lower salt versions if you have ascites).
- Use meals on wheels services or home delivery services offering pre prepared meals.
- Include convenience foods (such as tinned, dried or frozen foods) in your weekly shop as these will keep longer unopened e.g. longer-life milk, savoury snacks, plain biscuits, rice puddings, corned beef, baked beans, soups, tinned puddings and custard.

How can I gain weight?

- Try to have 3 meals a day with snacks in between.
- Ideas for snacks include: cheese and biscuits, scone, tea cake, yoghurt, biscuits, olives, cake, sausage roll, a slice of pizza, cereal, mini dessert, spring roll or hummus and dip. Focus on foods you fancy.
- Try to avoid filling yourself up with large servings of fruit, vegetables or salads as they do not provide much energy. If you feel you are not managing to eat adequate fruit and vegetables, you could consider taking a general multivitamin and mineral supplement from a pharmacy. Individual vitamins sold as separate supplements are not recommended unless advised by your doctor.
- If you usually use low fat, low sugar 'diet' foods and drinks, switch to the non-diet ones (e.g. whole milk).
- Add ingredients such as cream, cheese, butter, olive oil, cream cheese, milk powder and lentils to foods like soups, stews, curries, scrambled eggs, vegetables, potatoes.
- Add honey, syrup and jams to porridge, milky puddings, or toast (unless you have diabetes - ask your doctor or dietician).
- Fortify your usual milk by whisking 4 tablespoons

- of skimmed milk powder into 1 pint of milk
- Focus on nourishing drinks. These can include: full fat or semi skimmed milk, malted drinks, such as Horlicks or Ovaltine made with milk, smoothies, fruit juice and full sugar fizzy drinks.
- Try making nutritious homemade milkshakes: these can be made up with a mixture of milk, honey, milkshake powder, yoghurt, ice cream, cream, banana or pureed fruit.
- Try to have a pudding after your main course or as an in-between meal snack, e.g. sponge and custard, cheesecake, ice cream and fruit, trifle or rice pudding.
- Powdered nutritional supplements are available from chemists or supermarkets and may be useful, but can be expensive.
- In some cases, prescribed oral nutritional supplements, such as Fortisip Compact Protein, Ensure Plus or Fortijuce may be beneficial. Your doctor or dietitian may advise.

Please note, if you have diabetes, consult with your dietitian/health care provider as some of the above suggestions may not be suitable. It is important to continue to avoid high sugar drinks and foods, however if you are losing weight, specific dietary changes may be required.

Why is protein important?

When your liver is not working properly, your body needs more protein than normal. Protein is often thought of as the building blocks for building and repairing body tissues and keeping your muscles strong. Eating too little protein, particularly for long periods of time, may lead to muscle weakness, frailty and slower recovery from illness or surgery.

Tips to improve your protein intake:

- Good sources of protein include meat, fish, eggs, soya, tofu, beans, pulses, nuts and seeds and dairy foods such as milk, yoghurt and cheese.
- A suggested guide is to have at least 25g of protein with each of your 3 meals a day.
- Try to have high protein snacks between your meals, such as cheese and biscuits, nuts or egg.

- Eggs or baked beans on toast are good ways to increase your protein intake at breakfast.
- Milky drinks, such as hot chocolate or a malted drink are useful fluid sources to boost your protein intake.
- Milky puddings such as custard and rice pudding after or between meals will help boost your protein intake.
- Some products, for example yoghurts and cereals have extra protein added to their ingredients – look out for the words ‘high protein’ on the label.
- Making fortified milk can help increase your protein intake: add 4 heaped tablespoons of skimmed milk powder to a pint of milk. Use on cereal, puddings or in milky drinks.

Combining a good intake of protein with exercise is ideal for maintaining and building muscle and making you feel stronger.

What is the dietary advice for ascites (fluid retention in your abdomen)?

Ascites can increase the pressure on your stomach, make you feel full up quickly and make it difficult to eat. If you develop ascites, you can help reduce the build up of fluid by reducing the amount of salt in your diet. About 70% of our salt intake comes from processed or every day foods, such as bread, crisps, breakfast cereals and ready meals. Cooking from fresh where possible will help reduce your salt intake.

Foods high in salt include:

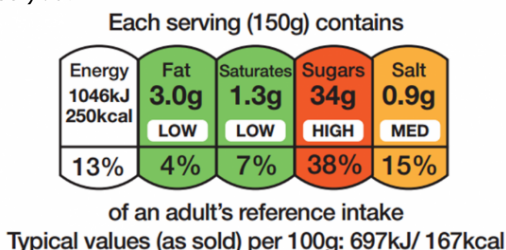
- Cured meats including: bacon, ham, sausages, salami (instead choose fresh meats and unsmoked products).
- Cheese – is a good source of protein, but avoid it every day, cream cheese and cottage cheese tend to be lower in salt.
- Smoked meats and fish (choose unsmoked, non-canned products).
- Salted crisps, pretzels and nuts, olives (choose unsmoked options, but also check the label for salt content).
- Stock cubes, gravy, ketchup, soy sauce, Bovril, Marmite, yeast extracts (try homemade versions or add herbs and spices for flavouring instead).
- Tinned or packet soups and tinned vegetables (try

- making homemade soups with limited added salt, use frozen vegetables).
- Ready meals – (check the packaging label for the lower salt options or cook from fresh on in bulk where possible).

Tips to reduce your salt intake:

- Avoiding salt in cooking or at the table.
- Gradually reduce your salt intake and your taste buds will adapt.
- Use herbs, spices, pepper, lemon for seasoning instead of salt.

It may be helpful to look at food labels as most food packaging has traffic light coding so you can tell whether a food has high, medium or low amounts of fat, saturated fat, sugars and salt. Try to avoid foods that are marked **‘HIGH’** for salt. The high salt content of some foods may surprise you.



Try to reduce your intake of the higher salt foods or have smaller amounts, however if reducing your salt intake compromises your overall nutritional intake so you are losing weight unintentionally, this can be harmful. A balance is required, discuss this with your Dietitian.

<https://www.food.gov.uk/safety-hygiene/check-the-label>

Suggested meal plan

The foods below may give you some useful ideas.

Breakfast

- Baked beans on toast
- Eggs and tomato on toast
- 2 slices of toast with jam
- Breakfast cereal and milk
- Greek yoghurt, honey and dried fruit

Mid morning snack

- Piece of cake or chocolate bar
- Toast
- Cheese and biscuit
- Crumpet or tea cake
- Scone

A glass of milk or milky drink alongside the snack is recommended

Lunch

- Sandwich or jacket potato with a filling of: meat/fish/cheese/baked beans
- Pasta salad
- Dessert: Yoghurt / rice pudding / mini trifle / fruit and custard

Mid afternoon

- Malt loaf
- Cake
- Couple of biscuits
- Scone
- Cheese and crackers
- Hummus and carrot sticks

A glass of milk or milky drink alongside the snack is recommended

Evening meal

- Meat/fish/Tofu/Quorn with potatoes/chips/rice and vegetables
- Meat/fish/lentil curry or casserole with rice/naan/chapatti
- Pasta with meat/fish/beans/vegetarian alternative and a creamy or tomato sauce
- Dessert: sponge pudding and ice cream or custard/fruit crumble and cream or ice cream or custard/trifle/cheese cake

Bedtime snack (remember to aim for 50g of carbohydrate)

- Bowl of cereal and banana
- 2 slices of toast with jam and a glass of milk
- Slice of fruit cake and a glass of milk
- 4 biscuits and a glass of milk

Tips for being in hospital

Being admitted to hospital can have a negative impact on your dietary intake. Fasting for procedures or feeling unwell can have an impact on the amount of food you eat. It is important to try to reduce periods of not eating and maximise your nutritional intake.

Suggestions include:-

- Bringing snacks with you from home.
- Ask family/friends to bring in snacks.
- Obtain snacks from the hospital shop, if these are labelled with your name, you may be able to store these in the ward fridge.
- If you miss a meal due to a procedure, the hospital should offer you a missed meal.
- If snacks between meals and a bed time snack are not offered, ensure to ask staff for these.
- Order high energy puddings.
- Try to have milk and milky drinks rather than just tea and coffee.
- If you are prescribed nutritional supplements at home, discuss with the doctors to ensure these are offered on the ward.
- Ask for a dietitian referral if required.

Some of the information contained in this leaflet may also appear elsewhere and you may benefit from reading our leaflet No 14 'Diet and Liver Disease'.

We are very grateful to Rachel Thomson BSc, Diploma in Dietetics, RD - (Registered Dietitian) of the Newcastle upon Tyne Hospitals NHS Foundation Trust for writing this LIVERnORTH publication for the benefit of liver patients.

More information and advice from the NHS:
<https://www.nhs.uk/live-well/eat-well/>

LIVERnORTH can help you.

We have access to extensive information on all liver diseases and treatments, see the next page for a list of our information leaflets.

To view our lectures online please find us on YouTube by searching for 'livernorth'.

LIVERnORTH Information Leaflets:

1. Liver Patient Support
2. Accommodation for patients & families
3. Autoimmune Hepatitis
4. Alcohol and Liver Disease
5. Looking After Your Liver
6. Primary Biliary Cholangitis (PBC)
7. Coping With Stress
8. Primary Liver Cancer
9. You and Your Consultant
10. Primary Sclerosing Cholangitis (PSC)
11. Lifestyle and your Liver (MASLD/NAFLD)
12. Liver Disease
13. Skin Care for Liver Patients
14. Diet and Liver Disease
- 14a. Nutrition in Liver Disease
15. Hepatitis C
16. Travel Insurance for Liver Patients
17. Hepatitis E
18. Fatigue in Liver Patients/A Patient's Journey
19. Scanning - a short guide (*aka Understanding Tests*)
20. Liver Cirrhosis Self Management Toolkit *
21. Exercise & Osteoporosis in Liver Patients
22. Hepatic Encephalopathy
23. Our Livers, Our Lives (*via ISSUU*)
25. Allowances (DLA & PIP)
26. Compensated Liver Cirrhosis
27. Hepatitis B
30. Wellness Walks - several available

* only from your doctor or healthcare professional

How to access LIVERnORTH information leaflets:

1. ISSUU: <https://issuu.com/livernorth>

2. Download from our website:

(<http://www.livernorth.org.uk/pages/factsheet.htm>)

3. Collect from our display boards:

(Various Hospitals & Clinics)

4. Email us: info@livernorth.org.uk

5. Phone/FAX: 0191 3702961

6. Write to us:

freepost LIVERnORTH

(no postage stamp necessary)

7. Facebook message us:

<https://www.facebook.com/livernorth/>



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Information Service provided by:

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