

Nutritional support for liver disease

Nutrition and Dietetics

Information for Patients

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Who is this booklet for?

This booklet is for adults having symptoms of liver disease. Your appetite may be low or you have lost weight and need more nutrition. It is important people with liver disease get enough nutrition to stay healthy.

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Introduction

The liver has many functions that are important to life. It is able to repair itself but the liver's ability to repair itself is limited. Continuous harm can lead to permanent scarring. The liver is very tough. It is able to work even when some of it is damaged. This means you may not notice any symptoms until the disease is advanced and affecting your health.

Some important roles of the liver are:

- Production of important proteins that make your blood clot when you are injured
- Produces bile to help with digestion of fat
- Fighting infection and disease
- Getting rid of toxins and drugs
- Processes food once it has been digested
- Releases energy when the body needs it fast
- Stores sugars, vitamins and minerals, such as iron
- Removes waste products from the body
- Produces chemicals (enzymes and other proteins)

Liver damage develops over time. Inflammation (hepatitis) and development of scar tissue (fibrosis) can lead to permanent damage called cirrhosis, this is when inflammation and scarring spread throughout the liver. This can cause liver failure or liver cancer.

Symptoms of liver damage:

Steatorrhoea - a type of diarrhoea that is pale, greasy and hard to flush	Nausea	Fatigue (tiredness)
Poor appetite	Weight loss	Fluid retention (ascites)
Weakness	Confusion and memory loss (hepatic encephalopathy)	Yellowing of skin and whites of the eyes (jaundice)

Why is nutrition important?

- Gives your body the nutrients it needs.
- Maintains your muscles, strength and being able to move around.
- Provides you with energy to do daily activities and socialising.
- Gives you vitamins and minerals the body needs to grow and repair itself.
- Avoid unplanned weight loss (unless specified by your doctor).
- Support you through your treatment, lower hospital admissions and improves your quality of life.

Food groups that you need to think about

Some of the main food groups you need to think about are carbohydrates, protein and fat.

These nutrients are absorbed into the bloodstream and carried to your liver to be either stored or changed so the body can use them.

A damaged liver can affect the ability of storing energy in the liver, causing tiredness (fatigue). Going a long time without eating, can cause the body start to use its own muscle tissue or fat to give you energy. This can lead to malnutrition, muscle wasting and weakness.

Carbohydrates

Carbohydrates are processed in the liver to form glucose. This is a form of sugar which is used as a source of energy. They can be found in

- Bread
- Potatoes
- Rice
- Pasta
- Cereals
- Fruits
- Sweets

It is important to have regular meals and snacks that contain starchy carbohydrates, ideally every 2 to 3 hours during the day. This provides the body with enough energy to stop your body breaking down its own muscle or using fat stores.

Carbohydrate bedtime snack

It is important to have a bedtime snack containing at least 50g of carbohydrate to give the body with energy during the night.

The below table gives some ideas of high carbohydrate snack:

Food	Carbohydrate
200mls milk (1/3 pint)	10g
150g yoghurt	20g
1 hot chocolate sachet/Horlicks make with milk	5g/15g
1 medium slice of bread/toast	10g
30g cereal such as cornflakes	35g
1 crumpet with butter and 1tbsp of jam	31g
1 slice of fruit cake	35g
2 plain biscuits/1 chocolate biscuit	20g/15g
Chocolate bar	20g
1 small piece of fruit	10g
Fortisip compact protein (if prescribed)	30g

For example:

1. 30g of cornflakes (35g) and a piece of fruit (10g) with 200mls of milk (10g) = 55g
2. 2 rounds of toast/bread (20g) with a glass of 200mls of milk (10g) and chocolate bar (20g) = 50g
3. 2 x crumpets with butter and jam = 62g

Protein

These are the building blocks of the body. They are needed to support and repair body tissue. Try to have foods that are high in protein 3 to 4 times a day.

Protein sources:

- Meat
- Poultry (chicken, turkey)
- Fish (salmon, tuna, cod, haddock, mackerel)
- Dairy foods such as milk, yoghurt, custard and cheese

- Eggs
- Nuts and seeds
- Pulses such as beans, peas and lentils
- Meat alternatives and substitutes such as soya or tofu

Fat

Fat can be used as a long-term energy store. Each gram of fat provides 9kcal of energy. This compares with 4kcal of energy from a gram of protein and carbohydrates. It also provides fat-soluble vitamins A, D, E and K, and essential fatty acids.

Sources of fat:

- Butter
- Plant based spreads that are fortified with vitamins
- Nut butters and spreads
- Cheese/ dairy free alternatives
- Oils
- Animal fat

Fat is broken down by the liver to give you energy or it is stored in tissues to be used when energy sources are low. In some people fat builds up in the liver cells, stopping it from working properly. This is more likely if you are overweight or obese, have diabetes, high blood cholesterol or drink too much alcohol.

Milk and dairy foods

These are good source of protein, energy and calcium. You should try to include 3 portions of these foods a day.

Portion examples:

- 200mls of silver top, full cream milk (blue top), Channel Island milk
- 125g pot of yoghurt either natural or fruit (Greek yoghurt or thick and creamy varieties)
- 2 x 125g of fromage frais (not low fat/diet)
- 125g pot of custard
- 175g cottage cheese
- 50g cheese spread
- 30g hard cheese such as cheddar
- Dairy alternatives and substitutes (soya, oat, nut, plant based) that are fortified with calcium and vitamins.

Fruit and vegetables

These give you a good source of vitamins and minerals that are needed by the body to work properly. They also contain fibre which can help with going to the toilet.

Try to aim for 5 portions of fruit and vegetables a day. You can use fresh, frozen or tinned varieties. Choose vegetables that are tinned in water and not brine. Try not to overcook them as some nutrients will be lost or destroyed.

One portion equals 80g:

- 1 handful of fruit such as berries/grapes
- 1 large fruit such as a apple, pear or banana
- 2 small fruits such a plums or satsuma's
- 3 heaped tablespoons of vegetables
- A bowl of salad
- 150mls glass of fruit juice/smoothie (only 1 will count towards your '5 a day')

Fluids

It is important to drink around 6 to 8 cups/glasses of fluid a day to help prevent constipation and dehydration, unless you have been put on a fluid restriction by your doctor. Not having drinks with caffeine is important as the liver usually breaks down caffeine. Choose decaffeinated teas and coffee or choose milky drinks if your appetite is poor. It is important to stop drinking alcohol to stop any more damage to your liver.

Fluid retention - ascites and oedema

Ascites is a collection of fluid around your tummy (abdomen).

Oedema is the collection of fluid in your feet, ankles and legs.

This can cause your weight to change greatly and can mask the fact that you are losing muscle or fat.

Reducing salt in the diet can help reduce fluid retention. 3/4 (75%) of the salt in our diet is already in the foods we eat.

Tips to help cut down on salt:

- Reduce the salt intake over time so you can get used to eating food with less salt
- Do not add salt to cooking or at the table. Use herbs and spices to add flavour to your food
- Salt substitutes are available such as LoSalt or Saxa So Low. We do **not** recommend these as they still contain levels of salt higher than those safe for liver disease. They also contain high levels of potassium which could be harmful.
- Use the traffic light system on food labels to aid your choices. If the food is 'green' for salt then it is a good choice.

How do I know which foods contain a lot of salt?

Many food products in the UK use a 'traffic light' label found at the front of the packaging. 'Traffic light' colours help you to see at a quick glance if a food has high, medium or low amounts of these nutrients in 100g of the food.

Not all foods products will display the 'traffic light' label. Below is a handy guide of what to look for when reading the back label:

	Low	Medium	High
Salt	0g-0.3g	0.31g-1.5g	More than 1.5g
Sodium	0g– 0.1g	0.1g-0.6g	More than 0.6g

Salt versus sodium: what is the difference?

Salt is an everyday term we use for the chemical compound called sodium chloride. Salt is made from 2 parts (components) sodium and chloride.

Some manufacturers use sodium on their labels but they do not have to do this legally.

1g of sodium is equal to 2.5g of salt. This needs to be thought about when looking at how much salt you have day to day.

The table on p8 lists high salt foods to avoid and other choices that can be used in their place.

Salty foods to avoid/have less of	Suitable alternatives
<ul style="list-style-type: none"> Tinned and packet/dried soups Tinned vegetables unless labels 'no added salt' 	<ul style="list-style-type: none"> Homemade soup using small amount of stock Fresh or frozen vegetables
<ul style="list-style-type: none"> Salted savoury biscuits or snacks such as Ritz®, TUC®, crisps or salted nuts 	<ul style="list-style-type: none"> Cream crackers, Ryvitas, crisp bread, rice cakes, unsalted crisps or nuts
<ul style="list-style-type: none"> Standard ready meals 	<ul style="list-style-type: none"> Choose those with the lowest salt (less than 0.3g per 100g salt)
<ul style="list-style-type: none"> Bacon, sausage, gammon, burgers, tinned meats and fish, meat pastes and pâté 	<ul style="list-style-type: none"> All fresh and frozen meat and fish Chose those with no salt added
<ul style="list-style-type: none"> Meat or yeast extract such as Bovril, Marmite or stock cubes 	<ul style="list-style-type: none"> Peanut butter, jam, marmalade. See other flavours below
<ul style="list-style-type: none"> Table salt 	<p>Herbs and spices</p> <ul style="list-style-type: none"> Pepper or peppercorns Vinegar Garlic Mixed herbs Mint or chives Parsley Rosemary Bay leaf or bouquet garni Lemon juice Ginger or lemongrass Chillies, chilli powder or crushed chillies Curry powder, turmeric, cumin, coriander, garam masala, paprika Cranberry sauce or jelly Mint sauce Horseradish sauce Mustard

If your appetite is poor

There may be times when your appetite is not good, particularly if you are unwell or recovering from treatment. If this is the case the usual 'healthy eating' may not be right for you at this time. Here are some ideas which you can try:

Making the most of your food

When you are unable to eat as much as usual there are ways to make your diet as nutritious as possible.

- Choose foods that are full fat or 'normal' sugar. Avoid any that are labelled fat free, light, low sugar, diet, weight watchers, healthy choice, reduced fat or low/reduce sugar
- Eating little and often, if you are finding you are getting full quicker, this happens more when you have ascites.

How to enrich your food

When appetite is low and you find eating large portions a struggle, we can look at what you are eating so you get more calories without eating more.

- To add more calories and protein to milk try adding 2 to 4 tablespoons (tbsp) of milk powder to 1 pint of full fat milk. Use this instead of ordinary milk or water such as in tea or cereal. Make a creamy pudding with it such as custard.
- Add cream or evaporated milk to puddings, sauces, breakfast cereal, soups and fruits.
- Add (low salt) grated cheese to potato, pasta, soups or sauces.
- Add butter and milk to mash potato.
- Add butter to potato, soups or vegetables. Spread thickly on bread, toast, crackers and scones.
- Add salad cream/mayonnaise to sandwich fillings or serve as an accompaniment with suitable foods.
- Add sugar, honey or syrup to puddings, sauces, drinks and cereals.
- Add yoghurt to breakfast cereal and puddings.
- Add ice cream to fruit (fresh, frozen or tinned) and puddings.
- Have a pudding 1 or 2 times a day. It may help to have the pudding as a snack rather than straight after a meal if you are likely to be full.
- Do not drink a lot of fluids at meal times, as they will fill you up. Try to drink between your meals.

People with diabetes may need to be cautious when adding extra sugar in their diet. Please discuss this with your dietitian or a member of the diabetes team.

High calorie snack ideas for between meals

- Bowl of cereal made with fortified milk
- Toasted tea cake, currant bun, English muffin, crumpet, croissant with butter and jam or honey
- Unsalted rice cake with nut butter
- Sweet biscuits
- Bagel and cream cheese
- Cream cheese and low salt crackers
- Unsalted packet of crisps
- Thick and creamy yoghurt with fruit
- Slice of cake, muffin, malt loaf, doughnut, custard/jam tarts
- Desserts such as trifles, mousses, custard, rice pudding
- Ice cream

Alcohol

Alcohol can speed up the rate of liver damage and so it should be avoided in liver disease. When you drink alcohol, it is absorbed into the bloodstream. This goes to the liver to be processed before it is circulated around the body. This means the highest amount of alcohol is in the blood flowing through the liver.

If you need help stopping drinking your GP will be able to direct you to appropriate nurses, counsellors or a specialist doctor. Or you could contact one of the following agencies:

Alcohol Change UK: www.alcoholchange.org.uk

Drinkaware: www.drinkaware.co.uk

Alcoholics Anonymous: www.alcoholics-anonymous.org.uk

Turning Point: www.turning-point.co.uk Tel: 0330 303 6000

Dear Albert: www.dearalbert.co.uk Tel: 0800 880 3153 Text: 07712 707999

Nutritional supplements

If you continue to lose weight or are unable to increase your intake, please contact your GP or dietitian. Nutritional supplements are available on prescription. They come in many different styles and flavours.

Oral care for people on a high calorie diet

Having a high calorie diet might mean eating more sweets or sugary foods or drinks. These are not usually recommended for a healthy mouth and teeth. It is important to keep your mouth healthy as this can reduce the risk of other infections such as a chest infection from happening.

If you have any concerns about your oral health you should speak with your dentist or visit www.nhs.uk for more advice.

More information is available from:

British Liver Trust Website: www.britishlivertrust.org.uk

Contact details

If you would like more information or have any questions, please contact the Dietetic team on: 0116 258 5400

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Previous reference:

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