

Advanced Liver Disease and Cirrhosis

This leaflet provides information about advanced liver disease and cirrhosis. If you have any further questions or concerns, please speak to the staff member in charge of your care.

What does the liver do?

The liver is an important organ and carries out many roles which are vital to life, such as fighting infection and disease, storing and releasing energy and breaking down the foods we eat. It can repair itself. However, the ability to repair itself is limited and continuous harm can lead to permanent scarring.

This diet sheet is intended for those people in more advanced stages or those dealing with an acute episode, where maintaining an increased energy intake which is high in protein is important in preventing muscle and function losses.

Other liver diseases - you may require more specific dietary advice for other forms of liver disease (e.g. MASLD, acute / chronic hepatitis, autoimmune hepatitis, haemochromatosis, PBC, PBS, Gilbert's syndrome and Wilson's disease). **Please do not apply the advice in this diet sheet for these conditions without speaking to your doctor or dietitian**

Stages of liver disease

You may experience changes in your disease stage over time. The advice you should follow depends on your stage of disease.

Decompensated liver disease is when you're experiencing liver-related symptoms such as ascites, hepatic encephalopathy or jaundice.

Compensated liver disease is when you are not experiencing liver-related symptoms and you are generally feeling well.

What is the liver's role in digestion?

When we eat food, it is broken down into carbohydrates, protein and fat in the stomach and intestines. These nutrients are absorbed and are carried to the liver.

When the liver is not working properly or becomes cirrhotic (permanently damaged) it is unable to perform properly and breakdown nutrients. As a result, the body requires increased energy and protein because the liver is not able to store and release these nutrients,

leading to protein energy malnutrition (PEM). This can increase your risk of weight loss and muscle wasting.

This leaflet aims to provide information on consuming a high energy, high protein diet to meet your increased requirements.

What are the risks of under nutrition?

- Muscle wasting and weakness, with impaired mobility and increased risk of falls
- Increased risk of hospital infections, due to impaired immune function and supporting recovery from operations and wound healing
- Helps prevent a build-up of fluids in the abdominal cavity (Ascites) and confusion from getting worse. Please note if ascites is a problem, then you will need to follow a reduced salt diet. (See below).

What are the signs of under nutrition?

- Unintentional weight loss and muscle weakness
- Loss of appetite
- Nausea and vomiting
- Feeling full easily which may be due to fluid collecting around your abdomen (ascites)
- Previous restrictions to food intake leading up to your diagnoses.
- Delayed recovery from infections and wound healing.

Dietary recommendations according to stage of disease

Compensated Disease	Decompensated disease
2-3 hourly sources of carbohydrates	2-3 hourly sources of carbohydrates
3-4 sources of protein per day	3-4 sources of protein per day
50g carbohydrate snack at bedtime	50g carbohydrate snack at bedtime
No added salt diet	Low salt diet
Aim for a healthy, balanced diet	May need to choose high calorie foods
Aim for 150min physical activity per week	Aim for gentle, weight bearing exercise as tolerated
	May require nutritional supplements if appetite is poor

Carbohydrates

When these foods are consumed and digested, carbohydrates are broken down into glucose. These are the body's main source of energy. They help our organs to carry out their function and surpluses are usually stored in our liver and muscles.

Unfortunately, when the liver is not working properly, the liver cannot replace the store of carbohydrates and has to find an alternative source of energy. This is usually from breaking

down muscle. Eating carbohydrates every 2-3 hours helps prevent this from happening and decreases muscle wastage and prevents weight loss.

Choose wholegrain or “brown” varieties of carbohydrate where possible. This will help with regular bowel motions. Wholegrain varieties also help to maintain blood sugar levels if you have diabetes.

Sources of carbohydrates include:

Bread	Cereals
Chapattis / wraps / flat bread	Potato
Rice	Pasta
Beans	Sweet potato
Pulses	Crackers
Legumes	Grains such as bulgar wheat and barley
Couscous	Oats

If you have diabetes, you may be worried about managing your blood sugar levels. With liver cirrhosis, it is important to include regular portions of carbohydrates throughout the day and at bedtime. If your blood sugar level is frequently high, consult your diabetes specialist nurse for advice on how to manage this.

Proteins

These are the building blocks of the body and we need them to maintain and repair body tissues. When the liver is not working properly the liver requires more protein than usual. Patients with cirrhotic liver disease need 1.2-1.5g of protein per kilogram of body weight per day. In a 70kg adult, this is between 84-105g protein per day. Try to eat foods high in protein three to four times per day, such as:

	Approximate serving	Amount of protein
Chickpeas	½ a can	8g
Kidney beans	½ a can	9g
Baked beans	½ a can	10g
Walnuts	20g	4g
Cashew nuts	20g	5g
Chicken	1 chicken breast	34g
White fish such as cod	1 small fillet	23g
Oily fish such as salmon	1 small fillet	25g
Canned tuna	½ can	14g
Prawns	80g or 25 small prawns	14g
Beef mince	125g	27g
Pork loin	100g	21-28g
Lamb chop	100g	14-20g

Milk	200ml	7g
Yoghurt	125ml pot	5-7g
Cottage cheese	100g or 3 tablespoons	8g
Cheddar cheese	30g (matchbox size)	9g
Eggs	1 medium	7g
Hummus	3 tablespoons	4g
Tofu	80g	7g
Quorn mince	100g	14g
Soya milk	200ml	6g

Changing your eating pattern

One of the main functions of the liver is to release energy during starvation. To reduce time without nutrition, it is recommended that people with liver disease try to eat every 2-3 hours.

Some ideas of snacks to have between meals include:

- Yoghurt and a portion of fruit
- Slice of wholemeal toast
- Small bowl of cereal and milk
- Handful of dried fruit and nuts
- Cereal bar
- Crackers with cottage cheese
- Homemade smoothie / milkshake
- Glass of milk and a piece of fruit
- Banana / apple with nut butter
- Vegetables with hummus
- Half a bagel with avocado
- Custard pot

Have a late evening snack of 50g carbohydrate daily

A late evening snack is found to reduce muscle wasting and weight loss by providing the body with energy overnight as the liver is no longer able to do this due to cirrhosis.

50g Carbohydrate Bedtime Snack Ideas
2 slices of bread / toast with jam
Bowl of cereal with milk and 1 banana
3 plain or chocolate biscuits + 300ml milk
5 plain or chocolate biscuits
1.5 hot cross buns
A sandwich and 150ml fruit juice
Two crumpets with a banana
Two biscuits, one slice of toast and 300mls milk.

2 chapattis-medium sized
Rice pudding pot with a banana
If you are unable to eat sufficiently your dietitian may have started you on some supplement drinks. Below are examples of ways to achieve 50g of carbohydrate:
*1 bottle Fortijuice <u>or</u> 1 bottle Vital 1.5
*1 bottle Fortisip Bottle <u>or</u> Fortisip Compact <u>or</u> Fortisip 2kcal <u>or</u> Fortisip Yogurt Style + 1 fruit <u>or</u> 1 slices of bread/toast
*All oral nutritional supplements must be prescribed by a dietitian

Reduce your salt intake

Eating less salt can prevent or decrease ascites, oedema and (fluid retention). Ascites is when fluid collects around your middle and can cause weight to increase. Oedema is fluid collection in the ankles, legs and feet. If you see rapid changes in weight it could be due to ascites or oedema. Opt for low or medium source of salt or sodium in the diet.

We would advise no more than 5g salt in your diet per day. Use the traffic light system on labels to choose which foods you buy. Ideally, opt for foods with a green indicator.

	High/100g	Medium/100g	Low/100g
Salt	Over 1.5g	0.3-1.5g	Less than 0.3g
Sodium	Over 0.6g	0.1-0.6g	Less than 0.1g

Here are some tips and ideas to get you started.

Avoid	Try
Adding salt to your meals at the table	Season your meals with herbs and spices, e.g. garlic, lemon, chilli, ginger, coriander
Salt substitutes such as low salt, Himalayan salt, pink salt.	Use lemon, spices, herbs for optimising flavour
Stock cubes, bouillon cubes, gravy granules	Make your own stock without adding salt
Tinned vegetables including baked beans	Use fresh or frozen vegetables and look out for 'low-salt' or 'low-sodium' alternatives
Smoked, and cured fish, tinned fish in tomato sauce, brine	Choose tinned fish in sunflower oil or spring water
Salted crisps, crackers	Oatcakes, crackers, crisp bread, Ryvita, rice cakes, bread sticks.
Tinned soups and sauces	Home-made soup. Ready-made sauces on occasional use.

Processed meats such as ham, bacon, sausages, salami	Try cold cooked fresh meats and poultry
Limit your intake of hard cheeses	Choose unsalted butter and cheese such as cottage cheese
Avoid takeaways such as pizza, Chinese, curry or burger-style fast food	
Ready-made meals	Only ready-made meals that are “green” on the traffic light system

Contact us

If you have any questions or concerns about advanced liver disease and cirrhosis, please contact the Dietetic Department on 020 8725 3049 (Monday to Friday, 9am to 5pm).

Useful sources of information

[British Liver Trust - Pioneering Liver Health](#)

For more information leaflets on conditions, procedures, treatments and services offered at our hospitals, please visit www.stgeorges.nhs.uk

Additional services

Patient Advice and Liaison Service (PALS)

PALS can offer you advice and information when you have comments or concerns about our services or care. You can contact the PALS team on the advisory telephone line Monday, Tuesday, Thursday and Friday from 2pm to 5pm.

A Walk-in service is available:

Monday, Tuesday and Thursday between 10am and 4pm
Friday between 10am and 2pm.

The Walk-in and Advisory telephone services are closed on Wednesdays.

Please contact PALS in advance to check if there are any changes to opening times.

PALS is based within the hospital in the ground floor main corridor between Grosvenor and Lanesborough wings.

Tel: 020 8725 2453 **Email:** pals@stgeorges.nhs.uk

NHS UK

The NHS provides online information and guidance on all aspects of health and healthcare, to help you make decisions about your health. **Web:** www.nhs.uk

NHS 111

You can call 111 when you need medical help fast but it's not a 999 emergency. NHS 111 is available 24 hours a day, 365 days a year. Calls are free from landlines and mobile phones.

Tel: 111

AccessAble

You can download accessibility guides for all our services by searching 'St George's Hospital' on the AccessAble website (www.accessable.co.uk). The guides are designed to ensure everyone – including those with accessibility needs – can access our hospital and community sites with confidence.



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