

Patient information

Liver disease: high protein, high energy and reduced salt diet

Contact dietitian..... Telephone number

When your liver is not working well in liver disease, your body needs extra energy (calories) and protein. This is because your body cannot digest and absorb food properly and therefore is unable to store and use energy as effectively.

Malnutrition is common in liver disease for many reasons including:

- loss of appetite
- nausea and vomiting
- feeling 'full up' quickly (possibly due to fluid around the middle, otherwise known as 'ascites')
- unnecessary or inappropriate dietary restrictions put in place by other healthcare professionals.

Good nutrition is vital to manage symptoms of liver disease by:

- Maintaining strength and mobility
- Reducing hospital admissions
- Promoting wound healing and preventing infections
- Helping to prevent ascites and encephalopathy (confusion caused by liver disease)

Carbohydrate

Carbohydrate is a nutrient in your food that is broken down into sugar (glucose) in the body. Some of this energy is stored in your muscles and liver starch called glycogen.

This is broken down to provide energy (glucose) between meals, overnight or if you miss meals.

If your liver is not working properly then it is not able to store enough starchy (carbohydrate) foods as glycogen for use later on. This means that the energy from your food will not last as long and it is important to eat carbohydrate foods approximately every 2 - 3 hours. If no energy stores are available then your body will begin to use muscle and, more slowly, fat instead. This can often lead to muscle weakness and wasting.

Examples of starchy carbohydrate foods that can be included at mealtimes:

- Bread (white, brown, wholemeal, rolls, pitta)
- Potato (boiled, baked, mashed, chips)
- Breakfast cereals
- Biscuits
- Pasta
- Noodles
- Rice
- Chapati
- Naan

Examples of high carbohydrate snacks for between meals include:

You will need a large bedtime snack to reduce the gap between dinner and breakfast

- Biscuits
- Cakes
- Crackers
- Toast
- Sandwiches
- Tea cakes
- Scones
- Malt loaf
- Crumpet
- Chocolate bar

You should aim to have 50g carbohydrate in your bedtime snack. Examples of snacks providing 50g carbohydrate include:

- 300ml milk and 1 slice plain cake / fruit cake
- 200ml milk and 2 slices of bread with jam / honey
- 1 teacake / toasted muffin and 1 banana
- 2 large slices granary bread / toast and jam / marmalade
- 2 slices granary toast and beans
- 1 banana, 1 apple / pear / orange and 1 plain / chocolate biscuit
- 1 cheese sandwich with 150ml fruit juice
- Bowl of breakfast cereal and a flapjack
- 3 crumpets or 3 scotch pancakes
- Packet of crisps and 2 slices malt loaf
- 5 plain / chocolate biscuits

Protein

Protein is essential to build and repair body tissue. When your liver is not working properly your body needs more protein than usual. Extra protein in your diet can help to prevent further muscle breakdown and re-build lost muscle. Try to include a good source of protein with at least 3 - 4 meals every day.

Examples include:

- Meat and poultry
- Fish
- Milk and dairy products (including cheese and yoghurt)
- Eggs
- Pulses such as peas, beans (including baked beans) and lentils / dhal
- Meat alternatives such as tofu, soya and Quorn®

Fruit and vegetables

Fruit and vegetables are good sources of vitamins and minerals but are low in carbohydrate and protein. Try to have at least 5 portions of fruit, vegetables or salad every day if your appetite, weight and food intake is normal.

If your appetite is poor or you need to gain weight or muscle, try not to fill yourself up on fruit and vegetables and focus on eating the starchy or protein rich foods first. It is possible to add extra energy to vegetables by adding extra butter, oil or a cheese sauce.

Examples of 1 portion of fruit or vegetables include:

- 1 large fruit eg apple, banana, orange
- 2 small fruits eg plums, satsumas, apricots
- 1 desert-size bowl of salad
- 2 - 3 tablespoons of vegetables
- handful of grapes or berries

Nourishing drinks

If you are unable to meet your energy and protein requirements by food alone, then you may wish to consider the nourishing drinks below, these are readily available in supermarkets:

Meritene®
Complan®
Yazoo®
Mars®

Frijj®
Shaken Udder®
Weetabix On The Go®

Tips

- To avoid spoiling your appetite, try to have these nourishing drinks **after** your meals
- Add ice cream to milk-based supplements to make thick milkshakes
- Freeze supplements to eat them as an ice cream, sorbet or ice lolly
- Prepare supplements with warm (not boiling) milk to have as a pre-bedtime warm drink
- Make your own nourishing drinks using whole milk and add milkshake powder or syrup, make a hot chocolate or latte

Meal ideas

Timings are given as an example only. The aim is to eat something starchy every 2 - 3 hours and end the day with a 50g carbohydrate snack before bed. Try to include a high protein food with each main meal.

8.00am - breakfast

- cereal and whole milk
- toast or crumpets with peanut butter or spread and jam
- baked beans or egg on toast

10.00am - mid-morning snack

- 1 - 2 biscuits
- piece of cake
- 1 scone / tea cake
- toast
- crackers
- malt loaf
- crumpet

12.00noon - lunch

- sandwich or toast with meat, fish, egg or cheese
- jacket potato with beans, cheese, tuna or meat
- salad with bread / potatoes and meat, fish or cheese
- pasta / noodles with meat, fish or cheese

3.00pm - mid-afternoon snack

- see above ideas

5.00pm - evening meal

- meat or fish with potatoes / chips and vegetables
- pasta, sauce and meat, fish, beans or cheese
- meat, fish or lentil curry with rice, naan or chapati
- meat stew with rice
- spaghetti bolognese or lasagne

Dessert ideas:

- Yoghurt, rice pudding or mini trifle pot
- Fruit crumble or pie, sponge pudding or fruit
- Add cream, ice cream, custard or evaporated milk to above
- Cheese and crackers

8.00pm - bedtime snack (see previous section on carbohydrates for more ideas)

- 300ml milk and 1 slice plain cake/fruit cake
- 200ml milk and 2 slices of bread with jam / honey
- 1 teacake / toasted muffin and 1 banana
- 1 banana, 1 apple / pear / orange and 1 plain / chocolate biscuit
- 3 scotch pancakes or crumpets
- bowl of breakfast cereal and a flapjack

Low salt diet

You only need to follow the below advice if you have been asked to follow a low salt diet due to fluid accumulations. Please ignore this section if you have not been advised to follow a low salt diet.

Fluid shifts - ascites and oedema

Ascites is the collection of fluid around your middle. This can cause your weight to change due to the weight of the fluid. Some people can hold up to 20kg (3 stones) of fluid in their abdomen.

Oedema is the collection of fluid in body tissues and often starts in feet, ankles and legs. This can also change your body weight.

1 pint of extra fluid = 1 pound in weight

1 litre of extra fluid = 1 kilogram in weight

Remember rapid changes in body weight will be due to fluid shifts rather than changes in muscle or fat stores. Loss of muscle and fat is often hidden by the ascites / oedema.

Why should I reduce the salt in my diet?

Reducing the salt in your diet can help to reduce ascites and oedema.

Where does salt come from in a normal diet?

- 10% of salt is naturally found in foods
- 20% of salt is added to foods during cooking or at the table
- 70% is present in processed or convenience foods, for example tinned foods, ready meals or savoury snacks

Tips for reducing the salt content of your diet

- Avoid adding salt to your food at the table

- Only use a small pinch of salt in cooking or try the alternative flavourings suggested overleaf
- Black pepper, lemon, ginger, garlic, onions and herbs can be used as an alternative to salt
- Avoid stock cubes, yeast or meat extracts, e.g. Marmite or Bovril and soy sauce
- Avoid salt substitutes, e.g. LoSalt, Avogel, Himalayan or Pink, as these contain high amounts of potassium
- Avoid canned and processed foods, ready meals, sauces and cured meats or choose lower salt options if this is not possible
- Check salt contents of foods by reading food labels. Some food labels have a traffic light system as follows:

	Low	Moderate	High
Traffic light	Green	Amber	Red
Salt per 100g	< 0.3g	0.3 - 1.5g	>1.5g
Sodium per 100g	< 0.1g	0.1- 0.6g	>0.6g
	Eat these foods freely	Aim to have these foods sometimes, but not always	Avoid or only have these foods occasionally

Food ideas

	Avoid	Choose instead
Meat	Tongue, beef burgers, corned beef, luncheon meat, salami, tinned meat, smoked meat	Beef, lamb, pork, chicken, turkey. Have bacon, ham or sausages no more than twice a week in total
Fish	Tinned fish in brine, smoked fish or shellfish e.g. kippers, yellow haddock, cockles, prawns	Tinned fish in oil or water (avoid tinned salmon), fish fingers, white fish e.g. plaice, cod, haddock
Spreads	Fish and meat pastes, pâté, sandwich spreads, peanut butter	Jam, marmalade, cream cheese, margarines and low-fat spread
Seasonings	Stock cubes, casserole mixes Oxo, Bovril, Marmite, Worcester sauce, soy sauces	Pepper, olive oil, herbs and spices, lemon juice. Limit sauces e.g. ketchup, brown

		sauce (use 1 - 2 teaspoons per portion)
Cheeses	Cheese spreads, processed cheese	Cream cheese, No more than 50g/2oz per week of other cheese e.g. cheddar, edam, stilton, brie
Snacks	Salty savoury biscuits e.g. Ritz, Tuc. Salted or flavoured crisps and nuts, salted popcorn, pretzels	Cream crackers, matzo, rich tea biscuits, water biscuits, unsalted crisps, unsalted nuts or rice cakes, plain popcorn
Miscellaneous	Ready prepared meals e.g. meat pies, pasties, pizzas, tinned and ready-made soup, take away	Home-made pies or pasties, home-made soup. Choose healthy eating versions (standard ready meals are fine only if eaten occasionally)

No salt seasoning mix

Ingredients:

- 1 tbsp garlic powder
- 2 tsp dried thyme leaves
- 2 tsp onion powder
- 2 tsp paprika
- 2 tsp celery seed
- 1½ tsp ground white pepper
- 1 tbsp dry mustard powder
- 2 tsp dried finely chopped lemon peel
- 1 tsp pepper

Preparation: Mix all the ingredients together in a small mixing bowl, until thoroughly combined. Store in a dark, cool place in a tightly sealed container. Use on meats, poultry and fish or at the table for a salt-free seasoning.

Suggestions for flavouring foods

- Potatoes: mint leaves, parsley, bay leaf, chives, chopped spring onion, dill or garlic.
- Rice: bay leaf, nutmeg, coriander, cardamom, peppercorns or turmeric.
- Roast meat: all spices
- Pork: cloves, apples, pineapple, mustard
- Lamb: rosemary, marjoram, apricots, mint sauce/jelly

- Chicken: tarragon, paprika, dill, grapes
- Fish: lemon, parsley, all spices, bay leaf, cayenne pepper, dill, fennel
- Eggs: black pepper, oregano, mixed herbs, chives, garlic
- Vegetables: parsley, garlic, black pepper, coriander, basil, mixed herbs

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