

# Diet and Liver Disease

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- try some vegetarian alternatives to meat such as lentils, kidney beans, chick peas and other pulses
- fill up with extra starchy foods such as potatoes, rice, pasta and cereals
- breakfast cereal, served with milk, can make a useful snack

### **Hyperglycaemia**

Some people with cirrhosis have hyperglycaemia, which means high blood sugar levels and may be advised to follow a diabetic type diet.

This involves eating a well balanced diet but avoiding foods containing a lot of sugar such as jams, cakes, pastries, chocolate, puddings, ice cream and sweets. People with hyperglycaemia have different needs and will need individual advice from a dietician.

### **Enjoy what you eat**

You may find it helpful to discuss diet and food problems with other people who have the same liver disease. It is a good opportunity to share cooking hints, recipes and menus. However, it is important to realise that dietary restrictions and special needs vary between people, and even if you have the same disease as someone else, your needs may be different.

Also, if you have been ill, you may not feel like eating your usual meals.

So taking an interest in what you eat is a very practical way to look after yourself when you are ill, and eating well can only be helpful. There may be occasions when you want to eat foods that are considered unhealthy, but very enjoyable.

It is important to enjoy what you eat and to discuss any problems you may have with your doctor or dietician.

### **Who else can help?**

The following organisations may be useful to find out more about healthy eating, nutrition and diet:

#### **Food Standards Agency,**

PO Box 369, Hayes, Middlesex UB3 1UT (Tel: 0845 6060667)

#### **Supermarkets**

Most major supermarkets provide free copies of a wide range of leaflets on nutrition and healthy eating, based on the Health Education Authority's Balance of Good Health advice. Ask at your local store.

#### **State Registered Dieticians**

Your local State Registered Dietician can be contacted through your doctor or nearest large hospital. You will need a referral from your GP or Specialist for individual advice.

**Special Thanks:** We would like to thank Jill Lowe BSc, SRD, Senior Dietician, Liver Unit, Queen Elizabeth Hospital, Birmingham, for permission to use her notes and to Barbara Davidson, Senior Dietician, Freeman Hospital for approving the notes for use by LIVErNORTH members.

## **DIET AND LIVER DISEASE**

*This leaflet is designed to help you understand more about diet and to provide practical advice about eating for people who have liver disease.*

*There are many types of liver disease, some with no symptoms and others causing very severe illness. Many people with liver disease can eat a well balanced diet, whilst others may need more detailed advice that may not be covered by this leaflet. Therefore, it is important, in addition to reading this leaflet that you talk to your doctor.*

*If you have any queries about your diet and cannot find the answers to them in this leaflet, or if you need further help, please ask to be referred to a State Registered Dietician with expertise in this area. You may already have been given dietary advice, and if so, you should follow this and talk to your doctor or dietician before making any changes.*

## **THE ROLE OF YOUR LIVER IN NUTRITION**

The food you eat is broken down in your stomach and intestine. The nutrients from the food pass through your intestine where they are absorbed into the blood stream and transported to your liver. Here they are either stored or broken down further, ready for your body to use, depending on your needs at the time. When someone has a liver problem these processes continue, but may not be carried out as well as in a healthy person.

Food is made up of three main sources of energy or calories – carbohydrate, fat and protein. Carbohydrate and fat are the main sources of energy and protein is used by the body for growth and repair.

**Carbohydrate** in our diet comes from starch and sugar and is found in food such as bread, potatoes, rice, pasta, cereals, fruit and sweets. Carbohydrate is broken down in the liver to glucose. Any glucose not used immediately for energy is stored as glycogen in the liver and some in the muscles. The liver quickly converts glycogen back into glucose when the body needs extra energy. As well as being a storehouse for glycogen, the liver helps to control the level of glucose in the blood and prevents it from rising and falling too far.

**Fat** in our diet comes from butter, cheese, cooking oil, animal fat and from many 'invisible' sources, for example biscuits, pastry, crisps and cakes. Fat cannot be digested without bile, which is made in the liver and stored in the gallbladder. Bile is released when needed into the small intestine and acts as a detergent, breaking fat into tiny droplets so that it can be absorbed by the body. Fat can be used as a long-term energy store.

**Protein** in our diet comes from foods such as meat, fish, eggs, cheese, nuts and dairy. Protein is made up of units called amino acids and once these reach the liver they provide building blocks to make cells and tissues.

## **A WELL-BALANCED, HEALTHY DIET**

At present, experts agree that a well balanced diet is one that is low in fat, sugar and salt, and high in fibre. Fibre is the part of fruit, vegetables or cereal that passes through your

body undigested and helps to prevent constipation. Your diet should contain sufficient protein and a wide range of vitamins and minerals. Healthy eating means getting the right balance between different foods. A diet that includes lots of vegetables, fruit, beans and wholewheat cereals (including bread) and is low in fat is considered the best. It is also the best diet for many people who have liver disease.

### **There are five food groups:**

- bread, cereal, potatoes, rice, pasta
- fruit and vegetables
- milk, yoghurt, eggs and cheese
- meat, fish, nuts, pulses and beans
- high calorie foods, such as fried and sugary foods.

It is important to choose a variety of foods from the first four groups every day to get a wide range of nutrients. Food in the fifth group may be useful for people who are underweight, but should be avoided or eaten in only very small quantities by anyone who is overweight.

We differ in the amount of calories or energy we require according to our sex, age, weight and level of physical activity. For example, a small elderly woman will need less food than a young, active man. If we eat fewer calories than our body needs, we lose weight, and if we eat too many, our weight increases. Calories can be written as kcal or kilocalories, kJ or kilojoules – they all mean energy.

If you have been ill or have lost a lot of weight, eating a well balanced diet may be difficult. If so, it is important to try to keep eating and, if necessary, to ask your doctor or dietician for advice.

## **Vitamins and Minerals**

Our bodies need a variety of vitamins and minerals. They are essential for the millions of chemical reactions that occur in our bodies every day. They enable our bodies to carry out all the processes necessary for life. Most people get all the vitamins and minerals their bodies need by choosing a variety of foods from the first four food groups, although in some types of liver disease the body needs more vitamins.

If you are worried that your diet is short of vitamins, your doctor may prescribe vitamins or suggest you buy multivitamin tablets from your chemist. Individual vitamins and minerals sold as separate supplements are not recommended unless advised by your doctor.

## **Alcohol**

A high intake of alcohol is toxic to the liver. The liver protects your body from the toxic effects of alcohol by breaking it down to less harmful substances. Some people with liver problems can drink within the recommended guidelines, whilst others should not drink at all. The latest thinking on alcohol and liver disease suggests:

### ***An idea of foods to avoid on a no-added salt diet:***

- all salt added at the table although a small amount may be used in cooking
- stock cubes, bouillon cubes and gravy granules
- packet and tinned soups
- tinned vegetables including baked beans
- smoked and tinned fish, including salmon, tuna and pilchards
- cured meats, including ham, bacon and sausages
- cheese, except cottage cheese and cream cheese
- bottled sauces, ketchup, Worcestershire and Tabasco
- Bovril, Marmite and all yeast extracts

### ***To help disguise the lack of salt the following flavourings may help:***

- freshly ground black pepper
- lemon juice on fish and meat
- redcurrant jelly, apricots, rosemary or garlic for lamb
- apple or gooseberry sauce with pork
- ginger, garlic and spring onions with mixed vegetables
- olive oil and vinegar with salad and vegetables
- mustard powder or nutmeg with mashed potatoes
- different homemade sauces instead of gravy – such as onion sauce made with milk and garlic
- curry and other spices

In hospital, some people may be asked to restrict their fluid intake as well. This is only done under medical supervision and fluid is gradually increased by the time the person goes home.

### **Effects on the Brain**

Some people with cirrhosis develop poor memory and concentration and even confusion, disorientation and coma. This condition is known as hepatic encephalopathy. It is thought to be caused by toxic substances that are formed when protein in the diet is broken down. They enter the bloodstream because the damaged liver does not effectively detoxify them.

In the past, treatment included a low protein diet. It is now realised that restricting protein is unnecessary and harmful because it contributes to malnutrition and weakness. Low protein diets are not recommended except in some rare situations in severely ill people in hospital. Some dietary changes, however, may help if you have encephalopathy. Again they should be discussed with your doctor before starting.

- avoid one large main meal and instead eat 3 or 4 small meals during the day
- eat eggs, cheese as well as meat, fish and poultry for protein
- only eat one type of protein at once

eat. It should preferably be a food that contains carbohydrate.

***If symptoms persist try:***

- avoiding big meals at night
- an antacid before bed and after meals
- raising the head of your bed by four or five inches

***Some cooking suggestions on using less fat:***

- grill, bake, boil, steam or casserole meats instead of frying
- replace lost flavour with fresh herbs, spices, lemon juice, mustard
- trim visible fat from meat and remove the skin from poultry
- skim fat off the surface of soups and casseroles

**Cirrhosis**

People with cirrhosis generally need more protein and energy and should eat a well balanced diet. This could be achieved by adding in snacks between meals to add extra calories and protein.

The damaged liver may be unable to store glycogen, the carbohydrate that provides short-term energy.

Eating food regularly, say every 2 to 3 hours, may help.

Many people with cirrhosis do not experience complications and therefore do not feel they need to follow a special diet. However, changing your diet may be necessary if complications, such as fluid retention (ascites and oedema) or mental slowness or confusion (encephalopathy) develop.

**Fluid Retention**

Some people with cirrhosis retain large volumes of fluid in the abdomen (ascites) and swelling of the feet and legs (oedema). This may be treated by drugs called diuretics and by reducing salt in the diet and, sometimes, water.

Sodium chloride (NaCl) is the chemical name for common salt. A reduction in salt intake can help control fluid retention. If this is required your dietician can offer further help.

Your taste buds become more sensitive to salt as you eat less, it is easy to stop adding salt ourselves but most of the sodium we eat is added to foods by the manufacturers.

It is often difficult to tell which foods are high in sodium, as they may not necessarily taste salty. Different specialist liver units advise different levels of sodium and it is important that you discuss the level of restriction with your own doctor or dietician.

A dietician will tell you what foods to eat and will help you work out recipes and menus that suit your individual needs.

if you have liver damage caused by excess alcohol you must not drink.

If you have long term liver disease caused by hepatitis B and C, or even if you are a healthy carrier of hepatitis B, you should avoid alcohol.

If you have mild liver disease from other causes there is currently no evidence to say that you cannot drink within the recommended guidelines, if your doctor agrees.

However, most doctors would advise caution.

Some people can no longer tolerate alcohol and do not fancy a drink, whilst others can drink a little on special occasions. Sensible drinking advice will vary from person to person, even if they have the same liver disease. This is because their disease may take a different form or is more severe. It will also depend on the type and stage of liver disease and your general health. It may also be because doctors take different views.

If you are unsure whether it is advisable for you to drink, you should ask your doctor.

**Common Digestive Problems**

Some people find eating a well balanced diet difficult, especially if they have been seriously ill. Two common reasons for this are loss of appetite and nausea. However, it is important to eat as well as possible. The following tips may help:

**Loss of Appetite**

- eat small but frequent meals – little and often
- nutritious snacks may be better than one big meal
- try to eat something every 2 hours, however small
- tempt yourself with foods you like
- don't force yourself to eat food you don't like
- try to relax before and after you eat
- take your time over eating, chew well and breathe steadily
- if you don't feel like solid food try a nourishing drink

Nourishing drinks include homemade milkshakes and products such as Build Up, Complian and Recovery. These are a good idea, but you must check with your doctor or dietician whether they are suitable for you.

A nutritious homemade milkshake can include semi-skimmed milk, honey, banana or pureed fruit and a little Build Up or Complian. You can buy the above products from most chemists and drink them between meals, especially if you are only eating small amounts. Your doctor may prescribe other, ready-made supplements if you have been ill and are malnourished.

**Nausea**

- if some smells make you feel sick try a breath of fresh air before you eat
- keep your mouth fresh by brushing your teeth, using a mouthwash or sucking mints

- don't let yourself get too hungry – hunger makes nausea worse
- try to eat something every 2 hours
- cold snacks may be better tolerated than a hot main meal
- is there a pattern? Do you always feel sick at the same time of day?
- try eating at other times
- avoid eating when you are very tired, rest and relax first
- if cooking makes the problem worse, try using ready made meals or sandwiches which can be just as nourishing
- try sipping cold drinks slowly through a straw

**If nausea continues for more than a few days, or if you start vomiting, then it is important to consult your doctor.**

## Specific Dietary Advice

The following advice may help with a few of the common diet related problems in liver disease. The information is by no means exhaustive. You may have other questions or worries about your particular problems and the best person to talk to is your doctor or dietician. If you have already been advised to follow a special diet it is essential to discuss any changes with them.

### Acute Viral Hepatitis

People with acute viral hepatitis who are relatively well should try to eat a normal diet. As people with acute hepatitis generally need more protein and energy they may benefit from eating a high protein, high calorie diet.

However, if you develop nausea and vomiting, which make eating difficult, the suggestions given earlier can help.

### Chronic Hepatitis

Generally people with chronic hepatitis (lasting longer than six months, sometimes coming and going) can eat a well balanced diet and do not need to change their food intake.

Occasional poor appetite, nausea and vomiting occur, but this only becomes a nutritional problem if it lasts longer than a few days, in which case you should consult your doctor. Some people who are prescribed steroids for **autoimmune hepatitis** may find their appetite increases and that they gradually gain weight. If this happens it is still important to eat a varied and well balanced diet. However, you should try to reduce calorie-rich foods – these include foods such as sugar, sweets, cakes, biscuits, butter, margarine, oil and cream.

If weight gain is a problem your doctor may suggest specialist help from a dietician.

### Primary Biliary Cirrhosis (PBC) and Primary Sclerosing Cholangitis (PSC)

Many people with primary biliary cirrhosis (PBC) and primary sclerosing cholangitis (PSC) do not need to change their diet. Others have difficulty tolerating fatty goods such as chips, full fat milk and cheese.

They can develop a type of diarrhoea known as steatorrhoea that causes bulky, pale stools that are difficult to flush away. It can cause nausea and an unpleasant feeling in the stomach. If this occurs, it may be necessary to reduce the amount of fat in your diet. People vary in the amount of fat they can tolerate and not everyone will need to eat a strict low fat diet. Most people can work out how much fat they can tolerate by trial and error.

If you are reducing fat in your diet and do not need to lose weight, top up calories with snacks between meals i.e. toast, crackers, crumpets or tea cakes.

### How to eat less fat

- Fat in the diet is not only the visible fat seen on meat and greasy goods, but also includes: butter, margarine, lard, dripping. Try using low fat spreads.
- full cream milk and cream (substitute half fat versions – there is more calcium in half fat milk which is good for your bones)
- all kinds of cheese except for low fat cottage cheese. Small amounts of normal cheese may be tolerated.
- all kinds of cooking oil including olive oil, sunflower and vegetable oil
- fatty meat such as duck and belly pork
- meat products such as sausage and pies, small amounts may be tolerated
- chips, crisps and nuts – try oven chips instead
- biscuits, cakes and pastry. Low fat alternatives tea cakes and scones
- many processed foods.

Fat is a useful source of calories and provides fat-soluble vitamins A, D, E and K and essential fatty acids. So a person who restricts fat in their diet should try to eat extra carbohydrate, such as starch and sugar (for example bread and honey).

Some people may also need monthly injections of fat-soluble vitamins.

Others are prescribed medium chain triglycerides (MCT) which are fats that are easier to digest. Your doctor or dietician will advise you on how and when to use these.

People with PBC seem to be prone to heartburn, oesophageal reflux and a horrible acid taste in their mouth.

These can all be symptoms of acid from the stomach going back up into the gullet, causing an uncomfortable sensation.

With all of these conditions it helps to eat little and often.

It is a good idea to get into the habit of carrying food around with you, in case you need to